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Assessing the Implementation of a 'City for All' within the New Indonesian Capital City: Smart and Green City Perspective

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Abstract. *The 'city for all' concept shows how the new Indonesian capital city Nusantara is expected to create a harmonious and inclusive relationship between its residents and its surrounding environment. There is still a long way to go towards its implementation, as there are many unsolved environmental problems related to the new capital city project. In line with the previously-mentioned statement, this study analyzed the feasibility of implementing the city for all concept in the new capital city in view of the existing environmental issues in East Kalimantan. Another objective of this research was to see whether the city for all concept is compatible with the local context. These two research objectives were pursued by using the 'smart city' and 'green city' perspectives to assess the current development progress. We used qualitative research methods, including fieldwork and in-depth interviews with various actors in both the national and local context, as well as intensive archival research. This study revealed that there is a discrepancy in vision between the government, the city planners, and the locals in East Kalimantan. Furthermore, the locals, especially indigenous people, have shown a lukewarm response to the capital city project. Based on the fieldwork, it seems that the city for all concept and the currently existing smart and green city components do not match. This study concludes that solving the current environmental problems and unequal social participation should be done first before carrying on with the capital city development planning.*

Keywords. *Capital City Planning, East Kalimantan, green city, smart city.*

Abstrak. *Implementasi semangat 'kota global untuk semua' pada dasarnya menunjukkan bagaimana ibu kota baru Indonesia yang akan datang akan membangun hubungan yang harmonis dan inklusif antara penduduknya dan lingkungan sekitarnya. Ini tentu keinginan yang panjang karena masih ada masalah lingkungan yang belum terselesaikan selama proyek ibu kota. Sejalan dengan pernyataan yang disebutkan sebelumnya, tulisan ini ingin menganalisis kesesuaian kota global untuk semua dengan isu-isu lingkungan saat ini di Kalimantan Timur. Tujuan lain dari penelitian ini adalah untuk mengungkapkan apakah visi 'kota global untuk semua' harus sesuai dengan konteks lokal. Kedua tujuan ini ingin menggunakan perspektif kota hijau dan pintar untuk menilai kemajuan pembangunan saat ini, terutama apakah itu menindaklanjuti kedua perspektif tersebut. Kami telah melakukan metode kualitatif yang meliputi kerja lapangan, wawancara mendalam dengan berbagai aktor baik dalam konteks nasional*

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maupun lokal, dan penelitian perpustakaan intensif. Studi ini mengungkapkan bahwa ada kesenjangan visi dan implementasinya antara pemerintah, perencana kota, dan masyarakat setempat. Selain itu, hal itu menimbulkan tanggapan setengah hati di kalangan masyarakat khususnya masyarakat adat terhadap proyek ibu kota di Kalimantan Timur. Singkatnya, berdasarkan pengalaman penelitian lapangan, tampaknya hubungan yang tak tertandingi antara 'kota global untuk semua' dan konsepsi kota pintar dan hijau. Studi ini menyimpulkan penyelesaian masalah lingkungan saat ini dan partisipasi sosial yang tidak merata harus dilakukan terlebih dahulu sebelum melakukan perencanaan pembangunan ibu kota.

Kata Kunci. *Kalimantan Timur, Kota Cerdas, Kota Hijau, Perencanaan Ibu Kota.*

Introduction

The new capital city is planned to become a 'global city for all' by 2045. The national government underlines net zero carbon emissions and Nusantara should become one of the top-ten livable cities in the world. These two long-term goals need rigorous valuation, particularly in the early stage of relocation, from 2020 to 2024. More specifically, this stage is a crucial moment for analyzing the policy linearity valuation from the groundbreaking moment until the finishing stage.

The city for all concept that is embedded in the plans for Indonesia's new capital city Nusantara has attracted scholars' attention since it was launched by the Head of the Nusantara Capital City Authority, Bambang Susantono. The term 'city for all' refers to two main keywords, i.e., 'inclusiveness' and 'sustainability'. The word 'inclusiveness' means fair participation among locals and migrants in contributing to the development of the new capital city. Meanwhile, the word 'sustainability' refers to a sustainable environment that embraces eco-friendly and smart city approaches in developing the new capital city. These two aspects of a city for all were the main objective of this research.

The smart city concept does not have one authoritative definition, but it has many working definitions. It also depends on the country, which may have its own implementation (Camero & Alba, 2019). The concept includes smart mobility, smart economy, and also smart governance (A. Kirimtat *et al.*, 2020; Benevolo *et al.*, 2016; Neirotti *et al.*, 2014). These three subconcepts indicate how people can engage with the rapid modernization wave through information and communication technology. As the public currently much depends on the internet, this strategy encourages effective problem-solving approaches that include self-service. These practices are common in most global cities around the world, so the new capital city of Indonesia wants to keep up with that global trend.

Meanwhile, the green city concept expresses how the policymakers want to deal with the issue of sustainability. It imposes a long-term environmental supporting system for the city's livelihood needs. More specifically, the need for 'environmental space' is the main issue, to promote a balanced, harmonious relationship between humans and nature (Spangenberg, Hoachim, 2002). The term 'environmental space' was derived from the Dutch term '*milieugebruiksruimte'* introduced by Horst Siebert in 1982. This applies to the new capital city of Indonesia, as it will be surrounded by forest.

Compared with other existing global smart green cities, the new Indonesian capital still has a long way to go. Other cities, such as London, Cancun, Atlanta, Li Zhou, and Shijiazuang, commenced their transformation by improving the environmental quality before becoming a global city (Muttaqin *et al.*, 2021). It is also important to note that the local context determines the way the smart green city concept can be implemented (Calzada & Cobo, 2015). The smart green city

represents the final stage of the gradual development of a city from scratch. In other words, the smart green city is the end point of city civilization. This implies that a city cannot directly jump to being a smart green city without passing all the processes of civilization.

The implementation of the city for all concept in Nusantara should first overcome two main sustainability problems, namely existing environmental problems and the current digital divide. For decades, Indonesia has experienced ingrained environmental problems, such as illegal logging, landslides, bushfires, and floodings. Generally, most Indonesian cities have partially resolved these problems. East Kalimantan has also long suffered environmental constraints such as illegal coal mining and logging (Bappenas, 2020).[4] Furthermore, there is a digital divide in Indonesia between Java and outside Java, where Kalimantan lags behind Java/Bali and Sumatra in terms of internet infrastructure. These problems ultimately raise doubts regarding the slogan 'global city for all' related to the new Indonesian capital city. Much time will be needed to fully implement it.

Because the new capital city is still in the development phase, it is not yet possible to assess the implementation of the city for all concept in Nusantara. Therefore, this study more specifically focused on the local response to the new capital city project and its expected impact on the people as well as the surrounding environment. The development site for the new capital city, which administratively belongs to North Penajam Paser Regency, is the home of indigenous people that rely on nature for their livelihood. Apart from that, based on Bappenas (2022), there are environmental constraints such as illegal mining, deforestation, and land overlap. These are major challenges in the implementation of a city for all in this area within the constraints of the sustainable development agenda. In tackling these issues, the national government emphasizes addressing the sustainability aspect first before moving on to inclusiveness.

In line with the above explanation, this study assessed the compatibility of the smart green city concept with the existing planning for the new capital city. More specifically, we investigated the opinions of the local governments that surround the new capital city. As onsite governments, the provincial government and the local governments of East Kalimantan already have their own planning policies, the outcomes of which may affect the development of the new capital city project. Following up this argument, this paper also analyzes the link and match between the local policy response to the new capital city project required for the successful implementation of the city for all concept in Nusantara.

Methodology

This research used two main methods, namely archival research and case study research. The archival research was intended to find information based on the search of various historical documents, such as news clippings, meeting minutes, memoirs, and relevant documentation that could tell about events in the past, while the case study was carried out between July 11 and 16, 2022 in East Kalimantan through in-depth interviews with human resources, which included journalists, academics, and activists who care about the development of the new capital city.

Literature Review

[4] Also based on interviews with the JATAM and WALHI local branch offices in Balikpapan and Samarinda in 2022.

As previously mentioned, the sustainability aspect was the main focus in analyzing the compatibility between the city for all concept and the currently existing conditions, especially the capacity of each subnational government. More specifically, this research empirically verified the status of several smart green city components in the region in comparison to the requirements for a city for all. This enabled us to assess whether the city for all concept is feasible to be implemented in the new capital city or not.

City For All

The term 'city for all' was derived from the terms 'access for all' and 'design for all' as strategies in planning. They enable cities to address issues related to inequality in spatial, social, and economic aspects, as well as demographic changes such as an ageing population. By including accessibility right from the beginning, it is possible to avoid the need for corrective and expensive measures to remove barriers in the future. Whether one is a public official, construction expert, development practitioner, designer, scholar, business owner, or service provider, it is essential to prioritize accessibility and inclusion. By taking proactive steps to eliminate unnecessary barriers, it is possible to provide access and inclusion for people of all genders and abilities (DIAUD/CBM, 2016).

The sustainable development goals (SDGs) inform the city for all concept in terms of inclusivity, collaboration, and equitability. They prioritize the promotion of sustainability across various dimensions, such as environmental, economic, social, and cultural aspects. The city for all aims to provide the necessary conditions and infrastructure to enable its citizens to actively contribute towards creating a more livable, resilient, and sustainable urban environment. In doing so, it ensures meaningful participation of citizens in fulfilling their right to the city, while also focusing on enhancing the prosperity, equity, comfort, and innovation within their city. The city for all addresses social needs and prioritizes the provision of high-quality, affordable housing and urban services for all, including the vulnerable and those with disabilities, along with gender-sensitive responsiveness to the changing needs of their residents at different stages of their lives (UNECE, 2020). This perspective is essential for inclusivity and equity, as it directly and explicitly connects sustainable development with the growth of human skills and knowledge. Moreover, it emphasizes the importance of improving life opportunities and quality of life for everyone, which is essential to the city for all concept.

Sarosa (2020) provides five key factors and five related key policies required for a city for all to improve the welfare of the people at large in Indonesia: 1) facilitating rural-urban migrants and villagers to move to urban areas so that they have greater opportunities to improve their welfare; 2) gradually spread manufacturing so that not only Jakarta, Surabaya, Bandung and Semarang are attractive but also other cities outside of Java; 3) ensuring that the strengthening of rural-urban relations is not colored by policies that are city-biased; 4) cities must be encouraged and assisted in their capacity so that they can be more livable, cultured, productive, competitive, resilient and sustainable; 5) good governance at all levels must be continuously pursued, at least in terms of participation, transparency, accountability, efficiency, and effectiveness. Any central government support must facilitate good urban governance.

Within the New Urban Agenda (NUA), the city for all concept is the most recent global framework promulgated by the United Nations Human Settlements Program (UN-HABITAT) to achieve a better and more sustainable future for cities across the globe. NUA mandates that all countries must have a national urban policy. To date, there is no such policy in Indonesia. The draft of the so-called National Urban Area Development Policy and Strategy (*Kebijakan dan Strategi Pengembangan Kawasan Perkotaan Nasional or KSPPN*) has been in progress within

the Ministry of National Development Planning (*BAPPENAS*) for years, but it has not yet been officially published. The Ministry of Public Works and Housing (*PUPR*), on the other hand, has published a partial interpretation of NUA for the Indonesian context (Sarosa, 2018). According to this publication, five areas must be prioritized, i.e., access to clean water, percentage of slums, access to proper sanitation, green open space, and preservation of heritage areas.

The city for all concept is contained in the planning document included with Law No. 3 2022 on the master plan for Ibu Kota Negara (IKN) Nusantara (Attachment II). It is mentioned in the section explaining the vision and the development goals for Nusantara, where 'global city for all' not only refers to the people who will live in Nusantara in the future but also to the environmental conditions that are to be maintained. The vision relates to three main objectives: 1) the new capital city as a symbol of national identity, i.e., a city that embodies the identity, social character, unity, and greatness of the nation; 2) the new capital city as a global sustainable city, i.e. a city that manages resources efficiently and provides services effectively by utilizing water resources and energy efficiently, and that has good waste management, integrated modes of transportation, a livable and healthy environment, and synergies between the natural environment and the built environment; and 3) the new capital city as a driver of Indonesia's economy in the future, i.e., progressive, innovative, and competitive in terms of technology, architecture, urban planning, and social development. The economic superhub strategy will be adopted to ensure the most productive synergies between the workforce, infrastructure, resources, and networks to maximize opportunities for all (Bappenas, 2020).

Smart City

The consensus literature on smart cities helps to understand the smart city framework within city development. It is also important to note that the implementation of the smart city concept is different between developed and developing nations. Most importantly, the various implementations of digital technology are a main concern. Historically, there has been a step-by-step movement to make cities into smart cities with support of advanced technology. In other words, making a smart city is not merely about the digital infrastructure but also about civilization. Therefore, pushing forward a city with massive digital technology prior to educating the residents will result in unequal expectations. This serves as a reminder to analyze the link and match between the smart city concept and the plans for the new capital of Indonesia.

The massive undertaking of moving the national capital city of the archipelago to Kalimantan not only means moving away from the complex problems currently faced by DKI Jakarta. More than that, it is hoped that the transfer of IKN Nusantara can be the starting point for Indonesia's transformation into a developed country that is economically, socially, and culturally competitive (Jati, 2022). In the process of realizing this, one of the basic principles is developing the city as a smart green city as well as a forest city and a sponge city. The smart city concept for Nusantara is expected to form a dynamic and inclusive Indonesian identity, supported by all its people so that Indonesia is ready to face future challenges.

The forest city concept was also inserted into the concept for the development of Nusantara. However, the word 'forest' is an adjunct that can be interpreted as referring to a city built in a forested area or a city with dominant forest vegetation and extensive tree cover (European Bank for Reconstruction and Development, 2016). Based on the latest literature, a forest city is defined as a smart city that is located within a forest ecosystem (Mutaqin *et al.*, 2022). According to Mutaqin in Bappenas (2022), developing a forest city involves more than developing an urban forest and hopes for a version in IKN Nusantara that can also be interpreted as vertical forest, eco-

city, green city as well as sustainable city as is the case for other forest cities (London, Cancun, Shijiazhuang). Their recommendation for the forest city concept in IKN Nusantara is:

> *Kota hutan yang didominasi oleh bentang lanskap berstruktur hutan atau RTH yang memiliki fungsi jasa ekosistem seperti hutan dan dengan pendekatan lanskap yang terintegrasi untuk menciptakan kehidupan yang berdampingan dengan alam.*
>
> [Translation: A forest city that is dominated by a green-structured landscape or RTH that has ecosystem services such as forest and an integrated landscape approach to create life aligned with nature.]

Bappenas defines a forest city as a city built inside a forest or around forest areas with a significant role for environmental sustainability (Bappenas, 2020). The same document stresses its role in restoring environmental conditions in East Kalimantan with all its problems, such as carbon emissions, biodiversity, and good environmental management quality. This article interprets the city for all concept as inclusive, not only for the sustainability of the future of humanity but also for the future of the Earth.

The new capital city will have an area of 256,142.74 ha, with a city core area of 56,180.87 ha and a government center of 5,644 ha. The target is to have around 70% to 75% of green open space (Silalahi, 2020). We assume that this is meant to play the role of an 'environmental space', where a zoning system will work, for example, by designating non-developed areas (no-go areas) that have high biodiversity as wildlife corridors. Furthermore, we emphasize that IKN Nusantara as a city for all should consider environmental development as a key solution. Therefore, Setha Low also sees how open green space in the city needs to be interpreted as public space that supports social cohesion and environmental protection (Low, 2022). In connection with these efforts, technology, and innovation related to carbon footprint control are keywords related to zero carbon development as a future goal of IKN Nusantara.

There are at least three main focuses in support of the vision of IKN Nusantara as a smart forest city: 1) vision and outcomes that are aligned with the overall strategic framework of IKN Nusantara; 2) smart areas and strategies that outline key digital opportunities for IKN Nusantara; and 3) a long list of smart initiatives that provide various possibilities for actualizing development (Bappenas, 2022). The latest addition to the literature is that a smart forest city must be able to ensure that the footprints of the built-up areas and the city's carbon emissions may not disturb the forest and can even improve it (Sarosa, 2020). This is in accordance with the basic principles of the forest city that have been prepared by the Ministry of Environment and Forestry of Indonesia.

Although the smart forest city concept is new for Indonesia, it is different from the concept of a smart city because it interlinks the smart city and green city concepts. Sustainability as the policy basis for city development is not new for cities in Indonesia. Until now it has been implemented in almost all cities in Indonesia. The smart city concept was born as an innovative solution to solve various kinds of problems faced by cities quickly, easily, and transparently. Ideally, there are at least three main supporting factors in realizing a smart city, i.e., people, policies, and technological infrastructure (Kementerian Pekerjaan Umum Dan Perumahan Rakyat, 2015; Sandberg *et al.*, 2004). The goal of smart cities is to improve the quality of life through the utilization of technology in order to meet the needs of the residents by becoming more effective and efficient. The smart city, originally called 'digital city', was introduced for the first time by the IBM company. Over time, the development of smart cities no longer focused only on the use of technology (Brilhante & Klaas, 2018). More than that, a smart city now is seen as a combination of innovative technology and a smart mindset within an organizational framework. Thus, the

smart city concept is very broad and has derivatives of smart city components that are still developing.

Giffinger *et al.* (2007) provides smart city components that have been realized in the European Union. Some of the smart city components found in cities in the European Union are:

1. *Smart economy* – This component is related to the competitiveness of the city, which is influenced by several factors, including a spirit of innovation, entrepreneurship, economic image and trademarks, productivity, labor market flexibility, international engagement, and the ability to transform.
2. *Smart people* – This component is related to social capital and human capital in the city. The shapers of these two capitals are qualifications, an interest in continuing to grow and learn, social and ethnic plurality, flexibility and creativity, open-mindedness, and public participation.
3. *Smart governance* – This component emphasizes community and government participation in running the government system. The factors examined are participation in decision making, social services and public services provided, transparency in governance, strategies, and political perspectives.
4. *Smart mobility* – This component is related to the ability and carrying capacity of its citizens' mobility. Supporting factors include local, national and international accessibility, the availability of ICT infrastructure, as well as the sustainability, security and innovation of existing transportation systems.
5. *Smart environment* – This component is related to natural resources. Factors that influence it include the attractiveness of the natural conditions, the level of pollution, environmental protection, and the sustainability of existing natural resource management.
6. *Smart living* – This component is related to the quality of life of the inhabitants.

Compatibility of the Smart Green City Concept with the Current Capital City Planning

The smart city components mentioned above are flexible to suit the needs of each city. With regard to the smart city strategy for IKN Nusantara, the central government through the National Development and Planning Agency (*Bappenas*) and the Capital City Authority Agency has provided initiatives to support the realization of a smart city in the new capital. The following five smart initiatives have priority:

1. access and mobility that can be categorized as *smart mobility*;
2. environment and climate that can be categorized as a *smart environment*;
3. security and safety that can be classified as *smart security*;
4. public sector and urban systems that can be categorized as *smart governance*; and
5. livability and dynamics that can be categorized as *smart living.*

In the Master Plan (MRI), the five smart initiatives are the basis for smart cities as well as livable cities that can serve the needs of society and the business world in the future (Bappenas, 2020).

Summary of the Literature: Theoretical Compatibility with Current Capital City Development

From the above discussion, the implementation of the city for all concept in the new capital city of Indonesia will rely on the sustainable city concept with an eco-friendly and smart supporting system. This eco-friendly approach should enable the new capital city to preserve the pristine condition of the forest, while the smart approach utilizes the heavy use of technology to support activities within the city. Taken together, each supporting system intends to build new civilization in Indonesia.

While the city for all theoretically is a huge concept and needs much time to be implemented, the Indonesian government seems to want to accelerate this process by only partially adopting it first. This policy to shorten the process surely may cause disruptions, especially among locals and local governments in East Kalimantan (Nugroho *et al.*, 2023). These local entities are currently lagging behind in their development compared to that of the planned capital city. Ideally, the capital city project should also improve the quality of its neighboring areas. In fact, the current development plan seems to claim that the capital city will be able to cover up local problems. This actually contradicts the ideal concept of the city for all, which should collaborate with satellites cities. More importantly, a partial adoption of the city for all concept by the government would bring unintended consequences for the capital city project.

In sum, the major problems in implementing the city for all concept in the new capital city project do not bring all parties involved together at the same table. The previously mentioned sustainability aspect implies that sustainability without collaboration would create difficulties for the capital city. When it comes to smart green city components as empirically verifiable components of a city for all, the neighboring regencies and cities in East Kalimantan still face a technology gap and environmental constraints. Surely this will affect the capital city project if the government is unable to improve the quality of the local governments concerned.

Following the above critical discussion, it is important to further analyze the compatibility between the government's proposed city for all concept and the empirical local situation. Focusing on compatibility enables the public to reassess the current capital city planning and its impact on neighboring entities. The environmental constraints remain a major problem, particularly for the indigenous peoples of North Penajam Paser, who supply much of the territory to host the capital city. A further problem for the local governments is the lacking digital infrastructure. If this digital gap remains, it will render the spirit of the smart city and its new civilization meaningless. These two problems are major factors that greatly affect the compatibility between the capital city project and the locals.

Result and Discussion

Existing Smart City Implementation in Satellite Cities

Speaking of a smart forest city conceptually is very good if it can be properly implemented. However, the development process will take much time because it combines two major concepts, namely the smart city with its advanced technology infrastructure and the forest city focusing on the environmental sustainability of Kalimantan's forests. Both are not impossible to do, but these two concepts contradict each other. Especially in realizing the new capital city as a smart city representing the Indonesian identity, this is an unprecedented challenge (Supangkat & Harsono, 2015).

From an economic standpoint, the information and communication sector as a main component of the smart city is the most important aspect to watch. When seen from the value of the GRDP of Kutai Kartanegara Regency and Penajam Paser Utara Regency in East Kalimantan Province,

the information and communication sector has a low contribution to GRDP because the value is below 2%. This is different from the cities of Samarinda and Balikpapan, which contributed between 3% and 5% from 2018 to 2021, with a positive trend each year (Bappeda Kota Balikpapan, 2021). Based on these data, the information and communication readiness of Balikpapan and Samarinda City is higher than that of the other two IKN Nusantara partner districts.

Table 1. GDRP for Information and Communication Sector for 2018-2021

Provinsi/Kabupaten/Kota	Keterangan	2021	2020	2019	2018
Kalimantan Timur	Nilai (Juta)	9,002,576	8,338,485	7,752,537	7,295,360
	Kontribusi PDRB (%)	1.9%	1.8%	1.6%	1.6%
	Pertumbuhan (%)	8.0%	7.6%	6.3%	4.4%
Balikpapan	Nilai (Juta)	3,493,220	3,237,909	2,974,249	2,780,445
	Kontribusi PDRB (%)	4.0%	3.9%	3.5%	3.5%
	Pertumbuhan (%)	7.9%	8.9%	7.0%	5.1%
Samarinda	Nilai (Juta)	2381477.2	2205512.49	2055308.5	1931779.37
	Kontribusi PDRB (%)	5.1%	4.9%	4.5%	4.5%
	Pertumbuhan (%)	8.0%	7.3%	6.4%	5.5%
Penajam Paseur Utara	Nilai (Juta)	1,224,117	1,125,521	1,033,140	957,586
	Kontribusi PDRB (%)	1.0%	0.9%	0.8%	0.8%
	Pertumbuhan (%)	8.8%	8.9%	7.9%	6.5%
Kutai Kartanegara	Nilai (Juta)	125,657	116,653	105,961	97,137
	Kontribusi PDRB (%)	1.9%	1.8%	1.6%	1.5%
	Pertumbuhan (%)	7.7%	10.1%	9.1%	7.2%

Source: BPS Province of East Kalimantan, Balikpapan City, Samarinda City, Kab. Penajam Paseur Utara, Kutai Kartanegara (2022)

The table 1 showed how local governments are committed to step up IT infrastructure. Although Kutai Kartanegara and Penajam Paser Utara Regencies have a GRDP contribution of less than 2%, the growth trend of the information and communication sector in these two districts has continued to increase. In 2020, the growth of the information and communication sector in Kutai Kartanegara Regency reached 10%. The growth of the information and communication sector in East Kalimantan Province and the capital city partner districts/cities was quite high in 2021, namely between 7% and 8%. This growth rate was much higher when compared to the growth rate of the local GRDP and national GDP. This can be an indication that the information and communication sector is growing rapidly in this region so that it is ready for smart city-based development.

However, in the process of building and developing the new capital city as a smart forest city, the information and communication sector as a supporter or driving force in the development may face obstacles owing to the new capital city. The sustainable development and implementation of the smart city concept in the new capital city is highly dependent on the support of its partner cities, both in terms of its physical and social infrastructure.

In general, following the above-mentioned argumentation, implementing the city for all concept in the new capital city through the development of smart forest city components does not directly affect the neighboring cities. This shows that the city for all narrative for the time being is incompatible with the current conditions in the region. Most importantly, there are still unequal smart city outputs in several cities and regencies in East Kalimantan.

The new capital city as a smart city will need strong support from its neighboring cities. Identification of the current level of smart city implementation in future capital city partners such

as Samarinda City, Balikpapan City, Kukar Regency, and Penajam Paser Utara Regency was done based on the smart city components each of them currently has. The next section will explain the different smart city outputs per city and regency to reveal whether the city for all concept is feasible for the new capital city of Indonesia.

Samarinda City

As the capital of East Kalimantan, Samarinda City already has regulations related to smart city implementation. Through Mayor's Regulation No. 8 of 2018 concerning the *Smart City Masterplan for Samarinda*, the Samarinda City government has established guidelines for planning and developing the city as a smart city (Bappeda Kota Balikpapan, 2021). There are six smart city components that are of concern here, i.e., smart governance, smart economy, smart people, smart mobility, smart living, and smart environment. However, the implementation of smart city components is still under development. Some of the factors constraining the implementation of smart city components are the unavailability of tools and budget, and facilities and infrastructure to support public services (related to smart governance), so online government services are sparsely used by the general public.

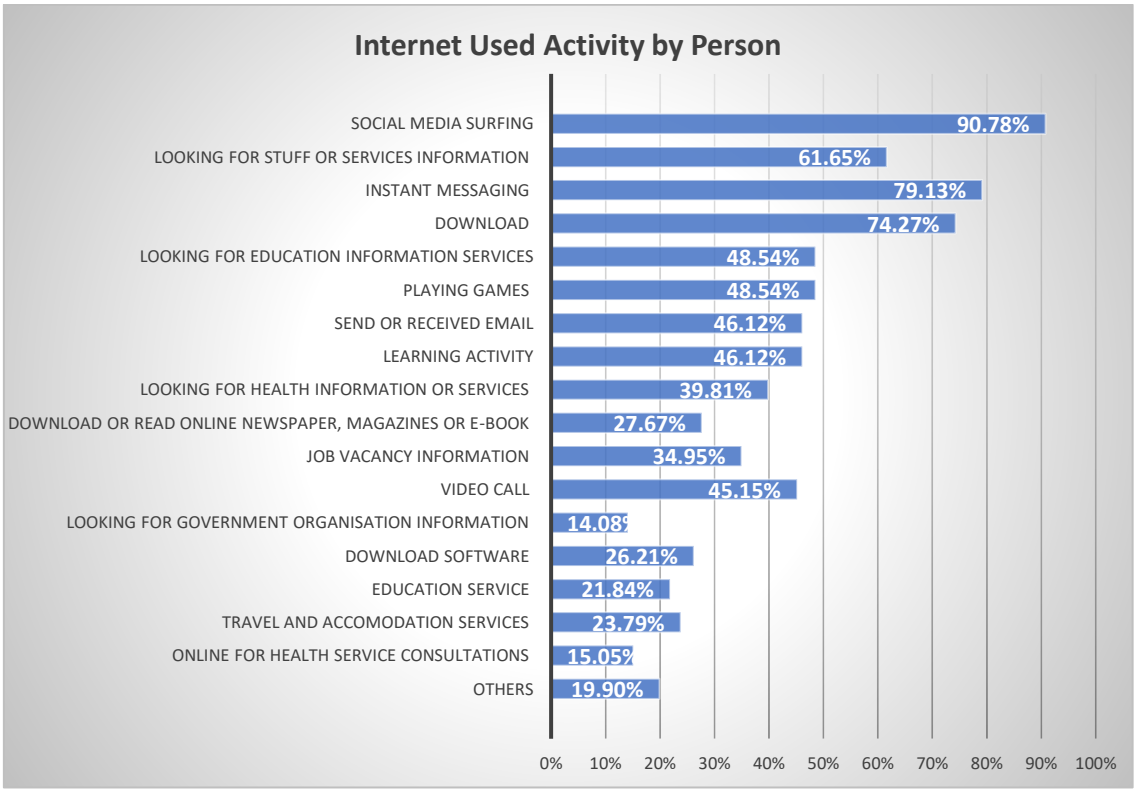

Figure 1. Individual internet usage patterns in Samarinda City.
Source: Diskominfo Samarinda City, 2017

In addition, according to the figure 1 above it can be seen that as many as 74.37% of Samarinda residents already use the internet, the majority via smartphones. However, based on patterns of internet usage, out of 206 respondents only 14.08% accessed the internet to find information related to their local government activities. These data and also the digital infrastructure gap is

certainly a factor that causes the implementation of smart city components in Samarinda to not run optimally.

As the capital of East Kalimantan, Samarinda could be a pilot smart city for cities in East Kalimantan. Having considered the conditions in Samarinda City, which has been under development since 2018, this policy needs reassessment. The construction and development of smart city components in the new capital city needs special attention, especially the factor of community accessibility and the required supporting facilities.

Sumber: Draft *Executive Summary Master Plan Smart City* Kota Balikpapan, 2020

Figure 2. Smart City Plan in Balikpapan City

Balikpapan City

Similar to Samarinda City, Balikpapan City as a smart city is also still in the process of being developed. The main focus of the Balikpapan smart city program is to build synergies towards an environmentally friendly smart city (Khamamin et al., 2021). The smart city concept for Balikpapan was adapted from the vision of the City of Balikpapan's Regional Medium-Term Plan (RPJMD) for 2021-2026, namely to realize Balikpapan as a leading city that is comfortable to live in, modern and prosperous within the framework of a modern city. In line with its purposes, according the figure 2 above, Balikpapan Smart City will cover 5 smart city components from smart living to smart environment. The Balikpapan City government wants to make Balikpapan City 'the most livable city' through smart city components. There are six components in the smart city concept of Balikpapan, namely smart living (related to settlements), smart society (community environment), smart branding (regional marketing), smart governance (bureaucratic governance), smart economy (economy), and smart environment (environmental quality).

The city of Balikpapan pays much attention to smart branding as one of the leading smart city components, namely Balikpapan as the gateway for IKN Nusantara and a city of MICE. Balikpapan also focuses on increasing and promoting smart city-based local tourism. Regarding the smart governance component, the city government of Balikpapan has started to implement it. However, the city's data system has not yet been integrated among Regional Work Units (SKPD) because the infrastructure is still partial and there is limited understanding of managing it from the HR side. At the same time, Balikpapan is still facing problems related to the smart environment and the smart economy. Considering the smart economy component, Balikpapan City is considered to still be dependent on other regions. This dependence is due to Balikpapan's

focus on the processing industry, so it depends on raw materials originating from outside of the city. The smart environment component is related to environmental management, where Balikpapan City is currently still dealing with floods and a shortage of clean water sources to meet the needs of its inhabitants.

Kutai Kartanegara Regency

One of the regencies/cities that have the opportunity to start developing as a smart city in 2017 is Kutai Kartanegara. To date, the implementation process is still at the initiative level. The initiative towards developing the city as a smart city is based on a number of development problems to be resolved: (1) the realization of good governance is not yet optimal, (2) the development of the quality of human resources is not yet optimal, (3) the quality of people's welfare is not evenly distributed, (4) the quality of regional economic development is not yet optimal, (5) the distribution of regional infrastructure development is not yet optimal, and (6) there is high potential for a decrease in the quality of the environment (Kukar Regency's RPJMD, 2021: IV.2-17). Even so, the Kukar Regency Government did not clearly convey the implementation of smart cities within its territory in the RPJMD.

The discussion on smart cities is closely related to advances in information and communication technology. The Kutai Kartanegara Regency Government in its RPJMD implicitly conveys that what is currently needed is equal access and information technology facilities in an effort to improve the quality of the region (Kutai Kartanegara Regency RPJMD, 2021: IV.24). Based on this, it seems that the development of smart cities is not yet a priority, because Kutai Kartanegara Regency focuses on solving the problem of environmental degradation due to illegal mining, as well as the quality and accessibility of its human resources.

North Penajam Paser Regency

After the new capital city's groundbreaking ceremony was conducted in Sepaku District, PPU Regency, the regency government began to make improvements in its territory in view of the plans for the new capital city. One of the things that were done was to organize a technical guidance (BimTek) event for the preparation of a smart city master plan, which was held some time ago with support from Gadjah Mada University (UGM) and Gojek. The North Penajam Paser regency government itself organizes BimTek into four stages, which are carried out periodically in the preparation of the smart city master plan for North Penajam Paser. Through cooperation and collaboration with a number of stakeholders, it is hoped that North Penajam Paser's smart city initiative components will support the new capital city.

Table 2. Redistribution of Electricity for Household in North Penajam Paser Regency from 2018-2022

Ket	Jumlah KK Teraliri Listrik		Jumlah KK bukan
	PLN	*non* PLN	
Jumlah KK	25110	757	128
Persentase	96.60	2.91	0.49

Source: (East Kalimantan PLN branch office, 2022)

If we look at the electricity and internet infrastructure in this area, it is quite good. According to the table 2 above, most of the households have electricity, namely 99.51%. Of the total 99.51%, 2.91% of households that have non-PLN electricity rely on independent power plants. The same

thing also counts for internet connectivity in PPU Regency. As many as 83% of villages in PPU Regency are connected to 4G internet streams while 17% only have 3G. Both of these infrastructures can still be further developed. The community's readiness to support smart city development in the PPU Regency area is a major issue.

In a nutshell, the implementation of the smart green city concept in the new capital city and its surrounding cities still needs much time. The classical digital divide is relevant here and may affect the way the smart and green aspects of the new capital city project can go through. Most importantly, the unequal coordination between national and subnational governments may be the problem here. As the capital city wishes to be a global city with a strong digital infrastructure, it ideally should include the acceleration of the smart city programs in its neighboring cities. Eventually, this may disrupt the development of IKN Nusantara as a city for all because of the unequal smart city development in the region. It is important to note that the city for all narrative implies inclusivity. Therefore, the satellite cities should be at the same developmental stage as the main city.

Moreover, the green city narrative within the city for all concept is not strong in the planning stage. The government so far has postulated the co-existence of the capital city with the forest without first addressing the existing environmental problems. East Kalimantan has several obstacles in solving these issues, because it possesses rich natural resources (Bappenas, 2020). Although the government would like the new capital city to engage with the forest, this requires a lot of effort because of issues such as land overlap and landslides, whereas the spatial plan until now only deals with some problems related to land conditions (Antara, 2022).

First, the issue of land ownership status, which is at risk of becoming a larger socio-cultural issue due to land overlap issues in the IKN Nusantara area, occurs in all regions. Developing land in the IKN Nusantara area is acceptable for some landowners with official documents. It is even more profitable many times over (interview with Semboja District staff, 2022), but those who still need official documents experience problems. Table 3 relates to current conflicts over land ownership.

Table 3. Land Conflicts within IKN Nusantara Area

District / Village	**Land Problems**
Jonggon Desa	Dayak Basap Tribe claimed they have Tanah Ulayat 112.637 ha overlapping with PT. ITCI Kartika Utama (ITCIKU), PT ITCI HutaniManunggal (IHM) and PT. Multi Harapan Utama (MHU). They hope to keep 40% of their customary land as Dayak Basap land, providing 60% of their customary land for IKN Nusantara development.
Loa Kulu	Land overlap due to business licenses from local government versus central government.
Loa Janan	Land tenure conflict related to Kesultanan Kutai, who have even brought evidence from the colonial era. They have to do readmission.
Samboja	Determination of Taman Hutan Rakyat (Tahura). Around 63% has land overlap of human settlements with coal mining and oil palm plantations since 1970.

Source: Kajian Strategis Masterplan IKN Nusantara (Bappenas, 2020: 154)

Second, landslides may threaten the site of capital city, which has 'very low to low susceptibility to ground movement' to 'middle risk' status, as shown in Figure 3.

Figure 3. IKN Nusantara and its surrounding development area.
Source: Kajian Strategis Masterplan IKN Nusantara (Bappenas, 2020)

One important thing to note is that the onsite soil textures as shown by the yellow lines on Figure 3 are still unstable and are considered higher-risk. This may impact the land's capability to sustain high-rise buildings. In brief, unsustainable nature development may fail to provide a proper foundation for the new capital city as a smart green city.

Conclusion

Developing a city for all has been put forward as the main strategy of the government of Indonesia in developing the new capital city, Nusantara, but until now a blueprint has not yet been presented. The development of the capital city according to the smart green city concept is a new challenge for Indonesia. At stake is not only the city itself but also the issue of national identity. Before going further in the formation of a representation of the national identity by the new capital city, it is necessary to build a city identity that is supported by the identity of its own inhabitants. A city is an organism that has an identity formed and influenced by various factors, such as human, social, natural, and artificial factors.

This paper revisited the current capital city project, which may be incompatible with the concept of a smart green city. Unsolved environmental problems and the existing digital divide are challenges in the development of the capital city as a smart green city. Both problems ideally should be solved prior to the final development stage. Most importantly, the government should accelerate the development of smart cities in East Kalimantan Province before finalizing the smart

city program for the capital city. It is important to note that equal access and fair development of the digital infrastructure between the capital city and the neighboring cities is a prerequisite.

The smart green city concept is a very good concept if it can be implemented properly. However, within the development process it is certainly not easy. Issues such as accessibility, supporting facilities and infrastructure, as well as the people to be living in it certainly need to be considered. In addition, other supporting factors that are also important include: (1) encouragement and management support from all city component stakeholders; (2) involvement of actors in aligning the smart green city's ideas so that they can be implemented through active collaboration of all stakeholders; (3) a thorough understanding of the smart green city concept and its supporting facilities must be disseminated immediately to the community, not only for the benefit of community.

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