

Research Article

Peri-Urban Area of Bogor: Identification of Physical, Social, and Economic Characteristics**Janthy Trilusianthy Hidayat, Mujo, Raka Al-Farithsi Lesmana**

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Corresponding Author, Email: janthyhidayat@unpak.ac.id**Abstract**

Peri-Urban Area (WPU) is an area located between areas that have an urban appearance on one side and a rural appearance on the other (Yunus, 2008). The Bogor Regency WPU which borders Bogor City is developing dynamically and may at any time be uncontrollable. In this research, three analytical techniques were used. First, it was carried out using GIS overlay analysis to determine the urban or rural characteristics of the Bogor Regency WPU. Second, it is carried out using scoring analysis to determine the score results for each predetermined variable. Then you will get the total score for each variable. Thus, a typology of Bogor Regency WPU was obtained based on its characteristics. The final analysis technique is descriptive qualitative to determine the appropriate direction for Bogor Regency WPU based on the characteristics, typology, and interactions of the Bogor Regency WPU community obtained through questionnaires. The results of the research show that of the 35 villages/sub-districts of Bogor Regency that border directly with Bogor City. 4 villages and 1 sub-district have a rural peri-urban typology with high rural characteristics and not too much interaction with Bogor City, while 25 have a secondary peri-urban typology with balanced rural and urban characteristics and moderate interaction

Keywords: Juridical Review, Written Agreement, Dentist with Patient, Medical Procedure.

INTRODUCTION

Urban development is closely linked to population growth, which generates demands across political, economic, social, cultural, and technological aspects, all associated with increasing human activities (Yunus, 2004). In Indonesia, the development of urban areas is physically marked by rapid growth in city outskirts, commonly referred to as the suburbanization process (Hidayat, 2018). This occurs because urban space is fixed and limited, while the demand for housing continues to rise along with population growth. Consequently, there is a population shift from city centers to peri-urban areas. Peri-Urban Areas (PUAs) are regions situated between two environments with very different characteristics: on one side, urban features, and on the other, rural features (Yunus, 2008). Due to these differences, PUAs exhibit a gradient between urban and rural attributes, where in some cases, rural characteristics may be more dominant, while in others, urban characteristics prevail.

Bogor Regency is one of the regencies in West Java Province, covering an area of 298,620.26 hectares, consisting of 435 villages with a population of 5,840,907 people (BPS, 2022). Administratively, Bogor Regency directly borders Bogor City, with ten districts adjoining it: Kemang, Bojong Gede, Sukaraja, Taman Sari, Cijeruk, Caringin, Ciomas, Dramaga, and Ciawi. These districts share geographical and environmental conditions, reflecting social and cultural homogeneity, while displaying both urban and rural features. According to Presidential Regulation No. 60 of 2020, the Jabodetabek-Punjur area has been designated as a National Strategic Area (KSN) due to its economic importance. This metropolitan region includes Jakarta, Bogor, Depok, Tangerang, Bekasi, Puncak, and Cianjur. Within this framework, Bogor City is part of the Bodebek-Punjur region, playing a critical role as a supporting city for Jakarta. With population growth and limited urban land, trade, services, and other activities in Bogor City have increasingly shifted and influenced peri-urban areas.

This shift has created a spillover phenomenon, which tends to cross administrative boundaries and form larger urban areas. If not properly managed, this phenomenon may lead to new challenges (Sari, 2017). The peri-urban areas of Bogor Regency are developing dynamically and, at times, uncontrollably, requiring special attention to maintain balance between urban and rural regions. Therefore, analyzing the characteristics and typology of Bogor's peri-urban areas is crucial. The unique features of these areas reveal various aspects and typological variables. In this study, typology refers to the classification of peri-urban areas into primary peri-urban,

secondary peri-urban, and rural peri-urban. These typologies serve as valuable input for formulating development strategies for peri-urban regions, enabling the government to take appropriate measures to address the impacts of peri-urban growth.

METHOD

The research area covers 34 villages and 1 urban ward within 9 sub-districts of Bogor Regency bordering Bogor City. A mixed-methods approach was applied, combining quantitative and qualitative research. The quantitative method, using a scoring system, was employed to identify peri-urban characteristics, while the qualitative method was used to provide development directions for Bogor City based on the physical, social, and economic typologies of peri-urban areas.

GIS overlay analysis (intersect) was applied to spatially map physical, social, and economic variables, producing new features that integrate overlapping attributes. These data were then scored to classify peri-urban areas into three categories: rural peri-urban (score 1), secondary peri-urban (score 2), and primary peri-urban (score 3). Classification criteria were derived from theories and government policies. The scoring results provided typologies and levels of urban-rural characteristics for each village, with final zoning determined through class interval calculations following Singh's method (Kurnianingsih, 2013).

The class interval calculation for peri-urban classification in Bogor Regency was based on scoring physical, social, and combined aspects. For the physical aspect, scores ranged from 5–15, divided into rural peri-urban ($5 < 7$), secondary peri-urban ($7 \leq 9$), and primary peri-urban ($9 \leq 15$). For the social aspect, scores ranged from 2–6, with rural peri-urban ($2 < 4$), secondary peri-urban ($4 \leq 6$), and primary peri-urban ($6 \leq 6$). For the overall classification, scores ranged from 9–27, with rural peri-urban ($9 < 15$), secondary peri-urban ($15 \leq 21$), and primary peri-urban ($21 \leq 27$).

The scoring was developed from GIS overlay analysis of physical, social, and economic variables, including land use, settlement density, access to education and health facilities, population growth, and livelihood structure. The results provided a typology of peri-urban areas to guide development strategies for Bogor's peri-urban zones, supported by community input through focus group discussions.

RESULT AND DISCUSSION

Characteristics and Typology of WPU Bogor Regency Physical Aspects

The physical characteristics and typology of Bogor Regency's peri-urban areas were determined using five variables: percentage of agricultural land use, non-agricultural land use, settlement area, access to education facilities, and access to health facilities. Scoring was applied to classify the typology based on these aspects. In the study area, non-agricultural land is dominated by rice fields, plantations, and dry fields, totaling 5,257.37 hectares, while settlements and activity areas cover 329.65 hectares.

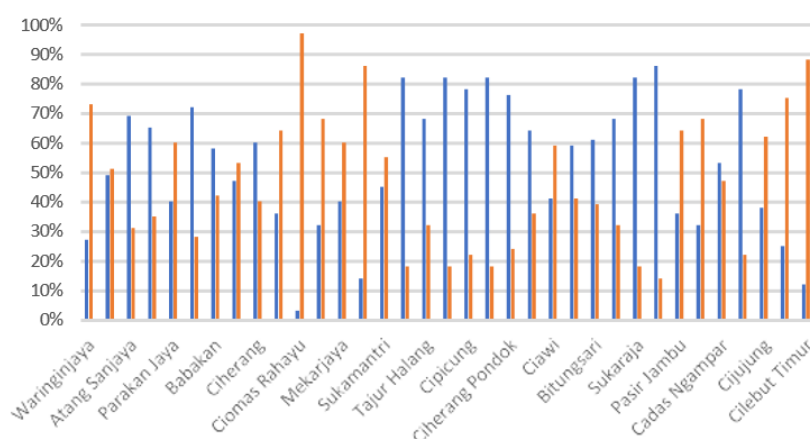


Figure 1. Graph of the percentage of agricultural and non-agricultural land

The analysis of settlement percentages in Bogor Regency's peri-urban areas shows that most districts are dominated by medium settlement levels (30–60%), followed by low levels (0–30%) and high levels (60–100%). Specifically, 11 villages fall into the low category, 14 into medium, and 10 into high.

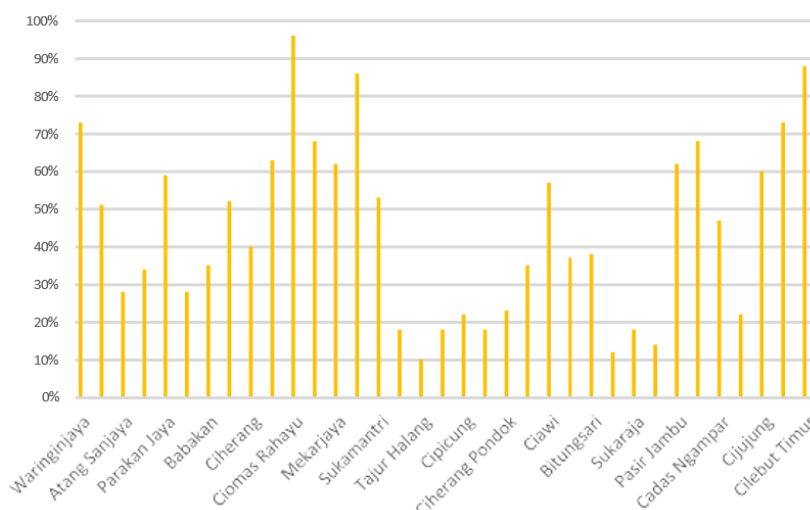


Figure 2. Percentage of WPU Settlement in Bogor Regency

In Bogor Regency's peri-urban areas, most villages have kindergarten and elementary schools, while junior and senior high schools are only available in certain areas but still serve neighboring villages. Education facility coverage was mapped and scored based on SNI-03-1733-2004 standards.



Figure 3 Map of Educational Facility Coverage

Source: Analysis Results, 2023

In Bogor Regency's peri-urban areas, health services are limited, mostly provided by clinics and private practices, leaving many areas underserved. Based on service coverage and scoring analysis, the peri-urban regions are classified into rural peri-urban, secondary peri-urban, and primary peri-urban according to physical characteristics.

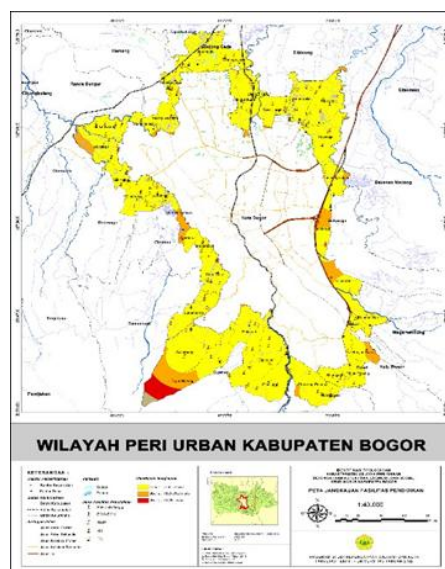


Figure 4. Coverage of Health Facility Services

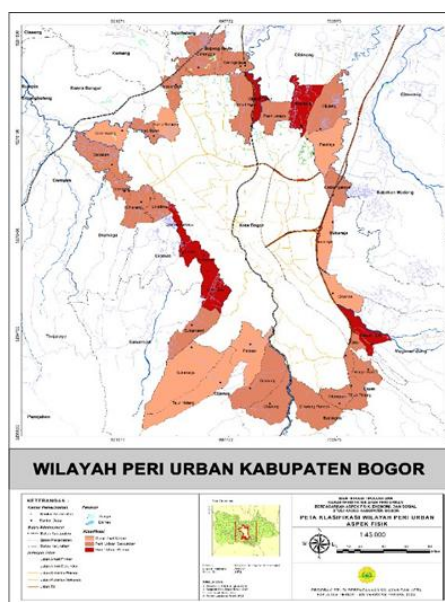


Figure 5. Typology Map of Peri-Urban Areas Physical Aspects

Characteristics and Typology of WPU Bogor Regency Economic Aspect

In the economic aspect, the classification of Bogor Regency's peri-urban areas is based on two variables: the share of employment in agriculture and non-agriculture sectors. Agricultural work reflects rural traits, while non-agricultural work indicates urban characteristics. Employment data, grouped into these two sectors, is then used for scoring and mapping.

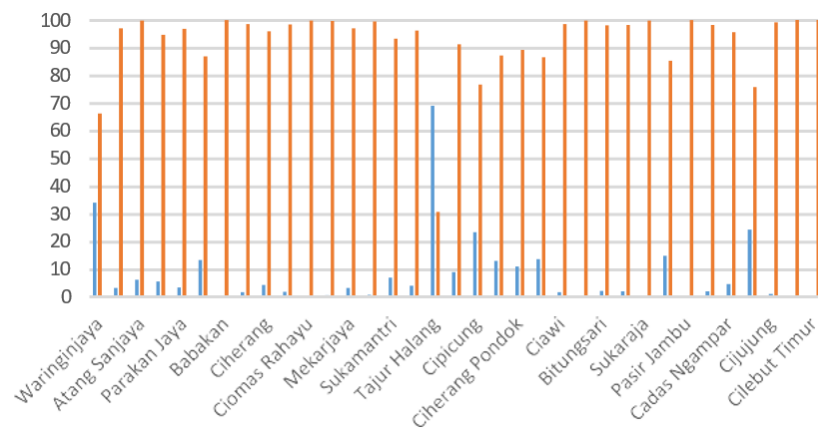


Figure 6. Percentage of Proportion of Livelihoods of the WPU Community in Bogor Regency

Based on the scoring analysis, Bogor Regency's peri-urban areas are classified into primary peri-urban with strong urban traits and rural peri-urban with dominant rural traits in the economic aspect. Most villages are dominated by non-agricultural occupations, except Tajur Halang, where agriculture remains prevalent. Non-agricultural work is preferred due to better income and wider job opportunities.

Understanding why many WPU residents in Bogor Regency shift from agriculture to non-agricultural sectors helps identify factors driving land-use change. This insight serves as a basis for development strategies aimed at improving community welfare, as shown in the economic typology and characteristics in Figure 7 and Table 5.

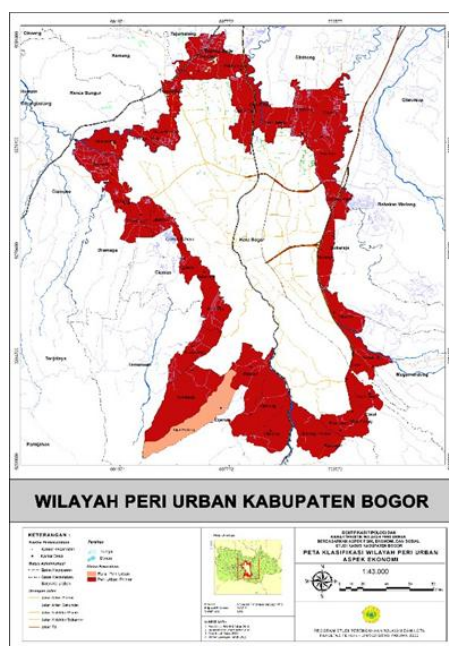


Figure 7. Map of Peri-Urban Area Typology Economic Aspects

Characteristics and Typology of WPU Bogor Regency Social Aspects

The social classification of WPU Bogor Regency was determined using two variables: population density and growth rate. Higher density indicates urban characteristics, while low growth reflects rural traits. Analysis shows that most areas have high population density, signaling urbanization, but population growth remains low in many villages, maintaining rural features. Only a few villages, such as Parakan Jaya, Palasari, Cipicung, Ciherang Pondok, and Pandansari, show peri-urban primer or secondary traits. Overall, WPU Bogor is classified into rural peri-urban and secondary peri-urban typologies based on social aspects.

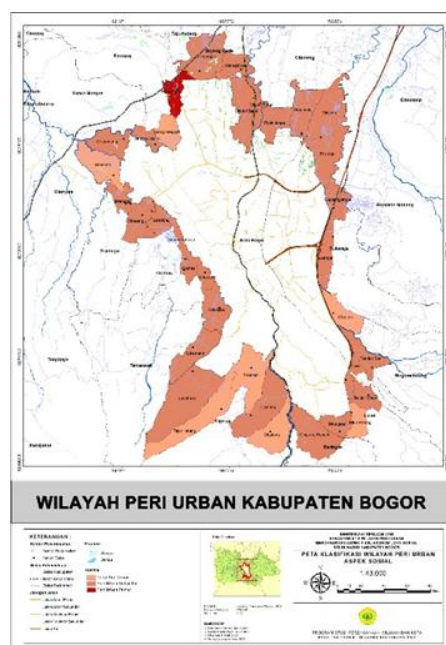


Figure 8. Map of Typology of Peri-Urban Areas Social Aspects

Typology of WPU Bogor Regency

After scoring each aspect, an overlay analysis was conducted to determine the typology of Bogor Regency's peri-urban areas. The classification was divided into rural peri-urban, secondary peri-urban, and primary peri-urban based on total scores. Results show that most of the 35 studied villages fall into the secondary peri-urban category, while a smaller number are classified as rural or primary peri-urban. This indicates that the urban influence from Bogor City generally extends only to the secondary peri-urban level. These findings help guide appropriate development strategies to address physical,

economic, and social challenges in the peri-urban areas of Bogor.

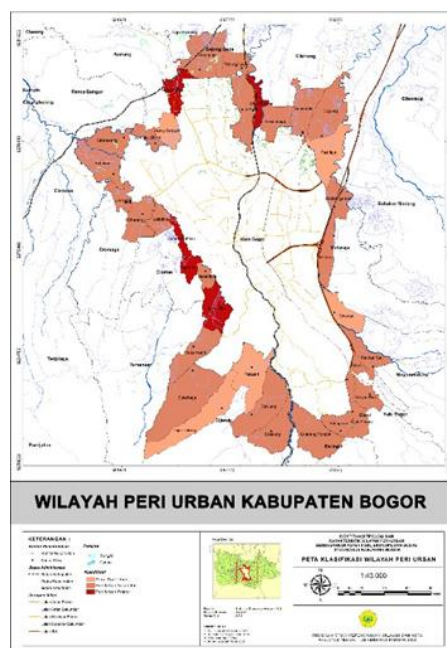


Figure 9. Classification Map of the Peri-Urban Area of Bogor

CONCLUSION

The study concludes that Bogor Regency's peri-urban areas have diverse typologies—rural peri-urban, secondary peri-urban, and primary peri-urban—based on physical, social, and economic characteristics. Five villages show strong rural traits, twenty-five display balanced rural-urban features as secondary peri-urban, and five exhibit strong urban characteristics as primary peri-urban. Development strategies should therefore be tailored to each typology according to its distinct characteristics and level of interaction with Bogor City.

Bibliography

- Badan Standardisasi Nasional (2004) SNI 03-1733-2004 tentang Tata Cara Perencanaan Lingkungan Permukiman di Perkotaan.
- Hapsari, A. D. (2018). Kebutuhan Fasilitas Wilayah Peri-Urban Kabupaten Sidoarjo Berdasarkan Rural-Urban Linkage Dengan Surabaya (Doctoral dissertation). Tersedia dari repository.its.ac.id.
- Hidayat, J T. & M. Ridwan. (2018) Assesment of The Quality of Public Green Open Space in The Urban Fringe in Response to Urban Sprawl Phenomenon (Case Study District of Tanah Sareal Kota Bogor). IOP Conference Series : Earth & Environemntal Science, 179(1).012027.
- Kementerian Pekerjaan Umum & Perumahan Rakyat (2008) Peraturan Menteri Negara

- Perumahan Rakyat Nomor 11 Tahun 2008 tentang Pedoman Keserasian Kawasan Perumahan dan Permukiman.
- Krismasta, V. (2015). Kajian Transformasi Wilayah Peri-Urban di Kota Manado (Studi Kasus: Kecamatan Mapanget). *Spasial*, 2(1), 1-9.
- Kurnianingsih, N. A. (2013). Klasifikasi tipologi zona perwilayahan wilayah peri urban di Kecamatan Kartasura, Kabupaten Sukoharjo. *Jurnal Wilayah dan Lingkungan*, 1(3) 251-264.
<https://ejournal2.undip.ac.id/index.php/jwl/article/view/139>
- Kurnianingsih, N. A., & Rudiarto, I. (2014). Analisis Transformasi Wilayah Peri-Urban pada Aspek Fisik dan Sosial Ekonomi (Kecamatan Kartasura) Biro Penerbit Planologi Undip Volume 10 (3): 265-277 September 2014
<https://repository.stkipjb.ac.id/index.php/lecturer/article/download/1235/1042>
- Lembaga Demografi UI, (2010). *Dasar-Dasar Demografi*. 2nd ed. Jakarta: Salemba Empat
- Oroh, A, Kumurur, V. A, & Warouw, F. (2019). Analisis Karakteristik Wilayah Peri Urban Berdasarkan Aspek Fisik Di Kecamatan Pineleng Kabupaten Minahasa. *Jurnal Spasial* Vol 6. No. 2, 2019 ISSN 2442-3262, 2.
<https://ejournal.unsrat.ac.id/index.php/spasial/article/view/25335>
- Pemerintah Republik Indonesia. (2020). *Rencana Pembangunan Jangka Menengah Nasional 2020 – 2024* Jakarta: Pemerintah Republik Indonesia.
- Pemerintah Kabupaten Bogor. (2018). *Rencana Pembang Jangka Menengah Kabupaten Bogor 2018-2023* Cibinong: Pemerintah Kabupaten Bogor.
- Sari, R. M. (2017) Ketimpangan Wilayah antar Kabupaten/Kota Provinsi Lampung. *Jurnal Online Mahasiswa Bidang Perencanaan Wilayah dan Kota Unpak*, Vol. 1 No. 1 2017.
- Sari, K. D. R. (2017). *Tipologi wilayah peri urban berdasarkan pola hubungan dengan wilayah desa-kota di Kabupaten Gresik* (Doctoral dissertation). Tersedia dari repository.its.ac.id.
- Smailes, A. E., (2009). *Geography of Towns*. London: Hutchinson University Press.
- Singh, R. P. (2011). Changing rural landscape in the peri-urban zone of Varanasi and strategies for sustainable planning. In *Prosiding International Symposium "Sustainable Rural Landscape and Planning in Asia Pacific Region*. IFLA APR Cultural Landscape Committee dan Korean Society of Rural Planning.
- Rudiarto, I., Handayani, W., Pigawati, B., & Pangi, P. (2013). Zona peri-urban semarang metropolitan: Perkembangan Dan Tipologi sosial ekonomi. *TATA LOKA VOLUME 15 NOMOR 2*, MEI 2013, 116-128
<https://ejournal2.undip.ac.id/index.php/tataloka/article/view/271>
- Yunus, H. S. (2008). *Dinamika Wilayah Peri Urban: Determinan Masa Depan Kota*. Yogyakarta: Pustaka Pelajar