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ANTICIPATORY GOVERNANCE IN LAND READINESS POLICY FOR ADDRESSING THE 2045 DEMOGRAPHIC BONUS SURGE

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ABSTRACT

Indonesia's projected demographic bonus, expected to peak in 2045, presents both an opportunity and a major challenge for land availability to support housing, industrial development, and food security. This study aims to analyze the readiness of government policies in anticipating land demand amid the demographic bonus, identify the gap between existing regulations and empirical conditions, and formulate strategies based on the concept of anticipatory government. The research employs a qualitative descriptive method with a normative juridical approach through a review of policy documents, statutory regulations, and relevant academic literature. The findings reveal that although the government has developed long-term planning documents such as the National Long-Term Development Plan (RPJPD) 2025–2045 and the Grand Design of Population Development (GDPK) 2010–2035, their implementation faces persistent challenges in institutional coordination, regulatory enforcement, and the high rate of productive land conversion. The discrepancy between legal norms and field practices indicates that spatial planning policies remain reactive rather than forward-looking. The proposed anticipatory government strategy encompasses three key dimensions: (1) long-term projections based on demographic and spatial data; (2) policy innovations, including vertical housing and land-use conversion control; and (3) multi-actor participation through collaborative governance. Implementing these strategies is expected to strengthen the integration of spatial planning, food security, and social welfare policies, ensuring that Indonesia's demographic bonus in 2045 becomes a driver of sustainable development rather than a demographic burden.

Keywords: *anticipatory government, land policy, spatial planning, demographic bonus, welfare state.*

INTRODUCTION

Indonesia, along with many other developing countries, is experiencing significant population growth. This growth is projected to reach its peak in 2045, a period commonly referred to as the *demographic bonus*. This phenomenon presents both an opportunity to accelerate economic growth and a challenge in ensuring effective management of sustainable development. In addition, this demographic surge will exert pressure on the provision of residential land, public facilities, and industrial areas. Such conditions may lead to several issues, including land-use conflicts, environmental degradation, and widening social inequality, particularly if integrated policy planning is not effectively implemented.[1]

The urgency of adopting an anticipatory governmental approach to land needs in facing the 2045 demographic bonus is an integral part of the responsibilities inherent in a welfare

[1]United Nation, *World Population Prospects 2019 Highlights* (New York: Department of Economic and Social Affairs., 2019).

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state. As emphasized in several studies, such as *"Indonesia in Responding to the Concept of the Welfare State"* and *"Implementation of the Welfare State Concept,"* the state bears the obligation to ensure equitable access to productive resources, including land and housing, as part of the citizens' social rights.[23] Therefore, anticipatory government policy is not merely a technocratic instrument but also a constitutional reflection of Indonesia's welfare state mandate. The notion of anticipatory governance represents an essential policy approach that enables the state to predict and effectively respond to complex developments in economic, social, and environmental dynamics.[4]

Data from Statistics Indonesia (Badan Pusat Statistik/BPS) for the period 2020–2030 indicate that the proportion of the productive-age population in Indonesia accounts for approximately 64 percent of the total national population.[5] The implications of this trend include a growing demand for residential land, which places increasing pressure on the limited land available. Meanwhile, the conversion of agricultural land to non-agricultural purposes has reached an average rate of approximately 4,000 hectares per day.[6] Land conversion is a logical implication of population growth and its activities.[7] The need for housing land that continues to increase as the population grows requires a comprehensive and sustainable anticipatory policy, through spatial planning. Effective spatial planning can provide sustainable land use and prevent uncontrolled land conversion.[8]

Previous studies **on anticipatory government policies regarding land preparedness to address the demographic bonus boom** have not yet been conducted. Several related studies that have been identified include that of **Nurul Qumariah et al.**, titled *Analysis of Opportunities and Challenges of the 2045 Demographic Bonus*, which examines the potential of the demographic bonus to enhance Indonesia's economy as well as the challenges that may arise if it is not properly managed. **This indicates that the study does not address anticipatory policies on land readines**.[9] Nzimande-Mbele et al., through their study titled *Integration of the Demographic Dividend into Government Plans*, discuss the integration of government policies into development planning in anticipation of the demographic dividend.[10] The study *Opportunities for and Barriers to Anticipatory Government of Two Lake Socio-Ecological Systems in Germany and Canada* conducted by **Louis Tanguay et al.** examines the application of anticipatory government in the field of ecology; therefore, it does not address issues related to land preparedness or demography.[11] Yang et al's research on *the Impact of the*

[2]Venatius Hadiyono, "Indonesia Dalam Menjawab Konsep Negara Welfare State Dan Tantangannya," *JURNAL HUKUM POLITIK DAN KEKUASAAN* 1, no. 1 (2020): 23–33.

[3]Eben Henry and Dian Arsitha W, "Implementasi Konsep Negara Kesejahteraan (Welfare State) Dalam Penyelenggaraan Jaminan Sosial Di Indonesia," in *Konferensi Nasional Ilmu Administrasi 8.0* (Jakarta, 2011), 620–28.

[4]David H Guston, "Understanding ' Anticipatory Governance ,'" *Social Studies of Science* 44, no. 2 (2014): 218–42, https://doi.org/10.1177/0306312713508669.

[5]BPS, "Proyeksi Penduduk Indonesia 2020–2035" (Jakarta, 2021), https://jakarta.bps.go.id/id/statistics-table/2/MTMx-NCMy/proyeksi-penduduk-2020-2035-menurut-kelompok-umur-di-dki-jakarta-hasil-sensus-penduduk-2020--laki-laki-perempuan-.html.

[6]Laeli Nurchamidah and Djauhari, "Pengalih Fungsian Lahan Pertanian Ke Non Pertanian Di Kabupaten Tegal," *Jurnal AKTA* 4, no. 4 (2017): 699–706.

[7]Samuel Th Salean and Helmi Andriansah, "KAJIAN ALIH FUNGSI LAHAN PERTANIAN SEBAGAI IMPLIKASI KEBIJAKAN PENGEMBANGAN KOTA (STUDI KASUS : KOTA SOREANG TERPADU)," *Jurnal Teknokris* 23, no. 1 (2020): 11–19.

[8]Ari Dwi Yulianto, Ghulam Fathul Amri, and Marina Ramadhani, "Dampak Pertumbuhan Perumahan Terhadap Ketersediaan Lahan Dan Pengelolaan Pertanahan Di Kota Surakarta," *Jurnal Bengawan Solo* 3, no. 2 (2024): 1–16, https://doi.org/DOI: https://doi.org/10.58684/jbs.v3i2.62.

[9]Nurul Qomariyah et al., "Analisis Peluang Dan Tantangan Adanya Bonus Demografi Di Tahun 2045 Terhadap Perekonomian," *Jurnal Sahmiyya* 2, no. 1 (2023): 180–86.

[10]Nzimande-Mbele et al., "INTEGRATION OF THE DEMOGRAPHIC DIVIDEND INTO GOVERNMENT PLANS : A CASE OF THE KWAZULU-NATAL PROVINCE OF SOUTH AFRICA," *Journal of Inclusive Cities and Built Environment* 1, no. 2 (2021): 89–102, https://doi.org/10.54030/2788-564X/2021/v1i2a9.

[11]Louis Tanguay et al., "Opportunities for and Barriers to Anticipatory Governance of Two Lake Social – Ecological Systems in Germany and Canada," *People and Nature*, no. September 2022 (2023): 911–28, https://doi.org/10.1002/pan3.10464.

Demographic Dividend on Urban Land Use Efficiency focuses on the effect of demographic bonuses that have an impact on land use in China.[12] This research certainly does not discuss the government's anticipatory governance of land readiness in the Indonesian context.

Furthermore, **Edward Barbieri,** in his study *Urban Anticipatory Governance*, states that anticipatory governance can be employed as a framework for urban management.[13] Penelitian ini telah membahas kebijakan antisipatif namun tidak secara spesifik membahas bonus demografi 2045. In contrast, the study *Urban Land Expansion and Sustainable Land Use* by **Jing Qian et al.** does not address the issue of the demographic bonus; it focuses solely on urban land expansion and sustainable land use policies in Shenzhen.[14] Meanwhile, the study *Analysis of the Impact of the Demographic Bonus on Employment Opportunities* conducted by **Uswatun Khasanah and Dicky Armanda** also does not examine land preparedness policies or anticipatory government in the context of the 2045 demographic bonus.[15]

The aforementioned studies do not explore the correlation between **anticipatory governance** and **land-readiness policies** in addressing the 2045 demographic bonus. Instead, these studies separately examine anticipatory governance in relation to spatial management, and demography in relation to economic development. Therefore, a study on anticipatory governance policies concerning land preparedness to confront the 2045 demographic surge offers a clear **novelty** and fills a research gap by developing a more comprehensive conceptual framework compared to previous studies, which have only partially addressed the dynamics of demography and land use. This **novelty** is particularly significant as it represents the **first attempt** to link the concept of anticipatory governance with land-readiness policy in the context of Indonesia's demographic bonus. Moreover, this study contributes to expanding the academic discourse by integrating the previously separate discussions on demographic bonus, spatial planning, and anticipatory governance.

Based on the factual conditions and previous studies, the research problem in this study can be formulated as follows. The research questions are designed to emphasize the **urgency of the study** and to serve as the **foundation for developing the analytical framework**. In line with these research questions, the objectives of this study are threefold: First, to examine the **readiness of Indonesia's government policies** in anticipating land needs in response to the 2045 demographic bonus; Second, to **identify the gaps** between existing regulations and actual needs in the field; and Third, to formulate an **anticipatory governance strategy** that can be implemented as a response to the challenges of land management.

METHOD

This study employs a **qualitative descriptive method,** emphasizing an in-depth understanding of policies, spatial governance phenomena, and demographic dynamics. The qualitative approach enables the researcher to **explore meanings, perceptions, and emerging dynamics** drawn from various scholarly publications, while also **examining the interconnections among relevant concepts.**[16] In addition, this study employs a **normative juridical method** by examining laws, regulations, and legal documents related to land policy.

[12]Juan Yang et al., "Impact of the Demographic Dividend on Urban Land Use Efficiency" 13, no. 2000 (2024): 1–23.
[13]Edward W De Barbieri, "Urban Anticipatory Governance" (Florida State University, 2018), https://ir.law.fsu.edu/lr/vol46/iss1/3.
[14]Jing Qian et al., "Urban Land Expansion and Sustainable Land Use Policy in Shenzhen : A Case Study of China ' s Rapid Urbanization," *Sustainablity* 8, no. 16 (2016): 1–16, https://doi.org/10.3390/su8010016.
[15]Uswatun Hasanah and Dicky Armanda, "Analisis Dampak Bonus Demografi Terhadap Kesempatan Kerja Di Propinsi Aceh," *Asia-Pacific Journal of Public Policy* 07, no. 02 (2021): 55–66.
[16]Mariette Bengtsson, "How to Plan and Perform a Qualitative Study Using Content Analysis," *NursingPlus Open* 2 (2016): 8–14, https://doi.org/10.1016/j.npls.2016.01.001.

This method aims to **analyze the alignment between existing legal norms and policy implementation in practice**, thereby **strengthening the legal basis of the research findings and arguments.**

The data for this study were obtained from **secondary literature,** including **scholarly articles from reputable journals** and **open-access research reports** relevant to the research theme. These secondary sources were selected to ensure the **validity and credibility** of the information analyzed.[17] Data collection was conducted through platforms such as **Google Scholar, DOAJ, JSTOR,** and other open-access literature[18] **data analysis technique** employed is **thematic analysis,** which aims to identify patterns, themes, and conceptual interconnections across the reviewed literature.[19] The documents are analyzed as **representations of academic and policy discourse** within the respective field.[20]

ANALYSIS AND DISCUSSION

Anticipatory Policies for Land Needs in Responding to the 2045 Demographic Bonus

One of the strategic issues in sustainable development concerns how government policies can anticipate land demand in preparation for the 2045 demographic bonus. Population trends in Indonesia are projected to rise over the coming decades; consequently, projections of land requirements for housing, agriculture, and public spaces must be addressed proactively and well in advance.[21] The rapid growth of the productive-age population presents a significant opportunity for accelerating economic development; however, it also poses serious pressure on the availability of living spaces, industrial areas, and productive agricultural land. Therefore, spatial and land policies must be directed toward **anticipatory management** that is **long-term oriented and socially equitable.** Without proper public policy-based management, the demographic bonus could instead become a **burden on the nation's socio-economic conditions**.[22]

In this case, the concept of *anticipatory government* as explained by Guston, is relevant as anticipatory governance as a government system that integrates *foresight*, public participation, and adaptive learning to deal with long-term uncertainties.[23] This approach allows the government not only to react to problems that have already occurred but to be able to predict and prepare policy measures based on complex social and economic projections. Guzon's view emphasizes that the success of land management in the face of demographic bonuses is not only an administrative issue, but a reflection of the government's ability to anticipate changes in population structure and its implications for people's living space. Furthermore, Fuerth and Faber emphasized that *anticipatory government* encourages governments to systematically use *foresight* instruments in public decision-making.[24] This means that it is wide open for the government to prepare more proactive policies by paying attention to risks and opportunities in the future. For example, in the discussion of demographic bonuses, countries that are able

[17]Ashley Castleberry and Amanda Nolen, "Thematic Analysis of Qualitative Research Data : Is It as Easy as It Sounds ?," *Currents in Pharmacy Teaching and Learning*, no. February (2018): 0–1, https://doi.org/10.1016/j.cptl.2018.03.019.

[18]Bengtsson, "How to Plan and Perform a Qualitative Study Using Content Analysis."

[19]Castleberry and Nolen, "Thematic Analysis of Qualitative Research Data : Is It as Easy as It Sounds ?"

[20]Ranti Astari Rahayu et al., "Analisis Pengembangan Wilayah Berbasis Potensi Unggul Daerah Melalui Tata Kelola Ekonomi Daerah Kota Semarang," *Jurnal Hukum, Pendidikan Dan Sosial Humaniora* 1, no. 5 (2024).

[21]Rahma Dinda, Heny Mariati, and Dedy Fitriawan, "ANALISIS PROYEKSI PENDUDUK DAN ALOKASI KEBUTUHAN LAHAN," *Jurnal Azimut* 4, no. 1 (2022).

[22]David E. Bloom, David Canning, and Jaypee Sevilla, *The Demographic Dividend* (Santa Monica: RAND, 2003).

[23]Guston, "Understanding ' Anticipatory Governance ."

[24]By Leon, S Fuerth, and Evan M H Faber, "Anticipatory Governance: Winning the Future," *The Futurist*, no. August (2013).

to anticipate a surge in the productive age workforce can reap *demographic dividends* in the form of economic growth.[25] However, policy anticipation is needed so that this momentum can potentially cause mass unemployment and social instability.

The government's efforts to anticipate land demand have been reflected in several policy instruments, such as the **Grand Design for Population Development (GDPK) 2010–2035,** the **Population Development Roadmap (PJPK) 2025–2029,** and the **policy directions outlined in the Long-Term National Development Plan (RPJPD) 2025–2045.** These documents demonstrate the government's awareness of the urgency of long-term demographic projections. However, their implementation continues to face challenges, particularly **institutional coordination gaps** and **weak integration between spatial and socio-economic data.** Therefore, **land-use planning must be positioned not merely as a technical activity, but as an anticipatory policy instrument** that links population projections with the spatial distribution of national resources. The **increasing demand for housing**, alongside the rising number of households and limited land availability, will exert pressure on **horizontal housing development patterns** and, in turn, encourage the adoption of **vertical housing alternatives** such as apartments or multi-story residential buildings as a more sustainable spatial strategy.

BPS has recorded around 800 thousand to 1 million new houses needed to align with family growth.[26] Meanwhile, the expansion of new land also experienced difficulties due to limited space and the risk of conversion of agricultural land functions. Alternative development strategies are directed at vertical housing that is more efficient in land use. The use of urban space through vertical housing can reduce pressure on land while providing access to decent housing for lower-middle-income communities. This strategy is an anticipatory policy that can be implemented to answer the challenge of land limitations in the midst of productive population growth.[27][28] The vertical residential development model emphasizes the importance of integrating architectural, social, and environmental aspects in planning, so as to not only provide housing, but also create sustainable living spaces. However, the success of vertical settlements needs to be supported by consistent spatial regulations, policy incentives for developers, and public views on the new residential model.

The government's anticipatory policies are also related to land-use conversion in addition to spatial provision. Nowadays, agricultural land, especially productive rice fields, has been converted into residential and industrial areas, resulting in a significant rate of land conversion.[29] The weak control mechanisms over this issue have caused the demographic bonus to instead become a factor in the loss of strategic food lands. Therefore, a control strategy based on legal and incentive instruments—such as the establishment of Sustainable Food Agricultural Land (LP2B)—needs to be pursued. In addition, providing compensation to farmers and integrating spatial planning with other sectoral development policies are also essential. Thus, the success of the demographic bonus is not only determined by the provision of living space for the population, but also by the state's ability to ensure the sustainability of food resources and the environment.

[25]Bloom, Canning, and Sevilla, *The Demographic Dividend*.

[26]BPS, "Indonesian Population Projections 2015–2045" (Jakarta, 2023), https://www.bps.go.id/id/publication/2018/10/19/78d24d9020026ad95c6b5965/proyeksi-penduduk-indonesia-2015-2045-hasil-supas-2015.html.

[27]Ombi Romli, "Pemukiman Vertikal Sebagai Upaya Mengatasi Kepadatan Penduduk Di Indonesia," *Jurnal Unma Banten* 12, no. 2 (2024).

[28]Adityarini Natalisa et al., "Kajian Ruang Pada Hunian Vertikal Untuk Masyarakat Berpenghasilan Rendah Dengan Pendekatan Aspek Sosial Dan Protokol Kesehatan Di Jakarta," *Jurnal Teknik Sipil-Arsitektur* 20, no. 1 (2020): 23–38.

[29]Fendy Firmansyah et al., "Strategi Pengendalian Alih Fungsi Lahan Sawah Di Provinsi Jawa Timur," *Jurnal Penataan Ruang* 16, no. 1 (2021).

This concept represents one of the concrete forms of anticipatory policy in response to land scarcity in urban areas. However, as stated by Thoha in *Public Policy: Theory and Practice*, the capacity of local institutions often determines the success of implementing anticipatory principles in public governance.[30] In other words, the vertical housing strategy will only be effective if it is accompanied by strong institutional coordination, consistent regulatory support, and social readiness to embrace this new housing model. From a spatial planning perspective, the *triangle of planners' conflict* theory illustrates the persistent dilemma faced by planners: maintaining a balance between economic growth, social equity, and environmental sustainability.[31] In facing the demographic bonus, the government encounters a similar contradiction: the need to expand housing for the productive-age population while preserving productive agricultural land to ensure food security. Therefore, anticipatory policies must seek a balance among these three aspects through spatial innovation, such as the development of vertical housing areas and the strict implementation of Sustainable Food Agricultural Land (LP2B).

Anticipatory policy is also inseparable from the forecasting theories proposed by Hopkins and Makridakis & Hibon in planning. Hopkins explains that spatial planning is a rational process involving the consideration of alternatives and the evaluation of impacts based on empirical data.[32] Makridakis & Hibon show that a combination of various forecasting methods can improve policy accuracy.[33] In the context of land policy, this principle means that the government needs to integrate quantitative approaches (such as population projections, land requirements, and agricultural conversion data) with qualitative approaches (such as community aspirations and local social conditions) to design truly adaptive policies. The interrelation between the theory of anticipatory governance and land-use planning (forecasting) reinforces the argument that managing the demographic bonus cannot rely solely on reactive policies. The government must develop long-term scenarios that project spatial and resource needs based on demographic, economic, and ecological trends. For instance, this could include the provision of green industrial zones capable of absorbing the productive workforce, or the development of new economic growth centers outside Java to reduce urbanization pressure.

Beyond its technocratic dimension, anticipatory policy also carries ethical and constitutional implications. Within the framework of the welfare state, the government has an obligation to ensure citizens' access to productive resources, including land and housing. This principle is reflected in Law No. 11 of 2009 on Social Welfare and Law No. 23 of 2014 on Regional Government. Therefore, *anticipatory governance* should be viewed as a reflection of the state's responsibility to safeguard the welfare of its people in the future. Accordingly, the application of the anticipatory governance concept to land policy in addressing the 2045 demographic bonus must be grounded in three key principles. First**, long-term projection-based planning**, which utilizes foresight and spatial data to accurately map land needs. Second, a **social-ecological sustainability-based policy,** which balances economic interests with food security. And third, **participatory governance,** which involves communities in spatial planning and policy monitoring processes. This integrated approach ensures that the demographic bonus does not turn into a demographic burden, but rather becomes a development asset toward realizing *Indonesia Emas 2045*.

The Discrepancy Between Existing Regulations and Actual Needs in Practice.

[30]Arafat, *Kebijakan Publik, Teori Dan Praktek* (Malang: Literasi Nusantara Abadi Grup, 2022).
[31]Scott Campbell, "Green Cities, Growing Cities," no. July 2013 (2007): 37–41, https://doi.org/10.1080/01944369608975696.
[32]Lewis D. Hopkins, *Urban Development: The Logic of Making Plans* (Washington: Island Press, 2001).
[33]Spyros Makridakis and Michele Hibon, "The M3-Competition : Results , Conclusions and Implications," *International Journal of Forecasting* 16 (2000): 451–76.

A closer analysis of spatial planning policies in Indonesia reveals a significant gap between the existing regulatory framework and the actual needs of communities on the ground. Spatial planning policies are supported by a strong legal foundation, as reflected in Government Regulation No. 64 of 2016 on the Development of Housing for Low-Income Communities; Minister of Agrarian Affairs and Spatial Planning/National Land Agency Regulation No. 14 of 2022 on the National Spatial Plan; Government Regulation No. 12 of 2021 amending Government Regulation No. 14 of 2016 on the Implementation of Housing and Settlement Areas; and Minister of Public Works and Housing Regulation No. 10 of 2019 on Guidelines for the Development of Settlement Areas. Although these legal instruments are comprehensive, their implementation is often hindered by weak inter-institutional coordination, limited supervision, and inadequate resources. According to classical public policy theory, the policy process does not end at the formulation stage (*policy formulation*); rather, its success largely depends on the effectiveness of the implementation stage (*policy implementation*).

In the context of spatial planning policy, failures often occur not because of weaknesses in the substance of the regulations, but due to poor inter-agency coordination and limited implementation capacity at the regional level. This perspective is reinforced by Dye, who emphasizes that public policy is "whatever governments choose to do or not to do.[34] Thus, when the government fails to enforce the spatial planning instruments it has established, such failure still constitutes a form of policy—namely, a *non-action policy*—which ultimately leads to spatial injustice.

Fragmentation of authority between agencies and complexity of licensing hinder the effectiveness of land redistribution.[35] Administrative barriers that also weaken low-income communities' access to land rights.[36] This gap is exacerbated by the short-term economic orientation in regional development, where the conversion of productive agricultural land to industrial and residential areas continues to increase, threatening food security and widening spatial inequality. As a result, the implementation of spatial planning has not fully reflected the spirit of the *welfare state*. To bridge these gaps, national and regional policy harmonization is needed, especially in terms of cross-sectoral coordination, geospatial-based digital surveillance systems, and incentives for regions that maintain a balance between development and socio-ecological protection.

Spatial regulations such as the Detailed Spatial Plan (RDTR) have basically also been formally regulated to become land use guidelines at the district and city levels. However, practice in the field shows the weak control of these regulations against the pressure of development needs and land market dynamics. The area of rice fields decreased in 2015 by around 8.1 million Ha to 7.4 million Ha in 2019[37] And every year there is a conversion of 100,000 hectares of agricultural land.[38] And every year there is a conversion of 100,000 hectares of agricultural land..[39] [40] Weak law enforcement, lack of incentives for farmers, and high economic value of non-agricultural land use are the dominant factors causing the continued conversion of

[34]Thomas R Dye, *Understanding Public Policy Fifteenth Edition*, Empat bela, 2013.

[35]Deasy Ratna Sari, Abrar Saleng, and Sri Susyanti Nur, "Practice Of License To Open State Land In Balikpapan," *Unram Law Review* 1, no. 2 (2017): 132–39.

[36]Arief Rahman, Wiwiek Wahyuningsih, and Shinta Andriyani, "Registration Of Name Rights To Land Object Auction," *Unram Law Review* 9, no. 3 (2022): 77–88, https://doi.org/https://doi.org/10.29303/ulrev.v6i1.227.

[37]Kementerian Pertanian, "Statistik Lahan Pertanian Tahun 2015-2019" (Jakarta, 2020).

[38]Yanita Petriella, "Ini Penyebab Mengapa Saat Ini Indonesia Sulit Swasembada Pangan," *Bisnis.Com*, 2016, https://kalimantan.bisnis.com/read/20160923/408/586674/ini-penyebab-mengapa-saat-ini-indonesia-sulit-swasembada-pangan?utm_source.com.

[39]Ibid

[40]Nur Arief Hapsoro and Kresensia Bangun, "PERKEMBANGAN PEMBANGUNAN BERKELANJUTAN DILIHAT DARI ASPEK EKONOMI DI INDONESIA," *Jurnal Arsitektur* 03, no. 02 (2020): 88–96.

productive land.[41] This shows the weak *policy enforcement* at the regional level, while at the same time confirming the *implementation gap* between normative regulations and the reality on the ground.

Such conditions prove that RDTR is not effective enough to control land conversion. The effectiveness of policies is influenced by implementation, evaluation, and alignment with community needs. In the context of RDTR, weaknesses in implementation and incentives indicate failures in *the policy implementation stage* that do not adequately take into account the realities of local actors and market impulses.[42] From the perspective of **anticipatory government theory,** as articulated by **Fuerth and Faber,** these weaknesses reflect the **absence of foresight mechanisms** within Indonesia's public governance system. Regulations are formulated **reactively in response to emerging problems,** rather than as outcomes of **anticipatory assessments of long-term risks and opportunities.** Consequently, spatial planning regulations **fail to curb the conversion of productive land** and **cannot ensure a balance between economic development and environmental sustainability.**

In the demographic sector, the government has in fact issued a series of strategic policies on population and institutional matters through several regulations, including Law Number 52 of 2009 concerning Population Development and Family Building, which regulates family development programs and population dynamics; Presidential Regulation Number 180 of 2024 concerning the Ministry of Population and Family Development; and Presidential Regulation Number 181 of 2024 concerning the strengthening of BKKBN. However, the main challenge in addressing the demographic bonus lies not only in population issues but also in the direct interrelation between projected population growth and the need for living space, agricultural land, and industrial areas.[43] In the absence of integrated land planning, the demographic bonus will turn into a demographic burden. Population growth needs to be accompanied by appropriate investment in education, employment, and adaptive spatial planning. [44] This means that existing laws and regulations have not succeeded in integrating the approaches to population, food security, and spatial planning in an integrated manner.

A similar gap is also seen in the implementation of vertical housing programs. Regulations issued by the government such as Law Number 1 of 2011 concerning Housing and Residential Areas and Government Regulation Number 12 of 2021 concerning Amendments to Government Regulation Number 14 of 2016 concerning the Implementation of Housing and Residential Areas which regulate, among others, the implementation of housing and residential areas including the provision of land; Law Number 20 of 2011 concerning Flats and Government Regulation Number 13 of 2021 concerning the Implementation of Flats which ensure the fulfillment of decent, healthy, and affordable housing needs. Meanwhile, technical provisions have also been regulated through the Regulation of the Minister of Public Works and Public Housing Number 6 of 2022 which regulates the planning and programming of housing and settlement infrastructure development and the Regulation of the Minister of Public Works and Public Housing Number 7 of 2022 concerning housing development assistance, including the construction of new rental simple flats (Rusunawa) supported by the government budget, which is expected to be a solution for low-income communities.

Several low-cost rental apartments (Rusunawa) that have been constructed do not adequately meet the actual needs of the community, particularly due to their locations being far from economic centers or because the rental costs are still considered high. **Affordability and social**

[41]Firmansyah et al., "Strategi Pengendalian Alih Fungsi Lahan Sawah Di Provinsi Jawa Timur."
[42]Awan Y. Abdoellah and Yudi Rusfiana, *TEORI DAN ANALISIS KEBIJAKAN PUBLIK*, Kesatu (Bandung: Alfa Beta, 2016).
[43]Dinda, Mariati, and Fitriawan, "ANALISIS PROYEKSI PENDUDUK DAN ALOKASI KEBUTUHAN LAHAN."
[44]Bloom, Canning, and Sevilla, *The Demographic Dividend*.

acceptance among residents remain the primary obstacles.[45] The maintenance of the building is inadequate, there is still a lack of cleaning personnel and technicians, and health and sports facilities are not available.[46] Kebijakan teknis yang tidak sinkron dengan kebutuhan sosial-ekonomi warga menunjukkan kurangnya *policy responsiveness*[47] or policies that have not reached all levels of society who need decent housing and low rents.[48] Policy implementation is often a weak point compared to the formulation stage. Weak coordination between institutions in the implementation of spatial planning shows that there is an *implementation gap*, where normative policies are not fully aligned with the socio-economic needs of the community.

When viewed from the theory of planning, where there is *a planning triangle*, namely economic, ecological, and social interests that contain contradictions. Meanwhile, regulations are more concerned with economic aspects. This can be seen for example the development of new industrial estates in Central Java and West Java at the expense of productive agricultural land. The results of *the Spatial Analysis of Population Pressure on Agricultural Land* show that the inability of regulations to restrain the rate of rice field conversion not only weakens local food security but also widens the gap between the objectives of regulation and the reality on the ground.[49] It is exacerbated by the weak incentive and compensation mechanism for farmers who maintain their land. This shows economic dominance that can intervene in regional policies. Short-term economic interests are more dominant than ecological and social interests, thus stretching the regulatory side that prioritizes normative with reality on the ground.[50]

Furthermore, spatial planning policies suffer from weak implementation instruments and limited cross-sectoral coordination. Existing regulations tend to emphasize normative aspects but fail to address actual needs on the ground. Studies indicate that housing demand continues to rise, yet housing policies have not fully prioritized the most vulnerable groups.[51] Weak control mechanisms have allowed the conversion of productive land to persist. Indonesia's spatial planning requires an **integrative anticipatory government approach** that harmonizes economic, social, and ecological interests while anticipating long-term impacts in preparation for the 2045 demographic bonus.

Another aspect that creates gaps is in the implementation of spatial policies that emphasize the principles of sustainable development, including the lack of commitment of local governments in upholding the principles of sustainability[52] or also the incompatibility between regional RTRW and national policies, lack of law enforcement against spatial planning violations.[53] Therefore, a digital-based monitoring system is needed that is able to monitor land use in *real-time*[54] yang dapat berupa teknologi geospasial. This weakness can be stated as *an implementation gap* due to weak control, coordination, and cross-sector monitoring

[45]Romli, "Pemukiman Vertikal Sebagai Upaya Mengatasi Kepadatan Penduduk Di Indonesia."

[46]Ferinda Ardiyanti and Tjitjik Rahaju, "Evaluasi Pengelolaan Rumah Susun Sederhana Sewa Ngelom Kecamatan Taman Kabupaten Sidoarjo," *Jurnal Poblika* 7, no. 7 (2019), https://doi.org/https://doi.org/10.26740/publika.v7n7.p%25p.

[47]Dye, *Understanding Public Policy Fifteenth Edition*.

[48]Yuli Pradana Wati, Suci Iriani Sinuraya, and Matheus Gratiano Mali, "Evaluasi Kebijakan Pembangunan Rumah Susun Sederhana Sewa (Rusunawa) Dalam Mengatasi Permasalahan Hunian (Backlog) Di Kota Magelang," *Jounal INNOVATIVE* 4 (2024): 16855–68.

[49]Sigit Nur Cahyo, La Baco Sudia, and Dewi Nurhayati Yusuf, "Spatial Analysis of Population Pressure on Agricultural Land in the Laeya Watershed, South Konawe Regency," *JOURNAL OF REGIONAL PLANNING* 8, no. 1 (2023): 44–55.

[50]Arafat, *Kebijakan Publik, Teori Dan Praktek*.

[51]Alam and Dwiputri, "Kebutuhan Dan Ketersediaan Lahan Tempat Tinggal Berdasarkan Proyeksi Jumlah Penduduk Di Kecamatan Sukmajaya , Kota Depok."

[52]F C Susila Adiyanta, "HUKUM DAN RENCANA TATA RUANG KOTA : URGENSI KEBIJAKAN PEMBANGUNAN KAWASAN PERKOTAAN BERBASIS SUSTAINABLE ECO CITY," *Masalah-Masalah Hukum* 48, no. 2 (2019): 137–46.

[53]Janpatar Simamora and Andrie Gusti Ari Sarjono, "Urgensi Regulasi Penataan Ruang Dalam Rangka Perwujudan Pembangunan Berkelanjutan Di Indonesia," *Nommensen Journal of Legal Opinion* 03, no. 01 (2022): 59–73.

[54]Ishak Samuel Meidodga et al., "PEMANFAATAN DATA GEOSPASIAL DALAM MEWUJUDKAN SISTEM INFORMASI PERTANAHAN MULTIGUNA BAGI MULTIPIHAK," *Jurnal Widya Bhumi* 3, no. 1 (2023): 62–80.

instruments.[55] Meanwhile, the use of geospatial technology is still fragmentary, separate between agencies, and has not been integrated into the national spatial control system. As a result, many land use violations are not detected quickly, making law enforcement weak and reactive. A comprehensive spatial information system is able to evaluate the impact of policies on space quantitatively and longitudinally. Without an accurate spatial data system, the decision-making process will continue to be intuitive and short-term.[56]

In brief, the gap between regulations and actual needs on the ground can be understood as a result of three main factors: institutional fragmentation that hampers cross-sectoral coordination; policy orientations that remain reactive and short-term rather than projection- and anticipation-based; and weak monitoring and law enforcement systems regarding spatial planning violations and the conversion of productive land. To bridge this gap, the principles of anticipatory government must be applied concretely through the harmonization of national and regional policies, the integration of cross-sectoral geospatial data, and the provision of incentives for regions that maintain a balance between economic development and socio-ecological protection. Only through such measures can Indonesia's spatial planning policy become a truly anticipatory instrument in addressing the challenges of the 2045 demographic bonus.

Anticipatory Government Strategy

The *government's anticipatory* strategy emphasizes the government's proactive role in anticipating future uncertainty.[57] This approach integrates *foresight*, public participation, and adaptive learning in decision-making. In addition, the theory of public participation reinforces the importance of multi-actor collaboration so that policies are not only *top-down*, but also contextual according to the needs of local communities.[58] Within the framework of governance, the concept *of anticipatory government* offers a more proactive perspective.[59] Anticipatory governance encourages governments to develop policies that look far ahead about the various possibilities that will occur. This concept has not been fully implemented by policymakers. Controlling land conversion, for example, which has not anticipated long-term effects on environmental quality and food security. Likewise, the policy of vertical housing development in anticipation of limited land but has not been integrated with long-term projections of population growth and ecological impacts such as turbid wellwater, flooding due to unavailable water infiltration and unavailable irrigation,[60] and the availability of clean water.[61]

The challenges of demographic bonuses and land needs require a paradigm shift from short-term planning to more visionary governance, namely through *an anticipatory government strategy.* This strategy includes three main dimensions, namely long-term projection, policy innovation, and multi-stakeholder participation. The three are interrelated and cannot stand alone in facing population challenges and the dynamics of space utilization. In the dimension of long-term projection, the integration of land needs with population projection data is the main pillar. A study on population projections with the allocation of land needs in Padang City

[55]Abdoellah and Rusfiana, *THEORY AND ANALYSIS OF PUBLIC POLICY.*
[56]Hopkins, *Urban Development: The Logic of Making Plans*.
[57]Guston, "Understanding ' Anticipatory Governance ."'
[58]Siti Marwiyah, *Kebijakan Publik* (Probolinggo: Universitas Panca Marga, 2022).
[59]Emily Boyd et al., "Anticipatory Governance for Social-Ecological Resilience," *Jurnal AMBIO* 44 (2015), https://doi.org/10.1007/s13280-014-0604-x.
[60]Fadli Haris Muafa, Program Studi Arsitektur, and Fadli Haris Muafa, "Dampak Pembangunan Apartemen Terhadap Irigasi Dan Sumur Air (Kajian Sosial Ekonomi)," *Jurnal TRIPUTRA : Ekonomi, Sosial Dan Hukum* 01, no. November (2023): 37–41.
[61]P B Assidiq and F Nurrahman, "Penentuan Variabel Prioritas Perkembangan Hunian Vertikal Kota Balikpapan Berdasarkan Preferensi Pemerintah Determining Priority Variable of Balikpapan Vertical Residence Development," *Region: Jurnal Pengembangan Wilayah Dan Perencanaan Partisipatif Region* 17, no. 7 (2022), https://doi.org/10.20961/region.v17i1.32362.

triggered an imbalance between the capacity of urban space and the availability of residential land. Such conditions can occur, considering that proper spatial planning is not carried out.[62] Furthermore, *web-based mapping provides* the affirmation of spatial projections to predict future population distributions and helps in the preparation of adaptive spatial scenarios.[63] Through this approach, spatial planning policy becomes an anticipatory instrument so that population projections do not stop at statistical data. An analysis study of sustainable food land availability in Manado focuses on the discussion that demographic pressure not only impacts residential land, but also has implications for food security, so population projections must be integrated with the management of agricultural resources.[64]

Anticipating land limitations requires policy innovation, including vertical settlements that are used as strategic solutions. Considering that vertical housing helps reduce land needs, efficiency in the use of basic infrastructure and reduce the burden of population density, especially in urban areas.[65] The concept of vertical housing represents a transformation of community-based settlements that provides a participatory form of urban renewal, thereby promoting greater inclusivity.[66] The vertical village model also provides opportunities for low-income communities to benefit from multi-story housing schemes. The development of innovative vertical settlements requires the planning of green open spaces that go beyond mere aesthetic considerations and, more importantly, serve as ecological instruments integrated within the broader smart city concept.[67] Therefore, such policy innovations require regulatory support, incentives for developers who adopt inclusive and ecologically oriented perspectives, and a commitment to sustainability in urban spatial planning. Without these complementary components, policy innovation may be hindered, reflecting weak policy responsiveness — that is, the limited ability of policies to address real socio-economic needs effectively.[68]

Furthermore, in relation to the multi-actor participation dimension, anticipatory governance requires the involvement of communities in collaboration with the government. Research on the use of geospatial technology in villages indicates that the participatory role of local communities can accelerate the development of accurate databases while simultaneously positioning them as producers of information.[69] This finding aligns with the evolving concept of the smart city, which emphasizes transparency, data integration, and the active involvement of both the community and the private sector in decision-making processes.[70] Through the support of digital geospatial technology, the flow of information becomes faster and coordination between actors can be strengthened. Although it is also acknowledged in this study that without adequate institutional capabilities, the use of digital technology is often only a symbol of modernization without the substance of transformation.

Meanwhile, institutional capacity is the main prerequisite for effective anticipatory governance. The literature on regional development emphasizes the importance of a clearer

[62]Dinda, Mariati, and Fitriawan, "ANALISIS PROYEKSI PENDUDUK DAN ALOKASI KEBUTUHAN LAHAN."

[63]Yuni Rahayu, Kurnia Muludi, and Astria Hijriani, "Mapping the Distribution and Prediction of Population Using Geometric Models in Urban Areas," *Journal of Information Systems Engineering and Business Intelligence* 2, no. 2 (2016): 0–6.

[64]H. Bahihi, Z. E. Tamod, and S. E. Pakasi, "Analisis Ketersediaan Lahan Pangan Berkelanjutan Di Kecamatan Mapanget Kota Manado," *Jurnal Unsrat*, 2020.

[65]Romli, "Pemukiman Vertikal Sebagai Upaya Mengatasi Kepadatan Penduduk Di Indonesia."

[66]Annisa Nur Ramadhani et al., "KAMPUNG VERTIKAL SEBAGAI STRATEGI URBAN RENEWAL DI KAMPUNG LUMUMBA , SURABAYA," *Jurnal Arsitektur NALARs* 20, no. 2 (2021).

[67]Hanny Maria Caesarina and Nahdi Saubari, "Peran Ruang Terbuka Hijau Dalam Perencanaan Kota Sebagai Potensi Pembentuk Smart City," *Jurnal Teknik Lingkungan* 5, no. 1 (2019): 28–39.

[68]Dye, *Understanding Public Policy Fifteenth Edition*.

[69]Rizky Ahmad Yudanegara et al., "Desa Maju Berbasis Teknologi Informasi Geospasial Melalui Pemetaan Informasi Utilitas Bangunan Lengkap," *Jurnal Pengabdian Masyarakat Bangsa* 2, no. 1 (2024): 197–203.

[70]Andriea Jelita Putri and Salahudin, "Perencanaan Pengembangan Smart City : Sebuah Kajian Pustaka," *Jurnal Nasional Teknologi Dan Sistem Informasi* 02 (2021): 70–78.

inter-agency coordination structure to avoid policy fragmentation.[71] In the practice of controlling the transfer of agricultural land use, there is fragmentation. This is clarified by the existence of a field study in Gowa Regency where there is weak cross-sector coordination so that the implementation of land conversion control is inconsistent even though regulatory tools are available.[72] Therefore, the *anticipatory government strategy* emphasizes the need for adaptive institutional strengthening, both in terms of regulation, coordination, and policy evaluation mechanisms. Through strong coordination, policy implementation is not only normative without real control.[73] In addition, but stakeholder engagement is also needed to reduce *the implementation gap*. Community and private sector participation broadens the policy legitimacy base so that it is more adaptive.[74]

In comparison, the success of countries such as South Korea and Singapore in anticipating demographic bonuses shows that the integration of population projections with spatial planning policies is able to produce controlled land use patterns. South Korea has a land use plan for efficient and inclusive urban management, realizing sustainable and balanced development, and improving the quality of life and regional competitiveness. This planning involves the community to gather more quality information as a basis for decision-making and expected outcomes. South Korea's spatial planning system is hierarchical and integrated from the national to local levels, including controlling urban expansion through *the greenbelt* as well as population projection-based planning.[75] Singapore designs and adapts interrelated public policies by allocating land, capital, and labour in order to create a good place for its citizens and residents.[76] It becomes relevant to Bloom's theory in *the demographic dividend* that the success of both countries is not only due to their demographics, but because their spatial planning utilizes the demographic bonus as a development opportunity.[77] Indonesia can learn from these practices by emphasizing cross-sectoral integration, especially between the agrarian, housing, and urban development sectors. This experience also shows that anticipatory governance is not just a reactive response, but a policy framework that actively projects future scenarios and prepares adaptive instruments from an early stage.

The *anticipatory government strategy* must be understood as a multi-layered governance transformation process. The dimension of long-term projections provides an analytical basis in anticipating population dynamics and land needs. The government needs to develop policies based on demographic and spatial data that are accurate with geospatial technology. This allows for more precise and sustainable planning of residential, industrial, and agricultural land needs. The policy innovation dimension presents concrete solutions through green open spaces, and the use of inclusive regulatory instruments. vertical housing and vertical villages as stipulated in Government Regulation Number 64 of 2016 and Regulation of the Minister of PUPR Number 10 of 2019 to answer land limitations while ensuring access to decent housing for low-income people. Meanwhile, the multi-actor participation dimension ensures that policy implementation is not only the domain of the government, but also the result of collaboration with the community, academics, and the private sector. The synergy between these actors ensures that spatial planning policies are inclusive and adaptive. In line with the

[71]Ilham Mirzaya Putra, *Pengembangan Wilayah*, ed. Rubino (Medan: CV. Prokreatif, 2023).

[72]AndiAlief Muhammad Sidratul Munthoha et al., "Pengendalian Alih Fungsi Lahan Pertanian Berkelanjutan Di Kecamatan Pallangga Kabupaten Gowa," *Journal of Urban Planning Studies* 3, no. 3 (2024): 307–13.

[73]Arafat, *Kebijakan Publik, Teori Dan Praktek*.

[74]Abdoellah and Rusfiana, *TEORI DAN ANALISIS KEBIJAKAN PUBLIK*.

[75]OECD, *The Governance of Land Use in Korea: Urban Regenation* (Paris: OECD Publishing, 2019), https://doi.org/https://doi.org/10.1787/fae634b4-en.

[76]Sock-yong Phang, *POLICY INNOVATIONS FOR AFFORDABLE HOUSING IN Singapore: From Colony to Global City* (Singapore: Palgrave Advances in Regional and Urban Economics, 2018), https://doi.org/https://doi.org/10.1007/978-3-319-75349-2.

[77]Bloom, Canning, and Sevilla, *The Demographic Dividend*.

view of Guston and Fuerth & Faber that *anticipatory governance* requires collaborative and adaptive learning so that policies are not only *top-down*.

The integration of these three dimensions reflects the implementation of a modern welfare state, in which the government acts not merely as a regulator but as a facilitator of social and ecological welfare. This strategy ensures that spatial and land-use policies not only anticipate demographic changes but also uphold the principle of intergenerational social justice. Moreover, strong institutional capacity guarantees the effective operation of this integration. Through comprehensive integration, the government can transform the challenges of the 2045 demographic bonus into opportunities for sustainable development grounded in spatial justice and socio-ecological resilience.

Furthermore, in addressing the challenges of the 2045 demographic bonus, the anticipatory government strategy must be rooted in the core values of the welfare state. This approach requires that anticipatory policies extend beyond economic orientation to also ensure social justice, environmental protection, and spatial balance. Therefore, implementing a welfare state–based anticipatory government becomes imperative to transform the demographic bonus into an opportunity for sustainable prosperity and social justice for all Indonesians.

CONCLUSION

Based on the results of the integrative analysis, this study provides three main answers to the research questions. First, the Government of Indonesia already possesses an adequate policy foundation to anticipate land needs in facing the 2045 demographic bonus; however, its implementation still needs to be strengthened through cross-sectoral approaches and an effective monitoring system. Second, the gap between regulations and actual field conditions highlights the need for harmonization among spatial planning policies, social welfare, and food security. The welfare state approach requires the state to play an active role in the redistribution of resources so that development is not only economic in nature but also social and ecological. Third, the anticipatory government strategy rooted in the principles of the welfare state must prioritize long-term projections, innovative housing policies, and community participation. The integration of spatial planning policies with the principle of social justice will be the key to Indonesia's success in transforming the demographic bonus into sustainable prosperity.

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