Nusantara:
Indonesia's Bold Move Toward a Smart Capital in the Global South

Tuhu Nugraha, Teddy Trilaksono, and Raine Renaldi

Jakarta, originally known as Batavia during Dutch colonial rule, evolved pragmatically into Indonesia's capital city without much deliberate planning.[1] From a bustling port city, it was transformed into a strategic hub known for trade and commerce. Over centuries, Jakarta grew organically, absorbing diverse influences and communities that shaped its cultural mosaic. Fast forward to the twenty-first century, it has become one of the fastest-growing megacities in the world.

However, Jakarta also grapples with a multitude of problems, from environmental degradation to urban sprawl and socioeconomic disparities, which threaten its sustainability and demand innovative solutions. This article will explore the background, challenges, and policies associated with relocating Indonesia's capital city from Jakarta to Nusantara. By examining these aspects, we will gain insights into Indonesia's role in sustainable development and smart

Tuhu Nugraha is a digital economy consultant and the principal of Indonesia Applied Digital Economy and Regulatory Network. He is a key figure in Indonesia's digital transformation. His extensive experience and role as a bridge between penta-helix stakeholders have significantly contributed to the country's progress. Tuhu's expertise in AI, innovation, adoption, and risk management has guided numerous government and industry projects, particularly in the areas of public service digitalization and smart city initiatives.

Teddy Trilaksono is an Assistant Professor in the Department of Business at Universitas Prasetiya Mulya. His research, teaching, and writing on entrepreneurship, leadership, sustainability, and tourism, focusing on applying new technologies to society and public policies in Indonesia, are enriched by his work as a consultant, trainer, and coach in various entrepreneurship development programs for startups, SMEs, and cooperatives.

Raine Renaldi is a key figure in smart city and green energy initiatives in Indonesia. As Chairman of the Smart City Association in Indonesia and a globally renowned public speaker, he is a driving force behind sustainable urban development and pioneers the implementation of transformative ecosystems for future generations.

city initiatives.

As a nation in the Global South, Indonesia encounters unique challenges. With a population exceeding 10 million within the city and 30 million in the broader metropolitan area, Jakarta faces severe traffic congestion and alarming levels of air and water pollution.[2] The overcrowded city of Jakarta and its greater areas of Bogor, Depok, Tangerang, and Bekasi are collectively the world's second-largest urban conglomeration, with a population density 30 percent higher than New York City. Jakarta has 16,160 people per square kilometer, while New York has 11,313 people per square kilometer.[3,4]

One of Jakarta's most urgent issues is the alarming rate of subsidence. In recent years, in the most severely impacted areas, land subsidence in Jakarta has reached up to 20 centimeters per year.[5] As a result, flooding has become increasingly common in the city. Excessive groundwater extraction, in conjunction with rising sea levels due to climate change, have accelerated the rate of land subsidence, making Jakarta one of the fastest-sinking cities in the world.[6] Given these unsustainable conditions, experts—conscious of the need for sustainable action—have looked toward the relocation of Indonesia's capital as a possible solution to the crisis.

The idea to relocate the capital is driven not only by Jakarta's unsustainability but also by the Indonesian government's desire to create a new, more Indonesia-centric capital that will stimulate economic growth and promote equitable development among the islands of Indonesia. As stated by Bambang Brodjonegoro, Minister of National Development Planning (2016–2019), the new capital should be designed and conceived by Indonesians themselves. The capital should be specifically designed for its citizens, with excellent urban planning and a comfortable environment. Bambang also stated that the move of the capital should help reduce development disparities, income inequality, and economic imbalances outside Java, the Greater Sunda Island on which Jakarta is located.[7]

Research confirms that colonial-era economic inequality has persisted into the modern, post-independence period. This inequality arose because the Dutch colonial government developed Java as the economic intermediary between Indonesia and the international world, granting it economic domination over the outer islands. Java's strategic location allowed it to establish commercial links with the rest of the world, facilitating trade and connecting international markets. Therefore, inner Java has always had an advantage in economic relations compared to outer Java.

Today, Java is economically far more advanced compared to other regions

in Indonesia. The distribution of Gross Domestic Product (GDP) is dominated by Java and Sumatra, with Java contributing 58.61 percent and Sumatra 21.54 percent. Together, Java and Sumatra account for over 80 percent of Indonesia's GDP.[8]

At the same time, the infrastructure in Java, Bali, and Sumatra is far more advanced compared to the regions outside these areas. Java, in particular, serves as the center of social and political activities in Indonesia. Compared to other regions, these three islands have better communication infrastructure, including more advanced telecommunications networks and high-speed internet, as well as superior transportation facilities, such as well-developed roads, public transit systems, and modern ports and airports. This disparity is reflected in the high consumption of fuel and electricity by the populations on these islands.[9] Given this context, it is clear why GDP distribution is limited to 8.05 percent in Kalimantan, 6.2 percent in Sulawesi, 3.06 percent in Bali and Nusa Tenggara, and 2.54 percent in Maluku and Papua.[10]

An Evolving City

Moving the nation's capital was first articulated by the first president of Indonesia, President Sukarno, in 1957 during the inauguration of Palangka Raya as Central Kalimantan Province's capital city.[11] In the era of Soeharto's presidency (1966–1998), the idea of moving the capital resurfaced once again. This time, experts proposed moving the capital to Bogor, in the Jonggol area. As a result, in 1997, President Soeharto issued Presidential Decree (Keppres) No. 1/1997 on the Coordination for the Development of the Region of Jonggol as an Independent City to make Bogor the capital city. However, the project failed at the same time as Soeharto's resignation and the onset of the Reform era.[12] Moving the capital city gained traction again during the presidency of Susilo Bambang Yudhoyono, the sixth president of the Republic of Indonesia. In 2013, Yudhoyono conveyed two scenarios. If either scenario was fulfilled, it would allow Jakarta to retain its capital city status: (1) future construction and planning would need to be rigorous and long-term or (2) the center of the Indonesian government would be relocated outside of Jakarta altogether.

It was in the era of the Jokowi administration that the relocation of the capital city moved beyond mere discourse to actual execution, reaching the level of legislation. In August 2019, President Joko Widodo announced the decision to move Indonesia's capital, and to support this move, the government issued Law No. 3 of 2022 on State Capital.[13] Alongside others, this law established the

State Capital Authority (Otorita Ibu Kota Negara or "OIKN"), a new ministry-level government agency responsible for the preparation, development, and relocation of the capital, as well as the administration of regional governments in the capital.

On 18 January 2022, Dewan Perwakilan Rakyat or the Indonesian Parliament passed the New Capital City bill into law. This legislation provided President Joko Widodo with the authority to relocate Indonesia's capital from Jakarta on Java, the world's most populous island, to a planned city area named Nusantara, situated in the Panajam Paser Utara regency of East Kalimantan. The enactment of the New Capital City Law represented a significant milestone in Indonesia's history, marking the most extensive legal shift undertaken by the Indonesian government.

Subsequently, Badan Perencanaan Pembangunan Nasional, or the National Development Planning Agency, issued a concise factsheet, outlining urgent information, steps, and case studies from Australia and Brazil.[14] The relocation of the capital city is carried out in five phases, which include preparation, construction, and the actual transfer of the capital city.[15] The first phase, from 2022 to 2024, focused on constructing key infrastructure such as the Presidential Palace, followed by the construction of the Parliament Building and residential areas in the central zone of the new capital city. Concurrently, essential utilities like water and energy will be developed.

Phase II, from 2025 to 2029, involves developing the core area of the new capital city of Ibo Kota Nusantara (IKN) to ensure its resilience. Phase III, from 2030 to 2034, continues the development of IKN, while Phase IV, from 2035 to 2039, focuses on constructing the complete infrastructure and ecosystem of three cities to accelerate development in Kalimantan. Finally, Phase V, from 2040 to 2045, aims to increase residential areas, establishing IKN as a global city accessible to all.

The relocation of Indonesia's capital city from Jakarta to Nusantara in East Kalimantan represents a significant transformation in the nation's urban and political landscape. This initiative, driven by development equity and national unity goals, aims to transform Indonesia's capital city from an "evolved city" (a city that has developed through a long evolutionary process) to a "designed city" (a city that has meticulously been planned and constructed according to a specific urban design).[16]

Evolved capitals are the result of a long evolutionary process by which cities gradually develop in economics, government, and other facilities, making them critical urban centers.[17] Paris, London, Tokyo, and Rome are examples of

such cities. However, designed capitals hold unique benefits. By relocating the capital, the Indonesian government can design its national capital according to its citizens' needs and aspirations. It also provides Indonesia the opportunity to innovate solutions to problems that have long hampered smart city development in the Global South.

The Challenges of Building a Smart City in the Global South Region

The Nusantara Capital City Authority will develop the new Indonesian capital city with a smart city concept. According to the Nusantara Smart City Blueprint, "the concept of a smart city plays a crucial role in the development of Nusantara Capital City, not only creating an efficient environment but also supporting sustainability and quality of life."[18] Smart cities integrate information technology to optimize resource management, enhance green potential, support business growth, and create job opportunities.[19] In the context of the new capital city, applying the smart city concept not only improves infrastructure quality, but also creates an ecosystem that incorporates technology to achieve holistic and inclusive development, which is essential in a modern and sustainable capital city.

There is no universally-adopted definition of the term "smart city," which is often used interchangeably with the terms "intelligent city," "sustainable city," "eco-city," and "digital city."[20] However, Abu-Rayash and Dincer provide a concise definition of a smart city: "a sustainable and efficient urban center that provides a high quality of life to its inhabitants through optimal management of its resources."[21]

Developing smart cities in the Global South presents unique challenges. Today, to describe political and socioeconomic divisions worldwide, it is common to oversimplify by dividing the world into two categories commonly referred to as the Global North and the Global South. The Global North generally refers to countries that are economically developed, technologically advanced, and have a high standard of living. These nations typically have well-established infrastructures, stable political systems, and strong economies. The Global North includes most countries in North America, Europe, and parts of East Asia. These countries are characterized by high per capita income, advanced technological

Smart city: "a sustainable and efficient urban center that provides a high quality of life to its inhabitants through optimal management of its resources."

industries, and a significant role in global governance and decision-making. The Global South, on the other hand, refers to regions that are less economically developed, often facing challenges such as poverty, political instability, and lower levels of industrialization. This category encompasses much of Latin America, Africa, and parts of Asia. Countries in the Global South often struggle with economic challenges, such as dependence on agriculture or the export of raw materials, limited access to advanced technology, and lower standards of living. They may also experience issues related to governance, infrastructure, and social services.

The creation of smart cities in the Global South is often driven by different motivations than those in the Global North.[22] Smart cities in developing countries often focus on using technology to improve basic quality of life, such as access to clean water, sanitation, public transportation, and healthcare services. For example, in India, the Smart Cities Mission focuses on enhancing basic quality of life, which includes providing clean water, sanitation, adequate housing, and efficient public transportation.[23] However, in developed countries, smart cities prioritize efficiency, convenience, and innovation. Technology is utilized to optimize existing systems and create advanced new services.

Smart cities in developing countries often aim to address social and economic disparities. Technology provides access to services and information for marginalized groups such as the poor and rural communities. For example, in Nairobi, Kenya, projects like M-Pesa, a mobile payment platform, have provided financial services access to millions previously without bank accounts.[24] In developed nations, social inclusion is also a concern, but the focus is more on integrating technology into daily life and enhancing citizen participation in decision-making processes.

Smart cities in developing countries are further seen as a means to promote economic growth and sustainable development. Technology creates jobs, enhances productivity, and reduces environmental impact. While smart cities also contribute to economic growth in developed nations, the focus is on innovation, global competitiveness, and the development of technology industries.

From the perspective of climate change adaptation and resilience, smart cities in developing countries often contend with greater challenges from climate change, such as natural disasters and rising sea levels. Technology is utilized to build resilience against climate change impacts and reduce disaster risks. For example, in Bangladesh, cities like Dhaka have implemented early flood warning systems and built flood-resistant infrastructure to mitigate climate change impacts. In developed countries, while adaptation to climate change is still

important, policymakers focus more on carbon emission reduction, energy efficiency, and the development of renewable energy sources.

It is important to note that these differences are not always absolute, and there are many variations in motivations and approaches to smart city initiatives across countries. However, understanding these differences can facilitate the development of more effective and contextually appropriate smart city strategies tailored to each country's specific needs and challenges.

The Advantages and Disadvantages of the Capital Relocation: The Economics, Environment, and Social Impacts

Economic Impacts

The development of IKN in East Kalimantan has great potential for becoming Indonesia's new economic driving force. IKN is predicted to increase national economic growth, open new job opportunities, and increase people's incomes. Apart from being the center of government and administration, the Indonesian Capital City is being designed to be a center for the development of various strategic industries. The IKN development plan designed by the Nusantara Capital City Authority includes the formation of an economic cluster that will cover various industrial sectors ranging from clean technology, pharmaceuticals, and sustainable agriculture to health tourism. The focus is to create an integrated and sustainable industrial ecosystem, support innovation and technology, and increase national independence in various fields. Through collaboration between the government and the private sector, this project is expected to not only encourage economic growth, but also to consider environmental sustainability and social welfare.[25] It is furthermore expected to become a new economic center that will attract investment and encourage growth in various sectors. Infrastructure development in IKN, such as toll roads, airports, and ports, will open new opportunities for industry and trade.[26]

According to Juri Ardiantoro, Deputy IV of the Presidential Staff Office, the development project for the new capital city (IKN) in East Kalimantan (Kaltim) requires a budget of IDR 466 trillion.[27] The establishment of IKN, coupled with the development of adjacent sectors, will generate employment across diverse fields, including construction, technology, and services. According to the Regulation of the Head of the Nusantara Capital Authority of the Republic Indonesia Number 3 of 2024 concerning the Strategic Plan of the Nusantara Capital Authority 2020–2024, it is projected that IKN will contribute 23 per-

cent to the national GDP and create 4.8 million jobs by 2045.[28] Moreover, IKN is poised to emerge as a focal point for the technology and startup industries, promising opportunities for digital talent. This development is expected to drive substantial economic growth and job creation, reinforcing IKN's role as a vital engine for Indonesia's future economic advancement.

However, despite its many positive economic impacts, the government needs to be cautious and mindful of the potential negative consequences that may arise from the development of the IKN. Among other considerations, the relocation of a significant number of human resources from Jakarta to IKN could potentially exacerbate economic inequality within local communities. Another concern that has sparked public debate is the significant cost of the relocation, which could place a heavy burden on the state budget.[29]

Global digital corporations, alongside international real estate developers and government agencies, are transforming many cities in the Global South into experimental sites for large-scale projects aiming to emulate a "world-class smart city." These projects, including significant IT parks, luxury housing complexes, and associated public services, often exacerbate existing neglect, displacement, and dispossession patterns in less privileged areas. Despite their outward appeal, these mega-projects and their surrounding environments frequently become focal points of conflict and dispute, heightening tensions over who has the right to access, utilize, and influence urban spaces.

Another significant challenge is the financial burden that this project may create. The extensive infrastructure projects needed for constructing a new capital could impose a substantial financial strain on the Indonesian government.[30] This burden may result in heightened debt levels or the redirection of funds from critical sectors such as healthcare and education.

Environmental Impact

The Nusantara Net Zero Strategy 2045 report, prepared by the Deputy for Environment and Natural Resources of the Nusantara Capital Authority, underlined the importance of considering the environmental impacts of the development of IKN, stating "IKN will become a clean, climate-resilient, sustainable, and livable city. IKN will be aligned with supporting Indonesia's efforts to mitigate and adapt to climate change as outlined in its Enhanced Nationally Determined Contribution under the Paris Agreement."[31]

The Nusantara Smart City Blueprint also articulates comprehensive strategies for making IKN environmentally friendly. Key among these strategies is

the widespread adoption of renewable energy sources like solar panels and wind power, which will cut down on greenhouse gas emissions and enhance energy security.[32] Additional measures include promoting the use of electric vehicles and establishing an eco-friendly public transportation system to further minimize emissions.

Green technology will play a pivotal role in various facets of IKN's development, encompassing innovations in wastewater treatment, recycling systems, and energy-efficient building practices. These initiatives underscore IKN's commitment to sustainability and environmental stewardship.[33]

While IKN is designed by the Nusantara Capital Authority to focus on environmental friendliness, its development carries the potential for environmental damage, particularly through deforestation and water pollution. Infrastructure and urban expansion in IKN could lead to deforestation in surrounding forested areas, posing risks to the region's biodiversity and ecosystems. Moreover, industrial activities and development may generate pollutants that contaminate the water bodies around IKN, jeopardizing public health and aquatic ecosystems.[34]

Proactive and sustainable measures are essential to mitigate these potential environmental impacts. Initiatives should include reforestation in areas threatened by deforestation to uphold natural balance and preserve biodiversity. Implementing robust wastewater treatment systems is also crucial to prevent water pollution and maintain water quality in the vicinity of IKN. Furthermore, integrating green technologies into infrastructure and urban planning can minimize adverse environmental effects, ensuring that development aligns with sustainability goals. By adhering to these strategies, IKN can strive to mitigate environmental harm and foster a balanced coexistence between development and nature conservation.

Socio-Cultural Impact

The relocation of Indonesia's capital represents a significant transition with profound socio-cultural implications. One critical area involves examining socio-cultural integration and adaptation as the new capital attracts a diverse population. This migration from urban centers like Jakarta to a newly developed area encompasses

The relocation of Indonesia's capital represents a significant transition with profound socio-cultural implications.

demographic shifts with significant socio-cultural implications. Of particular interest are the interactions between incoming residents and the Indigenous populations of East Kalimantan. These dynamics challenge social cohesion and the preservation of Indigenous cultures, and could lead to socio-cultural fragmentation.

Some indigenous tribes inhabiting East Kalimantan include the Paser, Kutai, Balik, and Dayak tribes. The potential erasure of local cultures and the displacement of indigenous communities highlight the need for strategies that not only preserve but also integrate cultural heritage into the new urban landscape.

As an example, the Balik tribe resides in the core area of the IKN in Sepaku District, North Penajam Paser Regency, East Kalimantan Province. The Balik people have inhabited the Sepaku District since the Japanese colonial era and continue to live off the land, relying on the rivers for transportation. As many as 200 heads of families (Kepala Keluarga or KK) of the Balik Tribe Indigenous community live in the Sepaku District area, which is included in the core area of the development of IKN Nusantara.[35]

On 13 March 2023, the Indigenous Balik community in Sepaku Village rejected the land clearance for the IKN project. They presented at least eight clauses outlining their demand for the relocation of the development of IKN, which also involves damming the Sepaku River.

The demands voiced by 80 Balik indigenous people include rejecting the village demolition program and relocation from their ancestral land, the destruction of historical sites, and the renaming of their village or river. They also demand that the government immediately create policies for the recognition and protection of the Balik Indigenous Community in Sepaku District. Additionally, they oppose any figures or groups claiming to represent the Balik people and make agreements about IKN without involving the indigenous community.[36]

The protest was not directly addressed by the IKN authority, but the government has previously stated that they would not carry out demolition arbitrarily during the IKN development.[37]

In the transition to becoming an IKN, the indigenous community hopes that the Nusantara IKN Authority Agency will pay attention to local customs by building infrastructure and cultural arts studios to preserve culture and arts in the area designated as the core area of the nation's capital. The North Penajam Paser Regency Government has made efforts to preserve local customs and culture by creating a legal umbrella in the form of Regional Regulation Number 2 of 2017.[38]

The rights of indigenous peoples are protected by UN resolutions. In 2011,

UN-HABITAT's work on indigenous peoples' issues was initiated in response to and is mandated by Resolution A/RES/61/295, which adopted the "United Nations Declaration on the Rights of Indigenous Peoples." Article 23 of this declaration states: "Indigenous peoples have the right to determine and develop priorities and strategies for exercising their right to development." In particular, indigenous peoples have the right to be actively involved in developing and determining health, housing, and other economic and social programs that affect them and, to the greatest extent, to administer such programs through their institutions.[39] The government should take this UN resolution into account when seeking the best solution for the issues faced by the Balik Tribe.

Table 1. The Impact of IKN Development

Aspect	Positive	Negative	Mitigation
Economy	• Increasing national economic growth • Creating new jobs • Increasing people's income • Access to new economic opportunities	• Economic inequality	• Encouraging inclusive economic growth • Providing training and access to local communities • Developing community empowerment programs
Social	• Improving the quality of life of the community • Providing better access to education and health • Increase tolerance and diversity	• Social conflict with local communities	• Involving the community in the development process • Provide education and training • Develop tolerance and diversity programs
Environment	• Environmental sustainability • Renewable energy • Reduce greenhouse gas emissions	• Environmental damage • Deforestation • Water pollution	• Applying environmentally friendly technology • Reforestation • Building a wastewater treatment system

Table 1 maps the positive and negative impacts of IKN's development across economic, social, and

environmental aspects, along with mitigation measures. It presents solutions for smart city development in Indonesia and in the Global South more broadly, with a people-centered approach.

Conclusion

Relocating the capital from Jakarta to Nusantara is a beneficial move as it can help alleviate Jakarta's current challenges and bridge economic disparities between Java and other Indonesian islands. However, the relocation faces numerous challenges. A multi-faceted approach is essential to address the significant challenges posed by the construction of a new capital city in East Kalimantan.

First, it is critical to prioritize a transparent and inclusive land conversion process. This involves conducting the process openly and fairly, with active participation from local communities and stakeholders in decision-making. To mitigate social impacts, it is vital to provide adequate compensation, resettlement support, and assistance to affected communities. Additionally, exploring alternative locations for the new capital city is important to minimize local displacement and lessen the impact on natural resources and ecosystems. Sustainable land use planning should be employed, incorporating zoning regulations and restrictions to protect natural resources, ecosystems, and cultural heritage. Continuous environmental monitoring and analysis should guide adaptive policies, grounded in scientific evidence and best practices.

An approach that prioritizes long-term benefits above short-term benefits when making land use decisions not only supports sustainable development, but also enhances the quality of life for local communities. Emphasis should be placed on protecting natural resources and promoting social equality and economic resilience. Lastly, implementing climate mitigation measures during both the construction and operation phases is crucial. Utilizing green building technologies and renewable energy sources can significantly reduce greenhouse gas emissions and minimize the project's carbon footprint, leading to a more sustainable future for East Kalimantan.

Myrna Asnawati Safitri, Deputy for Environment and Natural Resources of the Nusantara Capital Authority, stated that the development of IKN will be accompanied by the rehabilitation of 57,570 hectares of land across the entire region. This is done in order to achieve President Joko Widodo's target of transforming 70 percent of the IKN area into green open spaces.[40]

In addition to being a smart city, IKN will also be developed with the concepts of Forest City and Sponge City in mind. The Forest City concept involves creating a city dominated by forested landscapes and green spaces, integrating

natural elements into urban living. The Sponge City concept involves a circular water system that integrates architecture, urban design, infrastructure, and sustainability principles. This system allows the planning area to act like a sponge, absorbing rainwater, filtering it through natural processes, and releasing it into reservoirs, drainage systems, and aquifers.[41]

By taking these steps, the government can balance the development of the new capital city with the preservation of East Kalimantan's biodiversity and ecosystems, ensuring sustainable and inclusive growth.[42] In the context of developing a smart city as Indonesia's new capital, the "people-centered smart city" approach advocated by UN-Habitat seems suitable for the East Kalimantan region.[43] Smart cities should prioritize peoples' needs, engage a diverse range of stakeholders, reduce barriers to participation, and evaluate digital services and infrastructure from a human rights perspective. To achieve this, local governments need a new approach to smart cities that better defines how technology can enhance quality of life. People-centered smart cities work to champion this approach by empowering people, making access to technology equitable, responsibly managing data and digital infrastructure, building trust by securing digital assets, and building multi-stakeholder capacity. Collectively, these elements foster sustainability, inclusivity, prosperity, and human rights for everyone's benefit.[44]

Based on the conclusions drawn above, there are some recommendations to consider. Regarding project funding, international stakeholders, including organizations like the World Bank, IMF, and regional development banks, shall selectively provide funds for sustainable infrastructure projects and cultural preservation. The grants and sponsorship providers shall prioritize specific grants and sponsorships for projects focusing on local economic development, cultural preservation, and environmentally friendly technology.

In terms of the funding of the IKN project, a green financing scheme will be an appropriate solution given the various environmental challenges outlined above. Green financing schemes are financial mechanisms and strategies specifically designed to support projects that offer positive environmental benefits. These schemes aim to promote sustainable development by financing projects in areas such as renewable energy, energy efficiency, sustainable transportation, waste management, water conservation, and biodiversity protection. Unlike traditional financing, which may focus on short-term returns, green financing schemes emphasize long-term benefits.[45]

Collaboration between universities and research institutions in developed countries and institutions in Indonesia to conduct research relevant to modern urban development is encouraged. Training programs and capacity building for

policymakers and professionals in the public and private sectors on best practices in sustainable urban development are also recommended.

When executed successfully, the development of IKN could stand as a pioneering example of how a Global South nation can build a smart city that not only addresses social inequalities, but also embraces environmental sustainability.

Notes

1. R. Hutabarat Lo, "The City as a Mirror: Transport, Land Use and Social Change in Jakarta," *Urban Studies* 47, no. 3 (2010): 529–55.
2. Central Bureau of Statistics (BPS), Jumlah Penduduk Menurut Kabupaten/Kota di Provinsi DKI Jakarta (Jiwa), 2021–2023 (Jakarta, Indonesia: Central Bureau of Statistics, 2024). https://jakarta.bps.go.id/indicator/12/1270/1/jumlah-penduduk-menurut-kabupaten-kota-di-provinsi-dki-jakarta-.html.
3. "Population density in Jakarta, Indonesia 2023," Statista, https://www.statista.com/statistics/1423885/indonesia-jakarta-population-density/.
4. "United States population density," Kontour, https://www.kontur.io/solutions/united-states-population-density/#.
5. H. Takagi et al., "People's Perception of Land Subsidence, Floods, and Their Connection: A Note Based on Recent Surveys in a Sinking Coastal Community in Jakarta," *Ocean & Coastal Management* 211 (2021): 105753.
6. Nabila A. Burhani, "Jakarta's Sinking: A Look at Current Initiatives," RDI Op-Ed, 5 CEGF, May 23, 2023, Bandung, Indonesia: Resilience Development Initiative, https://rdi.or.id/wp-content/uploads/2023/08/Jakartas-Sinking-A-Look-At-Current-Initiatives.pdf.
7. "Pemindahan ibu kota negara untuk mengatasi ketimpangan pembangunan, pendapatan, dan ekonomi luar Jawa," BNPP, http://ppid.bnpp.go.id/news/newsdetail/259/pemindahan-ibu-kota-negara-untuk-mengatasi-ketimpangan-pembangunan-pendapatan-dan-ekonomi-luar-jawa.
8. Susi Setiawati, "Secretly, This Province Contributes the Most to Indonesia's Economic Growth," *CNBC Indonesia,* February 9, 2024, https://www.cnbcindonesia.com/research/20240209161422-128-513007/diam-diam-provinsi-ini-sumbang-terbesar-pertumbuhan-ekonomi-di-ri.
9. Christine Drake, "The Spatial Pattern of National Integration in Indonesia," *Transactions of the Institute of British Geographers* 6, no. 4 (1981): 471–90.
10. "Badan Perencanaan Pembangunan Daerah (Bappeda) Provinsi Kalimantan Timur," Kajian Strategi Pembangunan Ekonomi Hijau di Kalimantan Timur, Samarinda: Bappeda Provinsi Kalimantan Timur, https://bappeda.kaltimprov.go.id/storage/data-documents/March2021/piDnfeA1zadAccDIgJ4y.pdf.
11. "Towards the Indonesia 2045 Vision: A Global City for All," Ibu Kota Nusantara (IKN), https://www.ikn.go.id/.
12. Dian Herdiana, "Pemindahan Ibukota Negara: Upaya Pemerataan Pembangunan ataukah Mewujudkan Tata Pemerintahan yang Baik," *Jurnal Transformative* 8, no. 1 (2022): 1–30.
13. Indonesia Central Government, Law (UU) Number 3 of 2022 Concerning the National Capital (Jakarta: Indonesia Central Government, 2022), https://peraturan.bpk.go.id/Details/198400/uu-no-3-tahun-2022.
14. "Buku Saku IKN," Kementerian PPN/Bappenas, https://ikn.go.id/storage/buku-saku-ikn-072121.pdf.
15. Regulation of The President of The Republic of Indonesia, Law (UU) Number 63 of 2022 Details of The Nusantara Capital Master Plan (Jakarta: Indonesia Central Government, 2022), https://www.ikn.go.id/storage/regulasi/perpres-63-tahun-2022.pdf.
16. Shaheen R. Khan and Shahrukh R. Khan, "Social Capital-Driven Collective Action" in *Social Capital and Collective Action in Pakistani Rural Development* (Cham: Palgrave Macmillan, 2021).
17. Indra Perwira et al., "Capital city relocation in Indonesia: compromise failure and potential dysfunction," *Cogent Social Sciences* 10, no. 1 (2024).
18. Dita Amallya, et al., "Cetak Biru Kota Cerdas Nusantara," (Jakarta: Kedeputian Bidang Transformasi Hijau dan Digital Otorita Ibu Kota Nusantara 2023), https://www.ikn.go.id/storage/thd/blueprint/cetak_biru_kota_cerdas_nusantara.pdf.
19. Olubunmi A. Adenekan, Chinedu Ezeigweneme, and Excel G. Chukwurah, "The evolution

of smart cities: Integrating technology, governance, and sustainable development," *International Journal of Applied Research in Social Sciences* 6, no. 5 (2024), 891–902.

20. Martin de Jong et al., "Sustainable smart resilient low carbon eco knowledge cities: Making sense of a multitude of concepts promoting sustainable urbanization," *Journal of Cleaner Production* 109 (2015), 25–38.

21. Azzam Abu-Rayash and Ibrahim Dincer, "Development of Integrated Sustainability Pe20rformance Indicators For Better Management of Smart Cities," *Sustainable Cities and Society* 67 (2021).

22. Kevin Y. K. Leung and H. Y. Lee, "Implementing the Smart City: Who Has a Say? Some Insights from Hong Kong," *International Journal of Urban Sciences* 27, no. 1 (2021), 124–48.

23. Sheshadri Chatterjee and Arpan Kumar Kar, "Effects of successful adoption of information technology-enabled services in proposed smart cities of India: From user experience perspective," *Journal of Science and Technology Policy Management* 8, no. 3 (2017), 261–79.

24. "Nairobi hosts summit on advancing smart cities across Africa," *Africa Sustainability Matters,* February 14, 2024, https://africasustainabilitymatters.com/nairobi-hosts-summit-on-advancing-smart-cities-across-africa/.

25. Lucy Yosita, Yan Nurcahya, and Riskha Mardiana, "Strategi Pengembangan Kawasan Wisata di Ibu Kota Negara Baru (IKN) menuju Kota dan Komunitas yang Berkelanjutan," *Proceeding Science and Engineering National Seminar* 7, no. 1 (2022).

26. Mira Syailendra and Annisa T. Hanggono, "Analysis of the Impact Study of the Inclusive and Sustainable Development of the Smart City of the Indonesian Archipelago Capital (IKN): Mix Methods Study," *Arkus* 2, no. 10 (2024): 542–47.

27. "KSP: Pembangunan Ibu Kota Baru Perlu Anggaran Rp 466 T, Tak Semua Ditanggung APBN," Nusantara, https://ikn.go.id/ksp-pembangunan-ibu-kota-baru-perlu-anggaran-rp-466-t-tak-semua-ditanggung-apbn.

28. Otorita Ibu Kota Nusantara (OIKN), *Rencana strategis Otorita Ibu Kota Nusantara tahun* 2020–2024, https://ikn.go.id/storage/galleries/20240619-perka-oikn-3-tahun-2024-rencana-strategis-otorita-ibu-kota-nusantara-tahun-2020-2024.pdf.

29. Ma'muun Murod Al-Barbasy, "Pindah Ibu Kota Negara, kepentingan siapa?," Universitas Muhammadiyah Jakarta, https://umj.ac.id/opini/pindah-ibu-kota-negara-kepentingan-siapa/.

30. United Nations Human Settlements Programme, *Centering People in Smart Cities: A playbook for local and regional governments* (Kenya: UN-Habitat), available from https://unhabitat.org/programme/legacy/people-centered-smart-cities/centering-people-in-smart-cities.

31. Otorita Ibu Kota Nusantara (OIKN), *Nusantara net zero strategy* 2045, https://ikn.go.id/storage/pedoman-nusantara/3/nusantara-net-zero-strategy-2045-en.pdf.

32. Rahmah Ramadhani and Yusa Djuyandi, "Upaya Pemerintah Indonesia Dalam Mengatasi Resiko Kerusakan Lingkungan Sebagai Dampak Pemindahan Ibu Kota Negara," *Aliansi: Jurnal Politik, Keamanan Dan Hubungan Internasional* 1, no. 3 (2022): 144–52.

33. Dita Amallya, et al., "Cetak Biru Kota Cerdas Nusantara," (Jakarta: Kedeputian Bidang Transformasi Hijau dan Digital Otorita Ibu Kota Nusantara 2023), https://www.ikn.go.id/storage/thd/blueprint/cetak_biru_kota_cerdas_nusantara.pdf.

34. United Nations Human Settlements Programme, *Centering People in Smart Cities: A playbook for local and regional governments* (Kenya: UN-Habitat), available from https://unhabitat.org/programme/legacy/people-centered-smart-cities/centering-people-in-smart-cities.

35. Yolanda Agne, "Deretan masyarakat adat yang terkena penggusuran oleh Otorita IKN," Tempo.co, March 18, 2024, https://nasional.tempo.co/read/1846098/deretan-masyarakat-adat-yang-terkena-penggusuran-oleh-otorita-ikn.

36. "*Delapan tuntutan warga adat Balik yang menolak digusur proyek IKN*," *CNN Indonesia,* March 15, 2023, https://www.cnnindonesia.com/nasional/20230314193219-20-925054/delapan-tuntutan-warga-adat-balik-yang-menolak-digusur-proyek-ikn.

37. Amnesty International Indonesia, "*Jangan gusur warga di lokasi IKN*," Amnesty International Press Release, March 15, 2024, https://www.amnesty.id/kabar-terbaru/siaran-pers/

jangan-gusur-warga-di-lokasi-ikn/03/2024/.

38. *Regional Regulation (Perda) of Penajam Paser Utara Regency Number 2 of 2017 concerning the Preservation and Protection of Paser Customs*, (2017), https://peraturan.bpk.go.id/Details/79033/perda-kab-penajam-paser-utara-no-2-tahun-2017.

39. United Nations Human Settlements Programme (UN-Habitat), *Report on UN-HABITAT Activities Regarding Indigenous Issues* (New York: United Nations, 2011), available from https://www.un.org/esa/socdev/unpfii/documents/UN-HABITAT_report_8th_session_en.pdf.

40. Nadya Zahira, "Otorita IKN bangun rehabilitasi lahan, capai 70% ruang terbuka hijau," Katadata, September 13, 2023, https://katadata.co.id/ekonomi-hijau/investasi-hijau/6500dbb540199/otorita-ikn-bangun-rehabilitasi-lahan-capai-70-ruang-terbuka-hijau.

41. Salma Hamidah, "*Seperti apa konsep pembangunan hijau di IKN?*," detikProperti, April 23, 2024, https://www.detik.com/properti/berita/d-7305588/seperti-apa-konsep-pembangunan-hijau-di-ikn.

42. United Nations Human Settlements Programme (UN-Habitat, *Centering People in Smart Cities: A playbook for local and regional governments* (Kenya: UN-Habitat, 2021), available from https://unhabitat.org/programme/legacy/people-centered-smart-cities/centering-people-in-smart-cities.

43. Ibid.

44. Ibid.

45. Fahrad Taghizadeh-Hesary and Naoyuki Yoshino, "Sustainable Solutions for Green Financing and Investment in Renewable Energy Projects," *Energies* 13, no. 4 (2020): 788.