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Developing a New Capital City (IKN) In Indonesia: A Thematic Analysis

Abstract

The urgency of this research was identified from the ambitious new capital city (IKN) development project. This research aims to respond to this issue by studying the development plan. The method chosen is qualitative with a thematic analysis approach. The research data source comes from the official government website by searching official documents. The analysis tool that is maximized in data coding is Nvivo 12 Plus. This study mapped three critical themes in the IKN development plan, including the principles of development of the new capital city (IKN), the position and specificities of the new capital city (IKN), and the government's strategic efforts. In general, the IKN development theme focuses on an Indonesia-centric development orientation, development, and adaptation to the use of renewable technology and the clean technology industry for more environmentally friendly mobility and utilities, as well as accelerating the transformation of the Indonesian economy. This idea requires a government response by developing supporting infrastructure, including budget, governance, bureaucracy, and resources, and maintaining the social situation in development areas. This study is of academic interest because it provides insight into the principles and strategies underlying the development of Indonesia's new capital city (IKN), contributing to scientific discourse on sustainable development and government initiatives.

Keywords:

new capital city; IKN; smart city; sustainable development; urban development

Introduction

The idea of developing a new capital city known as Nusantara (IKN) has sparked much public debate (Kodir et

al., 2021; Rifaid, Rachman, et al., 2023; Sutoyo & Almaarif, 2020). Several issues form the basis of debate, including the budget capacity or financing for

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developing the new capital city (Pribadi & Chan, 2022). In addition to these problems, there are topics that the government considers necessary to pay attention to in the idea of developing the new capital city, such as problems that may arise, including urbanization, urban development, migration, economic change, governance, national identity, regional planning, and sustainable development (Baharuddin et al., 2022). This tendency has become a topic of discussion that has always accompanied the idea of developing and managing a new capital city in recent years.

The idea of developing a new capital city has emerged in recent years. The development of the new capital city focuses on Kalimantan (Bin Said et al., 2022; Baharuddin et al., 2022). Kalimantan is identified as having adequate natural resources, and its sustainability must be protected. Land use in the development is identified as having potential environmental impacts in the area, so the government should give more consideration to the vulnerability of the ecological environment or other related matters (Teo, Lechner, Sagala, & Campos-Arceiz, 2020; Kurniawan, Saputra, Wijayanto, & Caesarendra, 2022). The emergence of issues around the new capital city in recent years has increased the interest of researchers in taking the same case study (Baharuddin et al., 2022). Research trends on the new capital city consider many aspects the government must consider. In addition to aspects regarding the budget and environmental impacts, the government also needs to consider other aspects such as human resource readiness planning, bureaucracy, and assessment of sociocultural and social-economic aspects in the area (Toun, 2018; Baharuddin et al., 2022).

The idea of building a new capital city, Nusantara (IKN), has sparked intense community emergence, with a focus on issues such as budget capacity and financing. Some of the topics highlighted by the government in this idea include the impact of urbanization, urban development, migration, economic change, governance, national identity, regional planning and sustainable development. The desire for the natural resources of Kalimantan, the location identified for IKN, is also a main focus, considering the potential environmental impacts that need further consideration. In recent years, research interest in issues surrounding IKN has increased, covering aspects such as budgets, environmental impacts, human resource readiness, bureaucracy, as well as socio-economic and socio-cultural aspects in the region (Ibrahim et al., 2023; Nurdin & Baharuddin, 2023; Rifaid, Abdurrahman, et al., 2023; Rifaid, Rachman, et al., 2023).

So far, there have been many studies on new capital cities, especially in recent years, but only some studies specifically conduct analysis using thematic analysis approaches. Nevertheless, at least some trends from previous studies can be mapped. *First*, developing a new capital city is

essential for equitable development, especially in Indonesia (Schatz, 2003; Baharuddin et al., 2022). *Second*, relocating a new capital city must consider environmental factors and natural disasters for development ideas (Teo et al., 2020; Kurniadi, 2019). *Third*, the Indonesian government needs to prepare a development budget and bureaucratic system for plans to relocate and develop new capital cities (Pribadi & Chan, 2022; Farida, 2021; Rachmawati, Haryono, Rohmah, Dewi Permatasari, & Fathurrahman, 2021). *Fourth*, thematic analysis has developed and is widely used in qualitative research. The method is to identify, analyze, and report patterns in data for further explanation (Braun & Clarke, 2019).

The purpose of this study is to complement the deficiencies in previous studies by approaching the thematic analysis of the Indonesian government's ideas for developing a new capital city. In line with that, three questions can be formulated in this paper: (a) What are the principles of developing a new capital city (IKN), (b) What is the position and specificity of the new capital city (IKN), (c) What are the government's strategic efforts in a new capital city. The answers to these three questions allow for an understanding of the ideas and concepts of the development and strategy of the new capital city (IKN). This study can also contribute to developing a new capital city and can be considered by the government for future development ideas.

Methods

This study uses a qualitative approach with a focus on thematic analysis. Thematic analysis was chosen as the primary method because it provides an in-depth understanding of the Indonesian government's ideas regarding developing the new capital city (IKN). First, through thematic analysis, researchers can identify the fundamental principles forming the IKN development concept. Second, this method allows exploration of the unique position and characteristics of IKN,

providing in-depth insight into the government's vision regarding development plans. Third, thematic analysis allows researchers to explore the government's strategic efforts related to IKN, such as policies and action plans. Apart from that, thematic analysis was also chosen to maximize the analysis of ideas for developing a new capital city in Indonesia by directly analyzing sources from the government. Data search is carried out by identifying official government sites (ikn.go.id).

The contents of the website are the source of data in this study. Data sources include essential documents in them, such as related regulations (Law Number 3 of 2022 concerning State Capitals) or other information that is considered quite relevant. Data filtering is also used to select the website's relevant, informative documents and themes. The filtering process refers to the relevance of the data with the focus of analysis in this study so that those deemed irrelevant will not be displayed and analyzed. This filtering helps the authors reduce the bias of the research results. Data capture or collection is done using Ncapture on Google Chrome. The data that has been collected is then transferred into the analysis tool, and the data is coded by maximizing analysis tools such as Nvivo 12 Plus.

Figure 1 shows the analysis process starting with data collection and determining relevant data sources. The relevant data source was selected, namely the government's official website regarding the new capital city (IKN) (ikn.go.id). Data collection was performed with Ncapture in Google Chrome, and the data was transferred into the analysis tool for data encoding. Data coding was performed by relying on the Nvivo 12 Plus analysis tool. This process maximizes available analytical features such as identifying themes, Cases and attribute classifications, and Theme mapping. Identifying themes is to identify the information on the website, thus helping select and determine relevant themes. Cases and attribute classifications serve to categorize the

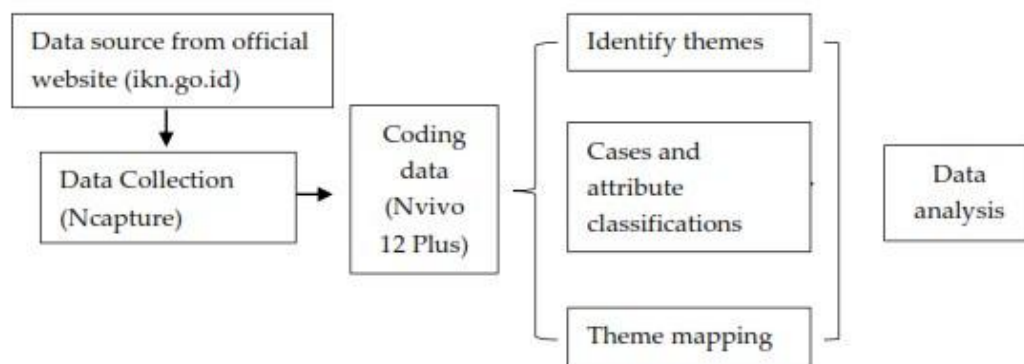


Figure 1. Data Analysis Process

Source: Processed by researchers, 2022

collected data. Theme mapping helps map the data coding results that have previously been identified and categorized. The coding results on these data are then analyzed and described to answer research questions.

The validity of the data in this research can be accounted for through several steps taken during the research process. First, the use of data sources from the official government website (ikn.go.id) increases validity because the information is taken directly from authorized sources. Second, the data collection process using Ncapture in Google Chrome provides accuracy and clarity in capturing relevant content from websites. Third, selecting relevant and informative data through a filtering process helps avoid the display and analysis of irrelevant data. Fourth, the use of the Nvivo 12 Plus analysis tool provides reliability in the process of encoding data, identifying themes, and classifying cases and attributes. This entire process provides a solid foundation for data validity, ensuring that the information analyzed comes from legitimate sources and is relevant to the research focus.

Results and Discussion

Principles for the Development of a New Capital City (IKN)

The new capital city known as Nusantara (IKN) is planned to be built to achieve Indonesia's

target of becoming a developed country, following Indonesia's Vision 2045. The new capital city (IKN) is built with a national identity, changing development orientation to become Indonesia-centric, and accelerating the transformation of the Indonesian Economy (Suswanta, Kurniawan, Nurmandi, & Salahudin, 2021; Setiawan, Kurnianto, & Setiawan, 2022). IKN development plans with big visions and great future targets must comply with the basic principles of development. The principle of development supports the idea of

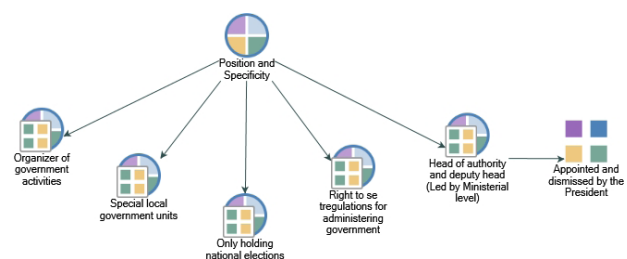


Figure 2. Principles for the Development of a New Capital City (IKN)

Source: Processed by researchers using Nvivo 12 Plus, 2022

sustainable development, which can have positive implications for the achievements of a country (Mensah, 2019). The principles for developing a new capital city (IKN) are identified as follows:

Figure 2 identified the basic principles for developing a new capital city (IKN). These development principles include equality, ecological balance, resilience, sustainable development, viability, connectivity, and smart cities (IKN, 2022; Government of Indonesia, 2022). The principle of equality reflects the existence of proportional justice for every citizen. This equality relates to the administration of the regional government in the new capital city (IKN) or the implementation of preparation, development, and transfer of the new capital city. The principle of equality is the basis for creating a new capital city with future-oriented economic opportunities and strategies and fair access to education, health services, and employment opportunities. The principle of equality focuses on high per capita income (GDP), low economic inequality, and creating harmony and uniqueness within the framework of the state (Government of Indonesia, 2022).

The principle of ecological balance focuses on designing cities according to natural conditions, including prioritizing protected areas and green spaces (Government of Indonesia, 2022). Previous researchers have widely studied this principle by considering the government's response to protecting the area and the environment during development by minimizing adverse risks (Teo et al., 2020). Ecological balance is quite essential because several cases show that land use changes can impact reducing environmental quality (Surya et al., 2021). The existence of development principles that focus on ecological balance can protect the environment and natural resources, and it is possible to encourage the new capital city to become a stable, environmentally friendly area and a pilot area for other regions. The principle of balance also can create positive social-economic stability in society.

The principle of resilience is to realize urban infrastructure with a circular and resilient system (Government of Indonesia, 2022). The principle of resilience includes ideological, political, economic, sociocultural, and defense and security resilience. The principle of resilience also considers other aspects such as democracy, human rights, general welfare, environment, national legal provisions, international law, and international customs, as well as the principle of peaceful coexistence. The principle of resilience requires budgetary support and supportive investment. If sufficient resilience is formed, it may also trigger the growth of other investments (Omand, 2005).

The principle of sustainable development is oriented towards using renewable energy and low emissions. The principle of sustainable development aims to create energy and carbon-efficient cities (Government of Indonesia, 2022). This principle is by Ministerial Regulation Number 4 of 2020 concerning the Utilization of Renewable Energy Sources (Minister of Energy and Mineral Resources, 2020). The principle of sustainable development is also in line with the idea of developing a new capital city (IKN) which will be introduced as Indonesia's future city through the introduction of concepts and the application of green technology in IKN. This will support the utilization of New Renewable Energy (EBT) to achieve Indonesia's target of being free of carbon emissions. Many studies have also found that governments in other countries also apply the same thing regarding the use of renewable energy to support sustainable development (Alola, Bekun, & Sarkodie, 2019; Østergaard, Duic, Noorollahi, Mikulcic, & Kalogirou, 2020). The link between sustainable development and the use of renewable energy also needs to pay attention to the support of technological and human resources (Østergaard et al., 2020).

The principle of viability focuses on efforts to create cities that are safe, comfortable, and affordable (Government of Indonesia, 2022). Viability is the ability to defend oneself and survive in a changing

environment through redesigning structures and re-planning to accommodate contingencies that may occur or long-term impacts (Ivanov, 2020). The principle of liveability is very important, especially in forming a new capital City that requires unpredictable adaptation, so a response and a good planning system are needed from the government. Basic aspects can be considered, especially the challenges in various development places that differ culturally and politically (Ferm & Raco, 2020). The other principle is the principle of connectivity. The principle of connectivity is the principle of speed and prioritizes active mobility to realize easy access and residents (Government of Indonesia, 2022).

The smart city principle aims to create a comfortable and efficient city for governance, business, and residents through information, communication, and technology (Government of Indonesia, 2022). Smart Cities emerged in literature in the late 90s (Anthopoulos, 2015). Many aspects need attention, especially the readiness for adequate technological infrastructure (Anthopoulos, 2015; Camero & Alba, 2019). Smart cities represent a conceptual urban model using human, collective, and technological capital for increased development and prosperity in urban agglomerations. Realizing a smart city requires a response from stakeholders, including the Government, research institutions, grassroots movements, technology vendors, property developers, and others (Angelidou, 2014).

The implications of applying the principles of new capital city development (IKN) are very significant. Equality has become an important issue and is the basis for future-oriented economic development, with fair access to education, health services and employment, thereby increasing socio-economic stability (Scheiding, 2023; Susan & Natu, 2023; Thorbecke, 2015). Ecological balance has also been considered to help ensure the protection of the environment and natural resources, making IKN an environmentally stable area that can be an example for other regions. Infrastructure resilience includes

important aspects such as ideology, economy and security, ensuring that IKN can survive in various conditions (Aswin et al., 2022; Ibrahim et al., 2023; Nurdin & Baharuddin, 2023; Rifaid, Abdurrahman, et al., 2023).

Sustainable development through the use of renewable energy supports Indonesia's efforts to achieve its carbon emission-free target. This has also been studied in various cases in many countries and has important implications for sustainable development (Dincer, 2000; Lund, 2007). The principle of viability is also considered to ensure that IKN can face challenges and changes by designing structures that can be adapted. Viability is very important in maintaining sustainable development because it helps ensure that development efforts can run effectively and last in the long term (Shwayri, 2021). On the other hand, connectivity and smart cities create efficient and well-connected environments, increasing accessibility and efficiency (Kim, 2018). Overall, the implementation of these principles can create a new capital city that is sustainable, innovative, and competitive, bringing positive impacts to society and national development.

In the development stage of the new capital city (IKN), it is recommended to prioritize recommendations that support the implementation of basic principles such as equality, ecological balance, resilience, sustainable development, viability, connectivity and smart cities. The importance of full involvement of government, stakeholders and local communities in the planning and implementation process cannot be overstated. Concrete steps that can be taken include developing policies that promote equality in access to basic services, implementing urban design that prioritizes environmental preservation and green open spaces, building disaster-resistant infrastructure, adopting green technology to support sustainable development, and ensuring the availability of facilities and services public that all citizens can easily access.

In addition, it is necessary to consider adequate budget allocation and investment that supports infrastructure resilience (Baharuddin et al., 2022; Rifaid, Abdurrahman, et al., 2023). By paying attention to these recommendations, the IKN development stage can produce a capital city that is inclusive, sustainable, and ready to face future challenges. By carefully implementing these recommendations in the development phase of the new capital city (IKN), Indonesia can pioneer an urban centre that is not only economically and environmentally sustainable but also reflects the values of equality, technological innovation and comprehensive resilience. IKN's success will not only have a positive impact on its citizens but can also become a role model and inspiration for other cities throughout Indonesia. Through collaboration between government, the private sector, and society, IKN has the potential to become a symbol of progress towards a better future, guided by the principles of sustainable and inclusive development.

Position and Specificity of the New Capital City (IKN)

The establishment of the new capital city (IKN) in Indonesia marks a transformational initiative in the country's development landscape.

Positioned as a symbol of progress and strategic response to urban challenges, IKN reflects the government's commitment to encouraging sustainable and inclusive urban development (Rifaid, Abdurrahman, et al., 2023; Rifaid, Rachman, et al., 2023). This ambitious project aims to address the issues of population density, congestion, and environmental sustainability, emphasizing the need for purpose-designed cities to accommodate the country's future growth while adhering to the principles of equality, ecological balance, resilience, and technological progress (Ibrahim et al., 2023; Nurdin & Baharuddin, 2023; Rifaid, Abdurrahman, et al., 2023).

Specifically, IKN does not only lie in its geographical relocation but also in the position and specifics of the new capital city (IKN). Based on the Law of the Republic of Indonesia Number 3 of 2022 concerning the State Capital, it is stated that the new capital city (IKN) is named Nusantara. The new capital city is a special regional government unit at the provincial level whose territory is the domicile of the new capital city (Government of Indonesia, 2022). The position and specificity of the new capital city (IKN) described in the law are as follows:

Figure 3 identifies several positions and specialties for the new capital city (IKN) based

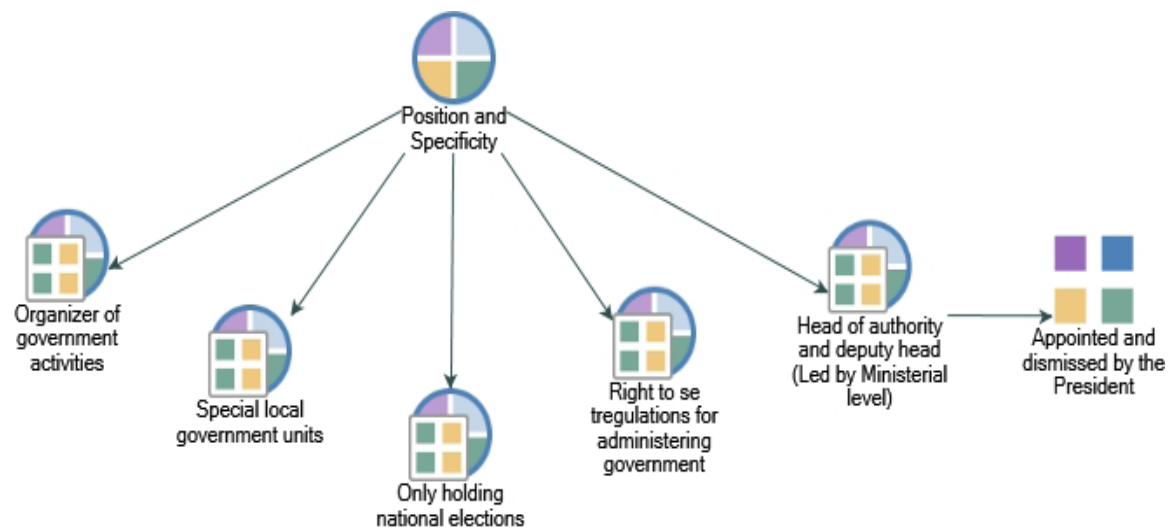


Figure 3. Position and Specificity of the New Capital City (IKN)

Source: Processed by researchers using Nvivo 12 Plus, 2022

on the Law of the Republic of Indonesia Number 3 of 2022. These positions and specialties include organizing central government activities and special government units, only holding national elections, the right stipulates regulations for organizing a special regional government, and the government is led by the Head of the Capital Authority at the ministerial level (Government of Indonesia, 2022).

The position and specificity of implementing government activities cover a land area of approximately 256,142 hectares and a sea area of approximately 68,189 hectares with territorial boundaries; (1) To the south, and Balikpapan District borders it, West Balikpapan District, Penajam North Penajam Paser Regency, Teluk North Balikpapan District, and East Balikpapan District, Balikpapan City; (2) To the west Loa Kulu District borders it, Kutai Kartanegara Regency and Sepaku District, North Penajam Paser Regency; (3) To the north it is bordered by Loa Kulu District, Loa Janan District, and Sanga-Sanga District, Kutai Kartanegara Regency; and (4) To the east it is bordered by the Makassar Strait (Government of Indonesia, 2022).

The administration of the new capital city (IKN) is of a special nature based on an integrated planning document that serves as a guideline for the new capital city authority and the central government in carrying out the preparation, development, and transfer of the national capital, as well as the administration of the new capital city special administration (Government of Indonesia, 2022). The development and relocation of the national capital will be carried out in stages. The new capital city authority is led by the Head of authority in Nusantara and is assisted by an appointed Deputy Head of Authority, and can be dismissed directly by the President after consulting the People's Representative Council of the Republic of Indonesia (DPR) (Government of Indonesia, 2022). The Head of the Authority and the Deputy Head of the Authority for the new

capital or Capital City of the Archipelago (IKN) hold office for (five) years from the date of the inauguration. After that, they can be appointed and reappointed for the same term of office (Government of Indonesia, 2022). The President of Indonesia, Joko Widodo, has appointed Bambang Susantono and Dhony Rahajoe as the Head and Deputy Head of the New Capital Authority or Nusantara (IKN) in Jakarta on 10 March 2022 (IKN, 2022).

The position and specifications of the new capital city (IKN), as outlined in the Law of the Republic of Indonesia Number 3 of 2022, have various dimensions. IKN functions as the organizer of government activities and accommodates special local government units. In particular, IKN was designated as the exclusive host for national elections, emphasizing its key role in the democratic process. In addition, IKN has the right to establish regulations governing its local government. Importantly, the governance structure is led by the Head of the Capital Authority, emphasizing a high-level leadership approach. This configuration aims to ensure effective coordination and implementation of government functions, highlighting the strategic role of IKN in shaping the country's administrative and political landscape.

Although the Law of the Republic of Indonesia Number 3 of 2022 provides a legal framework for the new capital city (IKN) with its position and specifications, several criticisms may arise. First, the appointment of IKN as the exclusive host for national general elections could raise questions regarding the democratic distribution of voting rights throughout the country. In addition, IKN's right to set its government regulations could give rise to potential inconsistencies with broader national laws and create coordination challenges. Criticism can also arise regarding the policy of moving the capital city, which is expensive and complex, as well as the environmental impacts that may arise. Therefore, it is important to

carefully consider the long-term impacts and implications of this policy to ensure sustainability and fairness in its implementation.

In facing potential criticism regarding the new capital city (IKN), it is recommended that the government strengthen transparency and public participation in decision-making regarding moving the capital city. These steps can involve active dialogue with communities, stakeholders and experts to identify and address potential negative impacts. In addition, it is important to ensure that IKN policies and regulations are in line with existing national laws and encourage effective coordination between the central government and IKN authorities. Continuous evaluation of the environmental and social impacts of IKN development, as well as transparent financial management, are also key. By involving various parties and taking these aspects into account, the government can mitigate potential criticism and build broader support for the project.

In addition, it is recommended that the government strengthen continuous monitoring and evaluation of the development stages of the new capital city. The involvement of independent agencies, public audits and strong oversight mechanisms can ensure accountability and efficiency in the use of resources. This effort can also provide guarantees that policies and actions related to IKN are in line with sustainable development goals, both from economic, social and environmental aspects. Apart from that, IKN's vision does not only consider these aspects but also political and cultural centers. This has also been emphasized in the academic text regarding the draft law on IKN (Bappenas, 2020). This has also been studied in various other research results (Rifaid, Abdurrahman, et al., 2023; Rifaid, Rachman, et al., 2023). The government needs to be responsive to public feedback and make policy adjustments if necessary. With this approach, a policy environment that is inclusive, resilient and acceptable to the wider community can be created,

making IKN development a positive milestone in the country's development.

Overall, in facing an ambitious project like the new capital city, it is important to strengthen participatory processes, transparency and accountability. The government needs to maintain a balance between strategic development and sustainability goals by listening to and responding to community aspirations. Continuous evaluation of economic, social and environmental impacts, supported by independent monitoring institutions, will be the basis for optimizing the benefits of this project. With a holistic approach involving all relevant parties, it is hoped that the new capital city can become a positive milestone in advancing Indonesia towards a more sustainable and inclusive future.

The Government's Strategic Efforts in the Development of the New Capital City

The development of the new capital city (IKN) is a strategic initiative of the Indonesian government, which creates an urgency to understand and evaluate the strategic efforts taken. In facing the dynamics of urban development and national sustainability, the government's strategic steps in building a new capital city are a necessity for the current government to take (Baharuddin et al., 2022). Alignment with the principles of sustainable development, efficient use of resources, and improving the quality of life are the main urgencies that must be considered. By understanding this urgency, capital city development can be achieved that not only meets administrative needs but also creates a positive impact on society and the environment as a whole.

A strategic effort by the central government is to make the new capital city (IKN) a Superhub. Based on the official website (ikn.go.id), IKN becomes a superhub through the development of two clusters (IKN, 2022). The two clusters are described as follows:

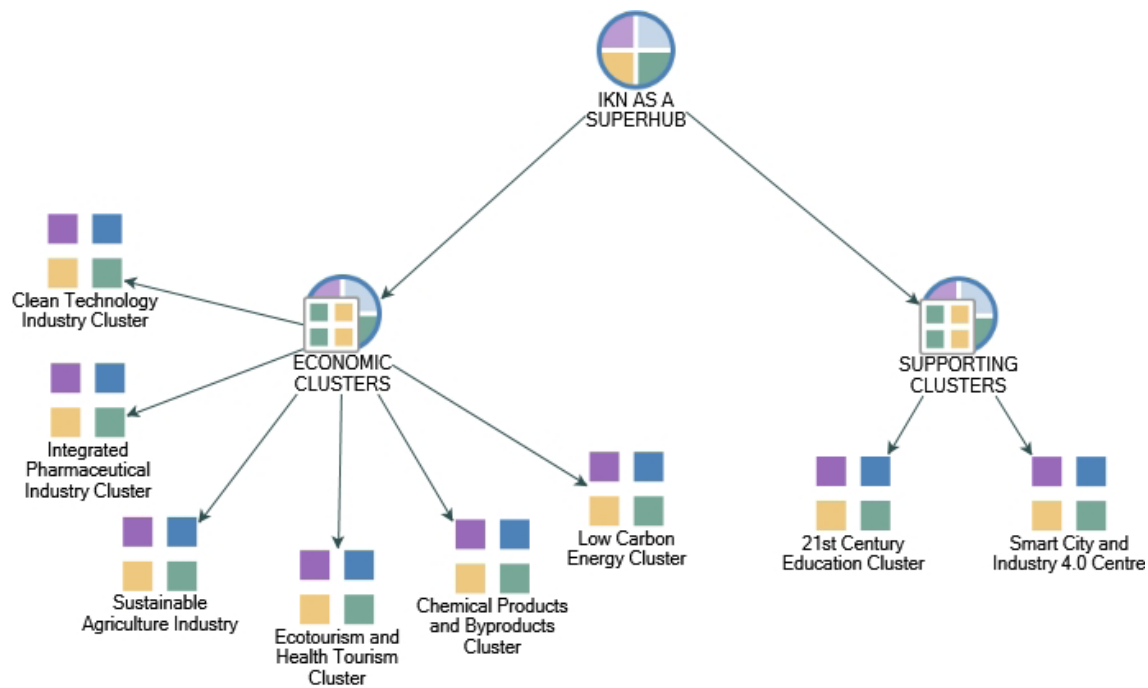


Figure 4. The New Capital City (IKN) As Superhub

Source: Processed by researchers using Nvivo 12 Plus, 2022

Figure 4 shows two superhub clusters, the government's strategic efforts in the new capital city. The two clusters include the economic cluster and the supporting cluster. Economic clusters include clean technology industries, integrated pharmaceuticals, sustainable agricultural industries, ecotourism and health tourism, chemicals, chemical derivative products, and low-carbon energy (IKN, 2022). The government's focus on economic clusters is based on increasing the competitiveness of already developing sectors and introducing advanced sectors oriented towards high technology and sustainability. The clean technology industry cluster aims to provide products that support mobility and environmentally friendly utilities. This sector will focus on the clean technology industry for mobility and utilities that are more environmentally friendly, namely the assembly of solar panels (Solar PV) and electric 2-wheeler (E2W) vehicles (E2W) (Damara & Tolok, 2022).

The integrated pharmaceutical cluster focuses on cost-efficient and best-in-class pharmaceutical manufacturing centres for

greater health resilience and safety. The integrated pharmaceutical cluster also produces active ingredients for generic drugs, biosimilars and biologics to meet increasing domestic demand and strengthen national resilience against health crises (Damara & Tolok, 2022). The sustainable agriculture industry cluster aims to develop a plant-based food production and innovation centre that is sustainable and responsive to future health trends. The sustainable agriculture industry cluster focuses on vegetable protein, herbs, and nutritional and plant extract products (Damara & Tolok, 2022). The ecotourism and health tourism cluster aim to develop world-class ecotourism destinations based on ecotourism assets and wellness tourism with a global identity unique to East Kalimantan. Ecotourism will also be supported by city tourism and health and wellness tourism (Damara & Tolok, 2022). Topics related to ecotourism and health tourism have also become the focus of governments in other countries (Baloch et al., 2022; Dryglas & Salamaga, 2018).

The chemical cluster and chemical derivative products have a mission to build a centre for

chemicals and chemical derivative products for sectors with the potential to have high demand and create jobs by utilizing natural resources in the new capital city region (IKN). The chemical cluster and derivative products will focus on the petrochemical and oleochemical industries supported by the provision of medium to high-skilled human resources. The low-carbon energy cluster aims to transform the existing energy industry around the new capital city by developing low-carbon energy production as a future energy source, such as biofuels, synthetic fuels and coal gasification. The six clusters from the economic cluster will be strengthened by two other clusters from the supporting clusters. The supporting cluster contains two main clusters, namely the 21st-century education cluster and the application of smart cities and industrial centres 4.0 (Damara & Tolok, 2022; IKN, 2022).

Supporting clusters such as the 21st-century education cluster require a supply of quality human resources, especially from residents around the new capital city (IKN). Increasing the national education budget is one way for the government to improve quality (Palvia et al., 2018). In 2022, an education budget of IDR 542.8 trillion (Rupiah) was allocated (ekon.go.id, 2022). City development requires the government to prioritize development on knowledge-based concepts (Yigitcanlar et al., 2008). 21st-century education focuses on learning and teaching methods based on technological developments. Knowledge construction requires serious reconceptualization (Chai & Kong, 2017). In the context of IKN, good concepts and plans from the government are needed to adapt to global developments in education.

Supporting clusters such as smart cities and industrial centres 4.0 are relevant ideas by observing current development trends. Conceptually, a smart city is understood as an urban area that has utilized and integrated information and communication technology in the

governance of the daily life of urban communities. Smart cities in IKN are also linked to efficiency and environmental sustainability concepts to create smart and sustainable cities. This includes using technology to optimize resources and reduce negative environmental impacts, such as sensors for monitoring air quality, smart energy management systems for efficient electricity use, and smart applications to facilitate public services such as transportation and waste management. This has been formulated into the Green and Digital Transformation Guidelines by Otorita Ibu Kota Nusantara in 2023 (Berawi et al., 2023).

The main goal is to increase efficiency, improve public services, and improve the welfare of the citizens within it (Lai et al., 2020; Yigitcanlar, Kankanamge, & Vella, 2021). Several characteristics that are generally fulfilled by a city to enter the smart city category include: an innovative economy that has an educated workforce that is based on knowledge and uses technology and can create various intensive products based on knowledge and technology; available urban infrastructure uses environmentally friendly energy and is oriented towards human safety; have a government system with participatory principles and the implementation of direct democracy which are all oriented towards improving the quality of public services (Nicolas, Kim, & Chi, 2020; Komninos, Kakderi, Panori, & Tsarchopoulos, 2019; Hoang, Pham, & Nguyen, 2021; Yang, Elisa, & Eliot, 2019).

The position of the support cluster is very strategic because it involves the availability of human resources (HR) who will become residents and managers of the new capital city (IKN) in the future. The development of IKN, designed considering these new trends, is on the right track. Making IKN a Superhub is one of the strategies to shift the portion of economic growth and development from the west to the east. Equitable development in Indonesia is an important issue and must be optimized (Theresia et al., 2020).

The detailed cluster strategy described above will be developed and implemented in stages in IKN starting in 2025 (Government of Indonesia, 2022). So far, the government has calculated the cost of developing the Nusantara (IKN), which is sourced from the State Expenditure Budget (APBN) following the provisions of Law Number 3 of 2022 concerning the State Capital. Other funding sources are also possible (Government of Indonesia, 2022).

Overall, the government's strategic efforts to make the new capital city (IKN) a Superhub involve the development of two main clusters, namely the economic cluster and the supporting cluster. Economic clusters, such as the clean technology industry, integrated pharmaceuticals, sustainable agriculture industry, ecotourism, chemical industry and low carbon energy, show the government's focus on increasing the competitiveness of already developing sectors and introducing cutting-edge sectors oriented towards high technology and sustainability.

Meanwhile, supporting clusters, especially the 21st-century education cluster and the implementation of smart cities and industry 4.0 centres, underline the importance of quality human resources and smart city concepts in supporting IKN growth. Through this approach, the government seeks to optimize economic growth and national development, making IKN a locomotive for economic transformation from west to east and ensuring equitable and sustainable development in Indonesia. With the implementation stages scheduled to start in 2025, IKN has the potential to become a development model that is competitive and responsive to global dynamics.

It is important to recognize that supporting clusters, especially the 21st-century education cluster and the implementation of smart cities and industry 4.0 centres, have a strategic impact in anticipating future developments. The focus on improving the quality of human resources

through the allocation of significant education funds and the concept of technology-based education are important foundations for the development of IKN. In addition, the integration of information and communication technology in the implementation of smart cities and industrial centres 4.0 provides opportunities to improve efficiency, public services and citizen welfare. By supporting economic innovation, sustainability, and quality of life, the government ensures that IKN is not just a new administrative centre but also a holistic transformation centre that advances Indonesia towards a more inclusive and competitive future.

Ultimately, the successful implementation of this strategy will be an important milestone in achieving Indonesia's vision as a centre of economic growth and innovation leader in the region. In realizing the vision of the new capital city (IKN) as a competitive and sustainable Superhub, the first recommendation is to strengthen the synergy between the education, industry, and innovation sectors. Increasing cooperation between universities, research institutions and the industrial sector in developing a technology-based workforce, as well as increasing accessibility to quality education, will support the success of supporting clusters such as the 21st-century education cluster. This has also become a focus and significant finding from the results of case studies in several other countries (Corso, 2020; Haviland & Robbins, 2021; Kocdar et al., 2021).

The second recommendation is to deepen efforts in implementing smart cities and Industry 4.0 by ensuring strong information technology infrastructure and policies that support innovation. These steps will accelerate digital transformation, advance public services, and create an ecosystem that supports the development of the latest technology. Thus, involving all stakeholders, including the private sector and society, and ensuring inclusive participation will have a significant positive impact on the progress of

IKN as a sustainable and competitive Superhub at national and international levels.

To strengthen the economic cluster in the new capital city (IKN), it is recommended to focus on the integration of leading technology and sustainability. The government needs to encourage investment in clean technology research and development, as well as provide incentives for environmentally friendly technology industries. Support for the ecotourism and health sectors, as proposed in the economic cluster, can be increased through collaboration with the private sector and local communities to ensure the sustainable use of natural resources. In addition, policy strategies must strengthen accessibility to international markets, encourage exports of high technology-based products, and build international networks to market superior products and services from IKN. Through a combination of technological innovation, sustainability principles and cross-sector collaboration, economic clusters in IKN can become a driver of sustainable economic growth and make a positive contribution to Indonesia's competitiveness at the global level.

The existence of economic and supporting clusters in the new capital city (IKN) has significant positive implications. First, economic clusters such as the clean technology industry, integrated pharmaceuticals, and sustainable agriculture will create new jobs, stimulate regional economic growth, and increase the competitiveness of strategic sectors. By focusing on sustainability, IKN can become a model for other regions in integrating economic development with environmental preservation. Second, supporting clusters such as 21st-century education and the implementation of smart cities and Industry 4.0 have a positive impact on preparing high-quality human resources and building sophisticated digital infrastructure.

In addition, improving the quality of human resources through investment in technology-based education will provide a long-term competitive

advantage for IKN. Meanwhile, the implementation of smart cities and Industry 4.0 will increase the efficiency of public services, support business sector innovation, and create a modern and sustainable urban environment. Overall, the presence of these clusters creates a mutually supportive synergy between the economic, human resources, and technology sectors. The implication is that IKN has the potential to become a centre for competitive, innovative and sustainable economic growth at the national and international levels.

To realize both clusters, economics and support, future governments must adopt a holistic approach involving inter-agency coordination, strategic investment, and active involvement of the private sector and society. First, in the context of economic clusters, the government needs to implement strong incentive policies to attract investment in strategic sectors such as clean technology, pharmaceuticals, and sustainable agriculture. Policy support directed at research and development, technology-based workforce training, as well as regulatory facilitation that supports innovation and sustainability will be key.

Second, to support clusters, the government must increase the allocation of funds in the education sector, especially to implement the 21st-century education model. Increasing the accessibility and quality of technology-based education, teacher training, and a curriculum that is responsive to technological developments will be crucial steps. Meanwhile, in implementing smart cities and Industry 4.0, the government needs to focus on developing reliable information technology infrastructure, regulations that support innovation, and involvement of the private sector in building smart city solutions.

These steps must be supported by good communication and coordination between relevant ministries, regional governments, and industry players. The involvement of the private sector and the community in the planning and implementation process is also important to

ensure program sustainability. By building an ecosystem that is conducive to sustainable economic growth and innovation, the government can realize the vision of the new capital city as a Superhub that is competitive, inclusive, and responsive to global developments.

On the other hand, international collaboration and involvement with international organizations are crucial to gaining foreign perspectives and experience in developing IKN. Collaborating with global entities such as the UN, World Bank, and other international organizations can provide valuable insights into best practices, sustainable urban development, and innovative solutions that intelligent cities worldwide have successfully implemented. Such partnerships can contribute to policy refinement, infrastructure improvements, and effective implementation of strategies in line with international standards. In addition, through this collaboration, IKN can access shared knowledge about global challenges, strengthening cross-cultural understanding and its position as a competitive and sustainable Superhub at national and international levels. Therefore, incorporating an international perspective into the development process will enrich the vision and outcomes of IKN, ensuring a holistic approach in line with global standards in its establishment and growth.

Conclusion

The new capital city known as Nusantara (IKN) was developed to achieve Indonesia's target of becoming one of the developed countries, following Indonesia's vision in 2045. The findings of this study succeeded in mapping important points related to the planned new capital city (IKN) with a thematic analysis approach. The thematic analysis results succeeded in mapping out three important points, which included other sub-themes, including: the principles of developing a new capital city, the position and specificity of the new capital city, and the government's strategic efforts. In general, the themes in this development

topic focus on the orientation of Indonesia-centric development and adaptation of the use of renewable technologies and clean technology industries for more environmentally friendly mobility and utilities, as well as accelerating Indonesia's economic transformation by making the development of IKN a superhub, including the initiation of the concept development of IKN based on smart city.

This research contribution is useful for the wider community in understanding the idea of developing a new capital city, especially the government, and studying other necessary possibilities. These insights can drive decision-making, encourage comprehensive understanding, and explore alternative possibilities in the development of the new capital city. The limitations of this research lie in the research method, which focuses on certain data sources so that other research can accommodate analytical approaches with other data sources. Future researchers can consider this by conducting field-based research so that the data obtained is able to provide deeper analysis and explain the complexity found. This will help in the development of related studies and provide broader meaning in the future.

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