Comparative Analysis Of Bumi Serpong Damai City (Bsd) And Nusantara Capital City (Ikn) In The Conceptual Framework Of Sustainable Cities

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Abstract.

BSD and IKN City are new cities built in Indonesia with the concept of Sustainable Cities. This research will examine the concepts of BSD and IKN City and the physical development that has been carried out regarding their similarities and differences in the conceptual framework of a coherent city. Using descriptive analysis with purposive sampling. The results of the study found that the basic idea of sustainable cities is basically implemented in the concept and development of BSD and IKN City, especially in its attention to the environment and the application of smart technology in facilitating city management and social life of urban communities.

Keywords: *BSD, IKN, Sustainable City, and New City.*

I. INTRODUCTION

Sustainable urban planning is urgently needed to realize nature conservation. The concept of developing cities in the world is now starting to apply sustainable development concepts such as Sustainable City, Green City, Smart City and Eco city to overcome urban problems and prevent various environmental impacts [1], [2], [3], [4].The emergence and development of new cities is an inevitable part of the world's urbanization, which suggests that the earth is heading towards a global metropolitan area[5] intended also to accommodate the growing urban population [6], estimated to be 70% of the world's population by 2050 urban residents [1], [7], while for the Asia and Africa region it is around 80% [8]. The importance of sustainable urban development is also discussed and promoted through the framework of the New Urban Agenda [9], [10], [11]. The concept of sustainable urban development must be a global policy to respond to social and environmental challenges [12], [13], with a commitment to create integrated, safe, resilient and sustainable cities and human settlements. In addition, it aims to strengthen and provide clear and concise urban planning guidelines for city planners and the government as a reference.

With the advent of technology, the combination of smart technology and sustainable concepts allows policymakers to manage, monitor, adapt, and create effective interventions for urban development [14], [15]. The implementation of sustainable urban development can be carried out through several collaboration strategies that lead to the concept of smart services [16].Along with the development of the concept of sustainable urban development, various countries and international institutions that are concerned with sustainable development also develop assessment references or indicators to assess conditions and directions related to urban sustainability performance in accordance with the local social and economic conditions of each country. Urban sustainability indicators and their application in various major cities in the world as seen in table 1 [17].

Table 1. Sustainability Indicators and Their Application in Various Cities

Dimension	Indicator	UNCSD (2001)	Global Cities Index (2008)	Melbourne (2016)	Singapore (2015)	Hong Kong (2007)	Shenzhen (2017)	Beijing (2016)	Shanghai (2017)
Ecological	Air quality	✓	✓	✓	✓	✓	✓	✓	✓
	Forest coverage rate	✓		✓	✓	✓		✓	✓
	Greenery coverage	✓		✓		✓	✓	✓	

	of non-built area								
	Blue-green space proportion	✓			✓			✓	✓
	Surface water environmental quality	✓	✓			✓	✓	✓	✓
	Sewage utilization rate	✓	✓	✓	✓	✓	✓	✓	
	Waste recycling rate		✓		✓	✓	✓		
Social	Per capita emergency shelter area							✓	✓
	Community-life circle system Community Life Circle coverage			✓				✓	✓
	Accessibility of community health services			✓					✓
	Green traffic proportion		✓	✓	✓		✓	✓	✓
	Food safety qualification rate			✓	✓		✓		✓
	Jobs-housing balance		✓	✓		✓		✓	✓
	Volume of affordable housing			✓				✓	
	The scenic spot area					✓			
	Accessibility of public spaces		✓	✓	✓	✓		✓	✓
Economic	GDP per capita	✓	✓	✓					
	Disposable income						✓		
	Foreign direct investment amount	✓							
	Imports and exports	✓		✓					
	Tourism industry	✓		✓				✓	✓
	Number of overseas urban routes			✓					✓
Cultural	Area of historical and cultural landscape conservation area					✓			✓
	Number of urban intangible cultural heritage Intangible cultural heritage sites			✓		✓			
	Number of international sports events, conferences and exhibitions		✓	✓				✓	
	Number of registered volunteers				✓			✓	
	Barrier-free facility rates			✓		✓			

	Accessibility of public cultural facilities	✓	✓			✓	✓	✓
Science and Technology	Research expenditure as a share of GDP	✓			✓	✓	✓	✓
	Ownership of 10,000 patents		✓			✓	✓	
	Number of researched development personnel in the employment population		✓			✓		✓
	Contribution of big data in urban governance and emergency management		✓					

Source : [17].

As seen in table 1, each city has a tendency to prioritize certain priorities from each indicator that is applied in accordance with the problems of the social, economic and cultural conditions of each city concerned.Indonesia is one of the countries included in the action known as the Sustainable Development Goals (SDGs), which is a global action movement to end poverty, reduce inequality and protect the environment [18]. Social Project Innovilage must have elements of benefit for society, digital solutions, collaboration and sustainability and have a relationship with the Sustainable Development Goals (SDGs) to encourage the creation of social benefits and measurable economic improvement.The importance of the concept of a sustainable city has begun to be implemented in BSD City through various green initiatives. For example, the procurement of green open spaces and city parks to improve air quality and community life. In addition, an environmentally friendly transportation system is also prioritized to reduce pollution and congestion, including by providing efficient intra-city bus services [19], [20].BSD City also utilizes technology and innovation in the development and management of its city. One example is the development of Internet of Things (IoT)-based infrastructure that supports efficient management of energy and utilities. The existence of digital business centers and startups in BSD City also supports the city's economic growth, while encouraging the application of green technology in various sectors [21], [22].To provide further context for this analysis, it is worth delving into the development of BSD cities that have been built and have been widely praised as successful examples of modern cities planned in Indonesia.

BSD, or Bumi Serpong Damai, is a large-scale mixed-use development located just outside Jakarta that has been planned and built for decades. The city's emphasis on integrated planning, green spaces, and modern infrastructure has made it a benchmark for sustainable urban development in the country. Comparing the planning and implementation of BSD with emerging plans for the new capital city of Nusantara can offer valuable insights into the challenges and best practices for creating a livable and environmentally conscious city in the Indonesian context [23]. To provide further context for this analysis, it is worth delving into the development of BSD cities that have been built and have been widely praised as successful examples of modern cities planned in Indonesia. BSD, or Bumi Serpong Damai, is a large-scale mixed-use development located just outside Jakarta that has been planned and built for decades. The city's emphasis on integrated planning, green spaces, and modern infrastructure has made it a benchmark for sustainable urban development in the country. Comparing the planning and implementation of BSD with emerging plans for the new capital city of Nusantara can offer valuable insights into the challenges and best practices for creating a livable and environmentally conscious city in the Indonesian context [24].

IKN is planned with the concept of a smart and sustainable city that integrates green technology and environmentally friendly design. The government is committed to using renewable energy and implementing

efficient water and waste management systems. The IKN urban spatial plan also pays attention to the aspects of good connectivity and accessibility between various city facilities and the surrounding area [25].One of the main priorities for the development of the IKN is environmental sustainability. This is reflected in efforts to preserve Kalimantan's forests and native ecosystems that are rich in biodiversity. In addition, the use of environmentally friendly building materials and modern construction technology will support the achievement of the goal of being a sustainable city that is resilient to climate change [26].This paper compares the development concepts of BSD City and IKN City in the context of the concept of sustainable cities, BSD city and IKN City are two new cities built from land in the form of forests in the world urban development situation that is oriented towards understanding environmental awareness to jointly save cities from the effects of global warming, cities in various studies show a dominant role in the problem of global warming [27], [28], [29], [30].The appearance of BSD's position towards Jakarta and the development plan of BSD City and IKN City is as seen in figures 1,2 and 3.

Fig 1. BSD's Position Towards the City of Jakarta (Source:https://bsdcity.com)

Fig 2. BSD City Development Stage Plan (Source:https://bsdcity.com)

Fig 3. IKN City Development Plan (Source:https://ikn.go.id/)

II. METHODS

This research was conducted using Desk research [17], analyzed using descriptive analysis, descriptive analysis is data analysis that focuses on summarizing and interpreting data to understand patterns, trends, and data relationships, by using simple statistical techniques such as tables and graphs as visualizations to describe and present data meaningfully [18]. The location of the research is in the city of BSD Tangeran Selatan, Banten Province and in the IKN of East Kalimantan Province, this research will be carried out in 2024. The determination of the sample was carried out using the purposive sampling technique [13], [19] which was deliberately chosen by BSD and IKN City as the research objects, because BSD and IKN City are new cities whose development starts from new land with a large scale of development.

Data collection was carried out using the desk study technique, namely library observation techniques, especially the publication of developments related to the development concept and results of BSD and IKN city development which were sourced from BSD data and the National Capital Authority Agency that were published. In addition, a special literature study was also carried out on Garden City and related to normative references and theoretical analysis bases, especially those related to the Concept of New City Development and Sustainable Cities and Smart Cities. The analysis technique was carried out to see the differences and similarities between the New City Concept of the Park City and the New City Concept of IKN with qualitative analysis, through the indicators of the important points of the Garden City and how it is applied in BSD and IKN.

III. RESULTS AND DISCUSSION

1. Sustainable City Concept

The concept of a sustainable city includes various aspects that are integrated with each other to create a harmonious environment between humans and nature. At BSD City, this concept is implemented through the use of cutting-edge technology and efficient use of resources. A data-driven approach helps manage a smarter and more responsive environment to change [31], [32], [33].In IKN, the concept of a sustainable city is more than just infrastructure development, but also includes environmental conservation. Development is carried out by paying attention to the sustainability of the original ecosystem, such as carrying out reforestation and habitat conservation efforts. The use of renewable energy is the main pillar to reduce carbon footprint and support environmental sustainability [34], [35].These two cities also focus on developing environmentally friendly transportation. BSD City develops an efficient and integrated public transportation network to reduce the use of private vehicles. On the other hand, IKN plans an electric-based transportation system and the use of bicycles for daily mobility, which aims to make the city greener and healthier[36] .

2. Green Infrastructure

1.1. Green Infrastructure in BSD City

The development of green infrastructure in BSD City is one of the main focuses in creating a sustainable environment. One of them is the implementation of a sustainable drainage system or Sustainable Urban Drainage System (SUDS) which helps manage rainwater efficiently. This prevents flooding as well as ensures that groundwater is maintained and clean [37].In addition, BSD City also utilizes green technology, such as public street lighting with energy-efficient LED lights. The use of these lights not only reduces energy consumption but also lowers operational costs. The move is part of a major effort to reduce carbon emissions and promote energy efficiency across the city [22], [38].Various thematic parks and large green open spaces in BSD City make a great contribution to the quality of life of its residents. These parks not only serve as recreational areas but also as the lungs of the city that absorb air pollution. With this area, BSD City further strengthens its commitment to sustainable development and community welfare [20], [39].

Fig 4. Some Green Infrastructure Facilities in BSD (Source:https://bsdcity.com).

2.2. Green Infrastructure in IKN

IKN builds a variety of green infrastructures as part of its commitment to sustainable city development. Using the green building concept in all building construction projects is one of them. To lower carbon emissions and promote improved environmental quality, IKN buildings will employ eco-friendly materials and energy-saving technologies [40], [41], and [42]. Furthermore, IKN creates a sustainable and effective water management system. Wastewater will be treated and repurposed for a variety of uses using cutting-edge technology. It seeks to conserve water resources and cut down on clean water use, both of which are essential to the city's long-term viability. IKN also focuses on replanting forests and green spaces around it. This reforestation project is not only to preserve biodiversity, but also to strengthen the ecological function of forests as carbon sinks and climate regulators. Thus, green infrastructure efforts in the IKN support environmental sustainability and community welfare [40].

Fig 5. Presidential Instana in IKN with a Prominent Greening Concept (Source: https://ikn.go.id/).

3. Eco-Friendly Transportation

3.1. Eco-Friendly Transportation in BSD City

BSD City has taken significant steps in implementing an environmentally friendly transportation system. One of them is the development of the Bus Rapid Transit (BRT) network that reduces the use of private vehicles and reduces pollution. The BRT system in BSD City is designed to be efficient with well-connected routes, making it easier for daily mobility [36].In addition to BRT, BSD City has also integrated bicycle lanes that are safe and comfortable to use. This bicycle path not only reduces carbon emissions but also encourages its citizens to live healthier. The existence of rental bicycle stations at various strategic points makes it easier to use them on a daily basis, making bicycles an attractive alternative to transportation [41].BSD City is also investing in the development of charging infrastructure for electric vehicles. This is in line with the global trend towards the use of more environmentally friendly electric vehicles. With the increasing number of charging stations, electric vehicle users are increasingly facilitated in their mobility activities, supporting the creation of greener and more sustainable cities.

Fig 6. Eco-Friendly Public Transportation Facilities in BSD (Source:https://bsdcity.com)

3.2. Eco-Friendly Transportation in IKN

Eco-friendly transportation in IKN is designed to support effective mobility without damaging the environment. One of the plans is the use of electric vehicles, including electric buses that will be the backbone of public transportation. In addition to electric buses, routes for private vehicles such as electric cars and motorcycles will also be provided to significantly reduce carbon emissions [42].IKN also plans to integrate a wide and safe network of bicycles and sidewalks. Bicycle lanes connected to various city facilities encourage its citizens to cycle more often, reduce air pollution, and improve health. Comfortable and safe sidewalks are also being created so that more people choose walking for their daily mobility.In addition, the IKN will utilize advanced technology for the efficiency of city transportation operations. A smart traffic management system will be installed to reduce congestion and improve transportation flow. This technology not only benefits electric vehicle and public transportation users, but also supports better and sustainable mobility throughout the city.

Fig 7. Environmentally Friendly Public Transportation of Tampa Rail Electric Train in IKN (Source: https://ikn.go.id/).

4. Waste Management

4.1. Waste Management in BSD City

BSD City has an innovative approach to waste management to support the vision of a sustainable city. One of the main initiatives is the household waste recycling program which involves the active participation of residents. With an organized system, waste is separated according to its type and reprocessed into useful materials, such as compost and recycled materials.In addition, BSD City also implements advanced technology in industrial waste management. This waste treatment facility is designed to minimize environmental impact and maximize the economic value of waste. Waste generated by business and industrial estates is efficiently treated through energy-efficient and low-emission processes.Cooperation with various parties is the key to successful waste management in BSD City. Local governments, developers, and communities work hand in hand to implement a holistic management system. Education and socialization continue to be carried out to increase awareness about the importance of good waste management, so as to create a clean and healthy environment.

Fig 8. Waste Management Model in BSDcity, 1. Exchanging plastic waste with foodstuffs, 2. Plastic waste exchange car for household needs, 3. Liquid waste treatment (Source:https://bsdcity.com).

4.2. Waste Management in IKN

Waste management in the IKN is an important part of the city's sustainability strategy. The government focuses on modern waste treatment systems that utilize cutting-edge technology. By implementing the "reduce, reuse, recycle" approach, waste is expected to be minimized, recycled, and reused. This waste treatment technology is designed to significantly reduce environmental impact.IKN also introduced an environmentally friendly incinerator to treat solid waste that cannot be recycled. This incinerator is equipped with an advanced emission control system to reduce air pollutants. The residual combustion produced can be used as building materials, thereby reducing the need for new raw materials and reducing waste production.Community involvement is highly emphasized in waste management in the IKN. Education programs and environmental awareness campaigns are carried out regularly to invite residents to play an active role in waste segregation. The government also provides easily accessible waste collection facilities, so that the waste management process becomes more efficient and participatory.

Fig 9. Waste Treatment Plant in IKN (Source: https://ikn.go.id/).

5. Renewable Energy

5.1. Renewable Energy in BSD City

BSD City has adopted various initiatives in the use of renewable energy to support sustainability. One significant step is the installation of solar panels in various commercial and residential buildings. These facilities help reduce reliance on conventional energy and promote the use of cleaner and greener resources [35]. In addition, BSD City also develops an efficient energy management system by utilizing smart grid technology. This technology allows for more effective energy distribution and minimizes waste. With the implementation of smart grids, energy consumption can be monitored and regulated more carefully, so that the contribution to the use of renewable energy can be more optimal.BSD City's commitment to renewable energy is also reflected in the use of wind energy and biomass. Together with solar panels, this energy source adds to the portion of clean energy in the city's total consumption. This effort to diversify energy sources not only supports sustainability but also provides better energy security in the long term.

Fig 10. One of the shopping facilities in BSDcity that uses a Solar Power Plant to produce clean energy (https://lestari.kompas.com/).

5.2. Renewable Energy in IKN

IKN is committed to using renewable energy to support the vision of a sustainable city. One of the steps taken is the installation of solar panels in government buildings and public facilities. These efforts not only reduce reliance on fossil energy but also promote the environmentally friendly use of resources. In addition to solar panels, IKN also develops wind energy projects in the surrounding area. Wind turbines will be installed in strategic locations to take advantage of the wind potential in East Kalimantan. This initiative aims to increase the portion of clean local energy and strengthen the city's energy security in the long term [43] .The IKN government has also adopted smart grid technology to optimize the distribution of renewable energy. This smart grid allows real-time monitoring and management of energy consumption, so that energy use becomes more efficient. With this innovation, IKN can integrate various renewable energy sources in a smarter and more sustainable system [44], [45].

Fig 11. IKN Solar Power Plant (Sourcer: https://ikn.go.id/).

6. Green Open Space

6.1. Green Open Space in BSD City

In BSD City, green open space is essential to establishing a cozy and healthy atmosphere. One illustration is BSD Green Office Park, an office complex featuring a sizable green space intended to enhance air quality and give employees a place to relax. Along with a cozy seating space, it has a walking trail. The Breeze, a lovely amusement and leisure area with a view of an artificial lake, is one of the many intriguing theme parks in BSD City. In addition to providing a revitalizing environment, this park serves as a meeting spot for people to socialize, work out, and eat. This enhances the city's aesthetic and practical worth. [20].Not to mention, BSD City is dedicated to creating community parks that give locals the chance to cultivate crops and gain knowledge of urban agriculture. In addition to teaching locals the value of environmental sustainability, these parks serve to improve social relationships amongst people. Because of this endeavor, BSD City is a prime example of a city with green open space that is essential to its citizens' quality of life [34].

Some of the RTH facilities in the city of BSD are as shown in figure 12.

Fig 12. City Park, The Breeze Park and The Green Park (Sumber:https://bsdcity.com).

6.2. Green Open Space in IKN

Green open space in IKN is one of the main elements in sustainable urban planning. The government designed urban parks and urban forests that function as the lungs of the city, absorb pollution, and provide recreational spaces for residents. This step not only supports the environment but also improves the quality of life of the community.Green open space in IKN is one of the main elements in sustainable urban planning. The government designed urban parks and urban forests that function as the lungs of the city, absorb pollution, and provide recreational spaces for residents. This step not only supports the environment but also improves the quality of life of the community [39].The reforestation project around the IKN is part of the commitment to preserve the original ecosystem and biodiversity. Replanting local trees not only improves air quality but also provides habitat for wildlife. With this step, IKN will not only become a modern city but also a city that is in harmony with the surrounding natural environment.

Fig 13. One of the GOS Development Models in IKN (Sumber: https://ikn.go.id/).

7. Government Policy

7.1. Government Policy in BSD City

The government has implemented policies that support sustainability in BSD City through various regulations and incentives. One of them is the existence of green building regulations that require developers to follow environmental standards. This step aims to ensure that every development in BSD City is not only modern but also environmentally friendly [19].In addition, the government also provides tax incentives for developers who implement green technology in their projects. For example, tax deductions for buildings that use solar panels or efficient water management systems. This policy encourages more businesses to invest in technology that supports the sustainability of cities.The government is also active in promoting environmental awareness through educational campaigns and participatory programs. One example is the reforestation program that involves residents in planting trees and maintaining city parks. This collaborative effort not only beautifies the city but also improves the quality of life of the community as a whole.

7.2. Government Policies in IKN

The IKN government is committed to implementing policies that support sustainability and environmental preservation. One of the main policies is the implementation of green building standards for all new construction. This regulation requires the use of environmentally friendly materials and energy-efficient technologies, thereby reducing the negative impact on the natural environment [46], [47].In addition, the government provides incentives for projects that use renewable energy and implement efficient water and waste management strategies. These incentives include tax breaks and financial support for initiatives that contribute to reducing carbon emissions. This policy aims to encourage more developers and investors to participate in sustainable development. In an effort to increase environmental awareness, the government has also launched various educational campaigns involving the community. These programs include tree planting activities, waste management, and natural resource conservation. Through

comprehensive policies and active community participation, IKN hopes to realize a sustainable and harmonious city with nature.

8. Community Participation

8.1. Community Participation in BSD City

One of the most important elements in promoting the development of a sustainable city in BSD City is community involvement. Locals participate in a range of environmental initiatives, including tree planting and rubbish recycling campaigns. In addition to increasing environmental awareness, this activity helps inhabitants form closer social ties. Furthermore, BSD City hosts a number of sustainability-related courses and seminars. The purpose of this activity is to teach effective waste and energy management. The fact that citizens actively participate in these activities demonstrates their significant contribution to preserving the environment and promoting green projects. Residents are also encouraged to participate in the maintenance of green open spaces and city parks. Through community activities such as park cleaning and greening, the people of BSD City directly contribute to the comfort and beauty of their environment. This synergy between the government, developers, and residents is the foundation for BSD City to continue to develop as a sustainable city.

Visually, it can be seen in picture 14 of the training atmosphere of BSD residents in household waste management.

Fig 14. BSD Citizen Training Activities in Waste Management (https://www.tangerangnews.com/)

8.2. Community Participation in IKN

Community participation in IKN is a crucial element in efforts to realize a sustainable city. The IKN government invites residents to be involved in various environmental programs, such as reforestation activities and waste management campaigns. By involving residents, a collective awareness is created about the importance of maintaining environmental sustainability and quality of life. In addition, IKN organizes various educational and training activities related to environmental sustainability. Workshops and seminars that are held regularly aim to provide practical knowledge on recycling techniques, the use of renewable energy, and water conservation. The active participation of the community in this activity strengthens the joint commitment to maintain the city's ecosystem. Not only that, IKN residents are also encouraged to participate in the management of green open spaces. The garden and gardening community adoption program provides an opportunity for residents to contribute to beautifying and caring for their surroundings. Through this collaboration, IKN has succeeded in building a culture of concern for the environment that involves all levels of society.

9. Technology and Innovation

9.1. Technology and Innovation in BSD City

BSD City has adopted advanced technology to support the sustainability of its city. One of the innovations developed is the use of the Internet of Things (IoT) in utility management. With this technology, monitoring and regulating water, electricity, and gas consumption can be done in real-time. This helps improve the efficiency of resource use [37]. In addition, BSD City also introduced a smart city platform that allows the integration of various city services in one application. The public can easily access information about transportation, weather, and public services through smartphones. This step not only improves the quality of life of residents but also makes it easier for the government to manage the city.Not to mention, BSD City incorporates eco-friendly technologies into a number of infrastructure initiatives. For instance, using building materials that are minimal in carbon emissions and energy-efficient. In addition to assisting in

the realization of the green city goal, this sustainable construction technology offers other Indonesian cities tangible examples of how innovation can be applied. [22], [33].

9.2. Technology and Innovation in IKN

IKN has utilized advanced technology in an effort to create a sustainable city. One of the important innovations is the implementation of smart grids that allow for more efficient management of renewable energy. With smart grids, electricity consumption can be monitored and controlled in real-time, reducing energy waste and improving the efficiency of natural resource use.In addition, IKN plans to use Internet of Things (IoT) technology in city management. IoT will be used to monitor environmental conditions, such as air quality and weather, as well as regulate transportation systems and other public services. With this technology, cities can respond to changes and needs of citizens more quickly and accurately.Green building technology is also the main focus. Buildings in IKN are designed with environmentally friendly materials and energy-saving technologies such as solar panels and rainwater management systems. The application of this technology not only lowers the city's carbon footprint but also improves the comfort and health of residents. Through technological innovation, IKN is committed to becoming an example of a future city that is in harmony with the environment [48].

10. Challenges and Obstacles

10.1. Challenges and Obstacles in BSD City

One of the main challenges in BSD City is the problem of traffic congestion caused by the high growth of private vehicles. Despite efforts to develop public transportation, highway congestion remains a significant problem and affects air quality and comfort for city residents.Another obstacle is the limitation of land for further development of green open space. With the rapid growth of development, green areas are often displaced by new property projects. This poses a challenge in maintaining a balance between the needs of modern infrastructure and the need for a healthy environment.In addition, BSD City also faces challenges in involving all levels of society to participate in sustainability programs. Although there are various green initiatives, awareness and active participation from all citizens still need to be increased so that these efforts can run more effectively and provide optimal results.

10.2. Challenges and Obstacles in IKN

One of the challenges in the IKN is the limitation of the initial infrastructure, considering that the city is still in the development stage. It takes a huge investment and time to build all the necessary facilities, from transportation to basic utilities. This obstacle can slow down the achievement of the goals as a sustainable city that has been set. In addition, IKN also faces serious environmental problems, especially in terms of mitigating the impact of development on the indigenous ecosystem of East Kalimantan. Forest conservation and biodiversity must be in line with construction activities. This balance between development and conservation is often difficult to achieve, posing a risk of environmental degradation.The next challenge is to ensure the active participation of the local community. As a new city, there is an urgent need to build awareness and citizen involvement in sustainability efforts. Educating the public about the importance of environmentally friendly practices and inviting them to play an active role is a big task that requires an effective and continuous communication strategy.

IV. CONCLUSION

Overall, BSD City and IKN show a strong commitment to becoming a sustainable city in Indonesia. BSD City with its green infrastructure and advanced technology has created a healthier and more comfortable environment. Meanwhile, IKN, although still in the development stage, has a big vision in implementing the concept of a smart and sustainable city. However, challenges remain for these two cities. BSD City needs to address congestion issues and maintain green open space amid rapid growth. On the other hand, IKN faces challenges in building basic infrastructure and managing environmental impacts. With collaboration between the government, developers, and the community, long-term sustainability can be achieved.

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