Building Nusantara: a comparative study on capital city relocation and the path towards a smart, sustainable urban future

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Abstract. Nusantara, the planned new capital city of Indonesia, aspires to be a green, smart, and sustainable city. This paper explores the political, economic, and social dimensions of Nusantara's development, focusing on the strategic decision to relocate the capital from Jakarta. The research analyzes the challenges and trade-offs involved in balancing environmental conservation with the need for urban development. It evaluates the policies and initiatives implemented to achieve the vision of a smart and sustainable city, considering the integration of technology, digital infrastructure, and data management. Drawing on comparative analysis, the paper examines historical parallels and precedents in capital relocation projects worldwide to derive lessons for Nusantara's development. The findings highlight the importance of environmental governance, public participation, and stakeholder engagement in achieving a sustainable and inclusive urban environment. The paper concludes with recommendations for policymakers and identifies avenues for future research in the field of sustainable urban development and capital relocation.

1 Introduction

Indonesia has decided to establish a new capital city, Ibu Kota Nusantara, which is planned to be developed as a green, smart, and sustainable city, reflecting the national identity and diversity based on Pancasila and the constitution. The construction of this new capital city aims to promote a more sustainable urban development agenda with big data and IoT solutions, which provide the prospect of building models of smart sustainable cities. The relocation of the capital from Jakarta to Ibu Kota Nusantara represents strategic decisions and planning by the government of Indonesia, targeting the challenges in the country's contemporary urbanization context. The establishment of Ibu Kota Nusantara provides unique opportunities and challenges for developing a new model city that is innovative, smart, and green. This paper will examine the strategic decisions, implementation strategies, and potential implications of Nusantara's development as a smart and sustainable city.

This study presents an in-depth examination into the development of Ibu Kota Nusantara, the new capital city of Indonesia, with a particular emphasis on how this development can address modern urban difficulties and promote a sustainable, intelligent lifestyle for its inhabitants. Our primary focus points include understanding the foundational principles of intelligent, sustainable cities and their potential effects in overcoming urban problems; moreover, we aim to identify potential strategies and technologies to facilitate the intelligent, sustainable evolution of Ibu Kota Nusantara.

Cities that embody intelligence and sustainability are instrumental in managing the challenges associated with urbanization, particularly when it comes to balancing environmental and social sustainability while stimulating economic growth. The integration of advanced technologies, such as big data and the Internet of Things (IoT), into urban planning and governance has the potential to enhance the responsiveness, effectiveness, and efficiency of urban services and systems.

The eventual goal of implementing these smart and sustainable city concepts is to develop a model of urbanism that is underpinned by robust data. This model will amalgamate the established paradigms of sustainable urbanism and smart urbanism, with the ultimate aim of sparking sustainable development and amplifying the benefits of sustainability.

This paper endeavors to contribute to the ongoing discourse on smart and sustainable cities by delving into the Indonesian government's plan to establish Ibu Kota Nusantara as a new capital city and exploring its potential to evolve into a model of sustainability and intelligence. With Indonesia grappling with considerable challenges related to

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environmental and social sustainability, the development of Ibu Kota Nusantara symbolizes the country's ambition to enhance urban living quality while pursuing economic growth in a sustainable manner.

Our research will scrutinize the plans and strategies that underpin the construction of Ibu Kota Nusantara, including the planned transportation network and access to public services. We will also consider potential challenges, such as the incorporation of gender mainstreaming policies, citizen participation, and the effective utilization of state-owned assets.

This paper seeks to examine key considerations in Indonesia's efforts to develop Nusantara as a smart, sustainable capital city through comparative analyses of capital relocation case studies and literature on urban planning models. Areas of focus include strategic decision-making, implementation strategies aimed at achieving environmental sustainability and social inclusion, as well as potential opportunities and challenges arising from integrating established paradigms of sustainable and smart urban development practices.

2 Research Method

This study employs a qualitative research methodology that uses data collection and analysis, such as document analysis, case study examination, and comparative analysis. The study also analyzed official reports, governmental documents and other secondary sources related to the development of Nusantara. A literature review of previous capital relocation projects and sustainable urban development practices guided the research process [1].

The analysis conducted of previous capital relocation projects indicated that the seven criteria impacting population growth were objectives of relocation, transferred functions, condition of the former capital city after relocation, geographical location of new capital city, the distance between former and new capitals, expenditure size for relocation and type of government at a time of relocation. In terms of Nusantara's development project goals, it is ambitious to be not only a green but also a smart sustainable city that sets a global example in environmentally responsible urban development writer utilized qualitative methods and analyzed various secondary sources to identify the essential factors that will influence the advancement of Nusantara as a smart-sustainable capital city. In addition, our research heavily relied on a comprehensive analysis of existing literature to determine critical determinants that will play an imperative role in ensuring the successful development of Nusantara as an innovative and

sustainable capital city. Drawing inspiration from previous case studies on capital relocation, we integrated insights gained into this study's selection criteria [2]

A comparative analysis was employed in conjunction with these criteria which allowed us to compare and contrast past practices successfully implemented or failed in other smart-sustainable cities across the globe thus deepening our understanding further.

Thereby enhancing our comprehension of the subject matter. By drawing from this research, we can develop an informed and effective plan for Indonesia's new capital city project that considers lessons. We also employed a comparative analysis approach while utilizing the aforementioned criteria. This methodology enabled us to contribute significantly toward our better understanding of the subject matter at hand. By avoiding any form of plagiarism, it has been possible for us to gauge insights from other sources such as contemporary reports on first relocation Brazil's Brasilia, Malaysia's Putrajaya, South Korea's Sejong City, and Egypt's New Administrative Capital Cairo – renowned examples that showcase responsible development practices incorporating ecological and environmental-friendly policies.

Additionally, considering Indonesia's ambitious project designating Kalimantan as its new capital city - aimed at establishing an eco-friendlier state-of-the-art metropolis; developing human resources and preparing adequate infrastructure systems whilst abiding by complex bureaucratic governance are fundamental aspects that require preparation from relevant government entities before implementation [3].

3 Results and Discussion

3.1 Laying the Foundation, from Jakarta to Ibu Kota Nusantara - The Birth of a Smart-Sustainable Capital City

Jakarta's rapid growth has overwhelmed its infrastructure and caused problems like overcrowding, traffic congestion, pollution, and land subsidence. Ibu Kota Nusantara, Indonesia's new capital, aims to be an eco-friendly and technologically advanced city, inspired by sustainable models like Putrajaya and Sejong. Indonesia plans to prioritize resources, infrastructure planning, and efficient governance to create a globally innovative model of sustainability. The relocation of the Indonesian capital to Nusantara presents an opportunity to develop an eco-friendly, technologically advanced urban hub. Drawing from models like Putrajaya and Sejong City, Indonesia aims to make its new

Kalimantan-based capital one of the world's most sustainable and innovative. Prioritizing resource allocation, budgets, infrastructure planning and governance aligned with smart city sustainability principles equips Indonesia to address hurdles and challenges uniquely associated with this ambitious undertaking.

Moreover, the proposed Ibu Kota Nusantara project aims to incorporate smart city technologies, renewable energy sources, and natural landscapes as key components of its development. Sustainable development practices, including responsible resource management, waste reduction initiatives, and green transportation systems such as electric vehicles, are crucial to the project's success and will be given significant attention. In building a green capital city such as Ibu Kota Nusantara, collaboration among various stakeholders will be paramount. According to Oswar Mungkasa [4] there are three stakeholder categories of key political actors involved in the projects: Internal Stakeholders, Key Stakeholders, and External Stakeholders.

The development of low-carbon cities is highly influenced by internal stakeholders with key responsibilities allocated to both central and local governments. While the former is tasked with setting targets, creating a vision, and providing support for sustainable city growth, the latter plays an instrumental role in facilitating collaboration amongst different groups of stakeholders. To achieve national goals on eco-friendly urbanism, local administrations take charge of activities such as land allocation promotion investments, and active engagement with concerned parties. The concept of low-carbon cities is gaining momentum with a growing emphasis on sustainability. The development of such eco-friendly urban areas depends heavily on collaborative efforts between various internal stakeholders, including both central and local governments. While the former shoulders responsibility for setting targets, establishing visionary plans, and providing guidance to promote sustainable city growth holistically; the latter plays an instrumental role in facilitating cooperation among different groups of actors.

To achieve national goals oriented towards environmentally conscious urbanism, it falls upon local administrations to take charge of crucial activities like allocating land resources strategically for green purposes as well investing actively into these ventures through promotion schemes.Their active engagement within concerned parties makes them an essential cog in this process toward enacting change at grassroot levels which reflects positively not just locally but across borders inspiring more examples globally. Key stakeholders play a crucial

role in driving sustainable urban development. Private sector actors, such as developers and investors, provide funding and expertise necessary for the successful implementation of sustainable urban projects. They ensure that comprehensive planning strategies are set up to guarantee high- quality infrastructure design with optimal resource usage. Civil society organizations also contribute meaningful efforts towards sustainability by advocating for policies supporting eco-friendly practices within communities. Their engagement is essential because they can raise awareness on sustainability issues at both local and national levels through public education activities or other forms of advocacy work while enhancing participation among community members.

With regards to low carbon city development, numerous external stakeholders have a vested interest or may be impacted by policies and decisions made in this area. Such diverse groups range from local indigenous peoples, urban residents, non- governmental organizations, academic institutions, international organizations as well as other governments without direct decision-making power. Urban planners and policymakers must take into account the various perspectives of these stakeholders so that they can contextualize planning measures effectively while promoting economic stability, sustainability and overall livability within the urban environment. Only through catering to their needs can we truly tap into their potential human resourcefulness through social entrepreneurship initiatives towards shared goals while remaining inclusive of all demographics involved. To ensure that smart cities embrace more sustainable practices which are equitable for everyone - particularly concerning curbing inequality - it remains important then that creative solutions mitigate possible negative impacts arising from current approaches towards such projects.

Moreover, budgetary allocation infrastructure availability even bureaucratic governance structures also play essential roles especially when introducing new capital cities like Indonesia. In view thereof, a major solution proposed is devising a smarter governance setup capable of adapting quickly and efficiently not just in coping with difficulties but addressing them holistically in order achieve optimal results. It's undeniable though, sustainable development requires many synergies between different sectors and a multidisciplinary approach is required for successful implementation [4].

Therefore, this research paper aims to explore the intersection of politics, sustainability, and the path toward a smart sustainable capital city. Intending to create a smart and sustainable capital city, this explores the necessary steps for its

implementation. This includes addressing environmental concerns as modern cities are significant sources of energy consumption and pollution. In addition to sustainability, this effort targets human and social development through investments in lifelong learning, citizen participation, and civic engagement. The article emphasizes that urban planners and policymakers must embrace diverse stakeholder viewpoints when designing such cities to contextualize decisions across various areas such as economic well-being and livability while minimizing potential inequality arising from current approaches.

3.2 Balancing Priorities, Environmental Conservation and Urban Development in Nusantara

The vision for Nusantara is to harmonize urban expansion with environmental stewardship through collaborative efforts from government officials, environmentalists, and urban planners. The city's blueprint emphasizes sustainable resource management, eco-friendly transit systems, and resilient infrastructure to minimize the ecological footprint. This comprehensive strategy supports Nusantara's economic growth while ensuring ecological integrity and a high quality of life. Prioritizing effective management of core urban systems, the plan seeks progress that is environmentally conscious, reducing the impact on natural resources and promoting a sustainable urban environment for future generations [5].

To achieve a balance between environmental conservation and urban development in Nusantara, a holistic and comprehensive approach to sustainable urban development is needed. This approach should encompass the social, environmental, and economic pillars of sustainability. It should also involve administrative leaders, environmental advocates, and urban authorities who can design sustainable urban areas that promote the well-being of both people and nature. Such an approach ensures that there is no trade-off between growth goals and conservation priorities, and that the city can meet its current needs without compromising the ability of future generations to meet their own.

The challenges of balancing priorities between urban development and environmental conservation in Nusantara are complex. Cities are complex ecosystems that are impacted by cultural, environmental, and socioeconomic factors. For example, Jakarta has experienced flooding due to mismanagement of natural resources and disregard for environmental conservation in the pursuit of urban development. Jakarta also grapples with severe pollution levels due to heavy traffic congestion, unchecked emissions from industries, and unsustainable waste management practices.

These issues have been exacerbated by the city's exponential growth over the past few decades, leading to higher levels of greenhouse gases, healthcare costs associated with air pollution-related illnesses, and other environmental hazards. As a highly populated metropolis, Jakarta urgently needs sustainable solutions for its development goals. Policies and initiatives that incorporate smart, sustainable solutions should be implemented to address these challenges. Similar challenges may be faced in Nusantara, where flooding has also occurred during construction. Addressing the challenges of sustainable urban development in Nusantara requires a comprehensive understanding of the sustainability performance of current best practices in developing and managing urban infrastructure systems [6].

From a green politics perspective, developing environmentally sound infrastructure systems is critical for building smart and sustainable capital cities that meet the needs of current and future generations while minimizing negative impacts on the environment and society. Green politics theory, also known as eco-politics, aims to create an ecologically sustainable society rooted in environmentalism, social justice, and grassroots democracy. It begins from the premise that ecology is the basis of life, and that the environment should be deeply respected. Green politics is inherently related to the current discussions on sustainable development and is central to urban planning and development. Applying green politics theory to the development of Nusantara, we can see that the Indonesian government's vision for the new capital aligns with the principles of this theory. The government's commitment to creating a green, smart city that runs on renewable energy reflects the environmentalism aspect of green politics. The emphasis on sustainability and adaptation to climate change also aligns with the ecological sustainability principle of this theory [7].

The New York Times article highlights challenges such as political opposition, corruption concerns, and the rush to complete the project before President Joko's term ends in 2024. These challenges can be viewed through the lens of green politics theory. Political opposition and corruption concerns hinder the achievement of social justice and grassroots democracy principles. The rush to complete the project could compromise its ecological sustainability. However, the government's commitment to the project and the involvement of local architects suggest efforts to promote grassroots democracy. The president's personal involvement also suggests a commitment to social justice, as it indicates a desire to ensure equitable sharing of the new capital's benefits [8].

Green politics theory must be contextualized within Indonesia's specific political, social, and economic realities. The article "Indonesia's utopian new capital may not be as green as it looks" by Dennis Normile, published on Science.org, provides a critical analysis of Nusantara's planned development. The article highlights the Indonesian government's vision for Nusantara as an environmental utopia, with all residents within a 10- minute walk of green recreational spaces, 100% eco- friendly construction, and 80% of trips within the city to be made by public transport, foot, or bicycle. However, it also points out the potential environmental impact of the project on Borneo, including deforestation and the potential reliance on coal-fired power plants [9].

Drawing upon the principles of green political theory, writer discern that although the Indonesian government's blueprint for Nusantara converges with the concepts of environmentalism and sustainability, the possible environmental repercussions of the project provoke questions about its fidelity to these principles. Green political theory underscores the significance of ecological sustainability, social justice, and grassroots democracy.

The projected environmental consequences of Nusantara's development, as highlighted in various reports, may contradict the core principle of ecological sustainability. This potential contradiction reflects the complexities of large-scale urban development projects, especially those that aim to balance rapid urbanization with ecological preservation. Despite the government's vision aligning with green political theory in principle, the practical implementation of these principles in Nusantara's development requires in-depth analysis. This highlights the importance of continuous monitoring and assessment to ensure that the principles of ecological sustainability are not merely theoretical but are effectively implemented in the development process.

Furthermore, this raises concerns about the potential for Nusantara's development to trigger sprawl beyond the city limits and development across Borneo, which could lead to further environmental degradation. This could be seen as a failure to adhere to the principle of social justice in green politics theory, as it could lead to negative impacts on local communities and the environment.

3.3 From Vision to Action, Implementing Smart and Sustainable Policies in Nusantara

The policy framework for Nusantara is rooted in smart and sustainable urban development with a strong

emphasis on public involvement. Participation in budgeting processes empowers citizens to guide the allocation of funds, reflecting the success seen in cities like one of the studies from Janaina [10] about Curitiba. This participatory model is vital in shaping a sense of community ownership and well-being. To support this, local government bodies are gearing up with enhanced technical and administrative expertise to manage the complexities of smart city projects. This investment in capability-building is fundamental to the efficient and effective materialization of Nusantara's smart city ambitions.

To support the implementation of smart and sustainable policies in Nusantara, it is critical to establish a framework that enables city-wide innovation and citizen- specific platforms for two- way communication between the government and citizens. This can be achieved through the adoption of a participatory approach that involves citizens in decision-making processes and consultation to garner feedback on policy direction. To ensure the success of such a participatory approach, there must also be accessible and transparent channels for citizen input and engagement. To achieve smart sustainability in Nusantara, it is important to develop a master plan that incorporates the unique vision and priorities of the city across all sectors, and to create sustainable policies that address the challenges of urban development in a holistic manner.

From a governance perspective, this study proposes the establishment of a smart governance system that adapts to the new city management structure in Nusantara. The system should focus on the efficient allocation of human resources, financial resources, and infrastructure to address the challenges that arise during smart sustainable city development. Furthermore, concurrent socioeconomic, human, legal and regulatory reforms are necessary for the successful implementation of green smart city projects in developing countries like Indonesia. In conclusion, building Nusantara into a smart sustainable capital city requires the harmonious integration of politics, sustainability, and technical expertise. According to the new capital city policy in Indonesia aims to promote economic equity and sustainability in several ways. First, it is seen as a solution for equitable development in Indonesia, which has not been running optimally for almost a decade. The concentration of development on the island of Java, which is close to government access, as well as the dominant economic cycle in the western part of Indonesia, have made the condition of most people consider that the pattern of development during Indonesia's independence was still Java-centric. The implementation of IKN is logically considered to be able to provide opportunities for equitable development. Second, the construction pattern of the policy of relocating the nation's capital from Jakarta to the province of East

Kalimantan provides a new spirit for Indonesia to create city with a government structure that is much more organized than the current condition in Jakarta. The planning carried out by the Ministry of Agrarian Affairs, Spatial Planning and the National Land Agency of the Republic of Indonesia has designed the condition of the IKN which is divided into six regions that are integrated with each other and have their respective functions. Finally, the IKN policy is based on the ideals of economic equity and sustainability, but financial factors, foreign debt, and global inflation are still a serious threat to the sustainability of the current new capital city policy and for the next few years.

3.4 Lessons from the Past: Historical Parallels and Precedents in Capital Relocation

In the discussion of building Nusantara into a smart sustainable capital city, it is important to consider lessons from past capital relocations. Historically, there have been examples of capital cities being relocated in the pursuit of equitable economic development and sustainability. For instance, Brazil relocated its capital from Rio de Janeiro to Brasília in 1960 to promote equal development across the country, overpopulated and reduce pressure on coastal regions. The city, designed by architect Oscar Niemeyer and urban planner Lúcio Costa, was envisioned as a symbol of Brazil's step into modernity. The city's unique design, often likened to a bird or an airplane, was intended to break away from traditional city planning norms and create a city that was both functional and aesthetically [11].

However, the creation of Brasília brought up many challenges and lessons that can be useful for building Ibu Kota Nusantara. A big problem with Brasília has been that it doesn't include everyone and doesn't bring people from different social groups together. The design of the city, although creative, didn't think enough about the different income levels in Brazil. This led to a city that seems to favor rich people. The living areas of the city, known as superquadras, were planned to have apartment buildings, schools, shops, and open spaces. But these areas ended up being mostly lived in by the middle and upper classes, while the poorer people were pushed to the outskirts of the city. Also, the city was built so quickly that they didn't have enough time to properly build infrastructure and public services, especially in the smaller towns that popped up around the city. These towns weren't part of the original city plan, so they didn't have the same organized layout as Brasília. Over time, these areas have become very different from the rest of the city, with poor public services and infrastructure [12].

From an environmental perspective, underscores the need to consider socio- economic

realities in city planning to ensure that the city is inclusive and caters to all the construction of Brasília also led to significant deforestation and environmental degradation. The city was built on the central plateau of Brazil, a region that was previously covered by natural vegetation. The rapid construction and urbanization of the area led to significant environmental impacts, including soil erosion and loss of biodiversity [13].

The city's growth has also resulted in a significant loss of biodiversity whose negative effects spill over not only locally but globally too. With much indigenous flora destroyed or endangered due to human-related activities such as logging, mining, oil drilling among others which affect climate change patterns and further enhance damage on ecosystems from hunting accessible species for food 'luxuries,' including exotic pets market trends where consumers blindly ignore animal welfare issues prevalent within this trade.

These lessons from Brasília highlight the importance of inclusive and sustainable urban planning in the development of Ibu Kota Nusantara. It sections of the population. Additionally, it emphasizes the need for sustainable construction practices to minimize environmental impacts and promote biodiversity conservation. Similarly, Indonesia's policy to relocate its capital city from Jakarta to East Kalimantan in the pursuit of equitable development presents both opportunities and challenges. The policy is expected to shift the center of economic and political power away from Java- centric areas, leading to more equitable development across Indonesia.

The development of Brasília, in spite of significant challenges, has resulted in a thriving metropolis that functions as the hub of Brazil's political and administrative affairs. The experience of Brazil offers valuable lessons for Indonesia as it endeavors to undertake its own ambitious project regarding capital relocation. As urban populations continue to expand worldwide while grappling with environmental degradation on both local and global scales, creating environmentally sustainable cities is one critical challenge facing societies worldwide today. Developing resource-efficient cities requires transformational changes within their infrastructure systems which ensure optimized usage while simultaneously reducing negative impact upon ecosystems.

Indonesian cities - located mostly within tropical areas - are highly vulnerable to catastrophic episodes such as floods or landslides due to poor planning strategies resulting in limited green open space during unplanned expansions that primarily disregard any environmental concerns. Fortunately,

innovative solutions have emerged from a combination approach using traditional knowledge amalgamated into scientific advancements focused on forest communities interacting seamlessly alongside human activities referred to as socialization of nature concept. This union promotes regional biodiversity bolstering wealth generation and distribution; however careful strategic initiatives' consideration must involve socio-spatial attributes empowering city inhabitants through management measures guaranteeing individual rights towards an overall national agenda geared toward building more sustainable territories aligned with the tenets set forth by international bodies like Agenda 2030.

Taking another example from our neighboring countries, we can learn valuable insights from Malaysia's decision to move its administrative capital to Putrajaya. This can serve as an instructive case study for Indonesia as it embarks on creating Nusantara, its new capital. By delving into the sustainable and inclusive strategies implemented in Putrajaya, and observing its beneficial impact on economic growth, Indonesia can extract important lessons to help ensure Nusantara's success.

These lessons might include creating eco-friendly infrastructure, ensuring fair access to resources and opportunities, and encouraging innovative practices that create green jobs, while making the city attractive to live in. Such bilateral collaborations provide crucial learning opportunities for the mutual exchange of knowledge. Putrajaya, as Malaysia's administrative capital, was envisioned to be an exemplar of a modern, sustainable city. It was constructed with an emphasis on green spaces and bodies of water, striking a harmonious balance between urban development and the natural environment. The city's design also favored efficient transportation systems and infrastructure, contributing to its reputation as a well-planned city [14].

Putrajaya's development has offered several key insights for Nusantara's evolution. One of the most critical is the understanding that a city needs to be more than just an administrative hub. To truly flourish, a city needs a dynamic economic environment and robust infrastructure. This is a lesson that Indonesia has incorporate into the planning of Nusantara. The new capital is being designed to serve as a hub for learning and innovation, with plans to establish universities and world-class healthcare facilities.

Another takeaway from Putrajaya's development is the emphasis on sustainability. Putrajaya was designed with a focus on green spaces, which not only enhanced the city's visual appeal but

also contributed to its sustainability. This lesson has been integrated into the planning of Nusantara. The new capital is being planned as a carbon-neutral city, with the goal of being powered entirely by renewable energy sources [15].

In keeping with the lessons gleaned from Putrajaya's development, Nusantara is being designed with a comprehensive master plan that considers the sustainability and livability of the new capital city. The evolution of Putrajaya also highlights the significance of inclusivity in city planning. The city was designed to be accessible and livable for all its residents, a principle that is being applied in the planning of Nusantara. The new capital is being designed as a city where residents can meet their daily needs within a 10-minute walk or ride.

The experience of Putrajaya imparts several lessons for the development of Ibu Kota Nusantara. Key among them is the importance of a comprehensive master plan that prioritizes sustainability and livability, the necessity for public participation in the planning and development process, the consideration of the impact on local communities and the environment, and the economic feasibility of the project and its potential impact in the face of economic shifts [16].

The establishment of Sejong City in South Korea, positioned 120 KM from Seoul, offers noteworthy lessons for the development of Ibu Kota Nusantara, Indonesia's upcoming capital. Inaugurated as a "satellite capital," Sejong City was designed to serve as a fresh governmental hub south of the primary capital, Seoul. The original proposal to position Sejong City as South Korea's new capital was mooted in 2002 but was ultimately rejected by the Constitutional Court in 2004. Regardless, by
2015, plans were in place to transfer at least 36 government agencies and offices to Sejong City. This move was seen as a strategic tactic to distribute economic benefits more widely and alleviate congestion in Seoul. Critics, however, voiced concerns about potential inefficiencies that could stem from the relocation, with a government official pointing out the impracticality of a two-hour drive back to Seoul for meetings. Despite such reservations, the South Korean government proceeded with the move, with Prime Minister Kim Hwang-Sik affirming their commitment to address these concerns and maintain effective coordination among the agencies [17].

Constructed with the goal of deconcentrating power and population from Seoul, thereby facilitating balanced national growth, Sejong City was planned to accommodate up to 500,000

inhabitants. It now hosts 11 ministries and 16 government agencies [18].

The transfer of government offices to Sejong City has left a significant imprint on urban development. The city was planned with a keen focus on sustainability, integrating green spaces and public transportation systems to minimize dependence on private vehicles, with other South Korean cities aspiring to mirror Sejong's achievements [19].

However, the relocation has not been without its detractors. Some contend that the move has failed to achieve its objective of deconcentrating power, as Seoul continues to hold many key government functions and decision-making processes [20]. Economic sustainability concerns have also been raised, given the city's heavy dependence on the public sector. This kind of economy tends to rely heavily on government spending, which is influenced by political and fiscal factors beyond the control of private entities. Hence, encouraging a more diversified economy with a stronger role for the private sector could bolster growth and reduce vulnerabilities associated with overreliance on a single income source. The impact of the relocation on Sejong City's residents is another contentious issue. While some residents appreciate the city's modern infrastructure and amenities, others express disappointment with the lack of cultural and entertainment facilities. Additionally, the city's population is heavily weighted towards government employees, which could potentially lead to future social issues.

In short lesson, the move of government offices to Sejong City has had a consequential effect on urban development in South Korea, leading to a rethinking of urban planning models and sparking debates about decentralization and urban sustainability. However, the city's long-term success remains an open question, and further studies are required to fully comprehend the implications of this ambitious project. The Sejong City experience suggests that relocating to a capital city can generate economic benefits and help alleviate congestion in the existing capital. However, it also poses challenges regarding efficiency and coordination among government agencies. These lessons can be applied to the development of Ibu Kota Nusantara, where meticulous planning and coordination will be essential to ensure that the relocation of government agencies and offices does not result in inefficiency.

And the last one that currently under construction, much like Indonesia's Ibu Kota Nusantara (IKN), is Egypt's New Administrative Capital (NAC). The development of the NAC mirrors the aspirations of the IKN project, with both

representing significant urban planning initiatives aimed at creating brand new capitals. The NAC project seeks to ease the overpopulation burden in Cairo, generate job opportunities, and stimulate economic advancement. To realize these objectives, Egypt's government has committed extensive resources to infrastructure and property development. In a noteworthy collaboration, Chinese developers have been brought on board to erect modern facilities, including a fresh airport, government edifices, residential areas, andcommercial zones. The creation of these new capitals offers these nations a chance to construct contemporary, sustainable cities capable of accommodating their swelling populations and addressing current urban challenges.

The NAC, in a manner similar to the IKN vision, is designed to be a smart city, where digital technology is harnessed to improve the quality of life for its residents. The architectural blueprint for the city includes a government administrative district, a diplomatic sector, a cultural area, a central business district, parks, and 21 residential districts. This holistic planning strategy could serve as a template for IKN, ensuring the city's layout includes all essential amenities and facilities.

A crucial takeaway from the NAC project is the need to address housing affordability. The NAC has faced backlash due to skyrocketing property prices, which could potentially lock out a significant portion of the populace. As the IKN evolves, it will be vital to ensure housing remains within the financial reach of a broad spectrum of income groups. The NAC experience also underscores the role of infrastructure in supporting a new city's growth. The NAC will feature Egypt's first high-speed electric railway, linking it to other major urban centers. This form of robust transportation network will be crucial for the IKN, encouraging easy transit within the city and connections to other parts of Indonesia. Additionally, the NAC project highlights the significance of job creation in a new city. The variety of jobs available in the NAC will determine the city's demographic makeup, level of social inclusivity, and sustainability. As the IKN expands, it will be critical to ensure that the city provides a diverse array of job opportunities to attract a mixed population.

The NAC project also highlights the potential funding hurdles faced when developing a new city. The NAC is projected to require an investment of about $40 billion, with the lion's share of the funding coming from the Egyptian military and Ministry of Housing. This underlines the necessity for meticulous financial planning and diversified funding streams for the IKN. One of the key challenges in creating a smart, sustainable capital city is striking a balance between economic growth

and environmental sustainability. The NAC project has drawn criticism for its potential environmental impact, particularly on the neighboring Nile River and its ecosystem. IKN can glean insights from this and seek strategies to minimize its environmental impact. This could encompass utilizing renewable energy, integrating green spaces throughout the city, and promoting responsible waste management practices. To truly become a sustainable smart city, IKN will also need to embrace social sustainability. This entails ensuring the city is accessible and inclusive for all residents, fostering a sense of community, and providing public spaces for social, cultural, and recreational activities.

Involving local communities in the planning process is another essential element when building a sustainable capital city. This issue was one of the criticisms directed at the NAC by Egyptian activists who felt marginalized from decisions affecting their cities. It's therefore crucial for IKN to engage local stakeholders and communities in the planning process, guaranteeing that their needs and concerns are factored into the city's development. Studies on smart and sustainable cities have shown that the participation of various stakeholders, including government agencies, private sector actors, civil society organizations, and local residents, is critical for such projects' success. Given that the IKN area is home to 21 indigenous communities, it's essential to ensure that their voices are heard and their involvement in the planning process is significant.

In the article "Masyarakat Adat di Tengah Proyek IKN Nusantara" from Mongabay Indonesia discusses the difficulties encountered by indigenous communities as the Nusantara project unfolds. The Balik community, who have resided in the Sepaku sub-district for generations, are still awaiting recognition and protection of their rights, including land rights. Neither local regulations nor decisions from the local or central government acknowledge their rights. This situation presents a risk to the Balik community, especially as their ancestral territory falls within the Nusantara project's scope. The article underscores that there are 21 indigenous communities within the planned Nusantara project area. Out of these, eleven communities lie within the project's core development zone, indicating that the Nusantara location is not uninhabited land Yando Zakaria, an anthropologist from the Center for Ethnographic Studies of Indigenous Communities, states that Indonesian law requires indigenous communities to be recognized in the form of local regulations or decisions so that they can defend their rights when a project enters their territory, including the Nusantara project. The absence of legal recognition can be used as a tool to disregard indigenous communities in the mechanisms or processes of this project's entry, including the issue of Balik land that will be affected by the Nusantara

project. The article also mentions the need for the government to study the five components of indigenous communities: territory, people, customary structure, customary objects, and customary law, to resolve issues in the Nusantara project area [21].

Aligning this with the previous discussion on the New Administrative Capital (NAC) in Egypt, it is clear that the recognition and involvement of local communities are crucial in the development of new capital cities. In the case of the NAC, the government faced criticism for not adequately considering the needs and rights of local communities. Similarly, the Nusantara project in Indonesia also seems to be facing challenges regarding the recognition and protection of indigenous communities' rights.

Therefore, it is essential for the Indonesian government to learn from the experiences of the NAC and ensure that the rights and needs of local communities are adequately considered in the development of the Nusantara project. This includes legal recognition of these communities and their rights, active involvement of these communities in decision-making processes, and ensuring that the development does not lead to the displacement or marginalization of these communities. As we venture into the development of Ibu Kota Nusantara, it is clear that the lessons from other capital relocation projects and the integration of smart, sustainable technologies are critical. However, the unique challenges and opportunities presented by Nusantara's geographical and sociopolitical context necessitate innovative solutions that are tailored to local realities. The effective incorporation of gender mainstreaming policies, citizen participation, and the efficient utilization of state-owned assets will be instrumental in creating an inclusive and sustainable urban environment. Furthermore, Nusantara's potential as a model city is contingent upon the successful alignment of technological innovation with environmental stewardship, social inclusivity, and economic growth.

4 Conclusion

The narrative of Ibu Kota Nusantara, the soon-to-be capital of Indonesia, signals a pivotal moment in the country's history. This planned city, infused with ambitions of sustainability and smart urbanism, represents not just a new chapter for Indonesia, but a beacon of aspiration for burgeoning cities worldwide. As we have examined throughout this study, the vision for Nusantara is anything but straightforward. It is a complex weave of political, economic, and social threads, each presenting its own intricacies and challenges. Yet, the heart of Nusantara's tale lies in the audacity of its envisioning—a city that marries technology and sustainability, while keeping a firm

grasp on the diverse cultural fabric that makes Indonesia unique.

As we have discussed, the Indonesian government's strategic decisions and planning for this mega project are inherently tied to lessons from historical precedents. The echoes of past capital relocations, from Brazil's Brasilia to Egypt's New Administrative Capital Cairo, reverberate in the halls of the decision-making process. These lessons provide a roadmap and a cautionary tale, reminding us that while technological advancements and sustainable design principles are crucial, they must be adapted to the local geographical, social, and political contexts. Furthermore, it's important to note that Nusantara's success will not merely be measured by its skyscrapers and smart infrastructure, but by how effectively it fosters inclusivity, ensuring that the voices of all citizens, regardless of gender or socio- economic status, are heard and considered in shaping the city's development.

Moving forward, one thing is clear: the story of Nusantara is still being written. As the city evolves, so will the strategies and approaches needed to navigate its growth. As researchers, it is our responsibility to keep our fingers on the pulse of this development, to scrutinize, to question, and to contribute to the conversation. The development of Ibu Kota Nusantara is more than a relocation of a capital—it is a bold step towards redefining the paradigms of urban development in the face of rapid digital innovation, mounting environmental challenges, and the persistent

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