

The concept of settlement sustainability in Kota Baru Parahyangan during the Covid-19 era

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received June 02, 2025 Received in revised form Sept. 12, 2025 Accepted October 27, 2025 Available online December 01, 2025</p> <p><i>Keywords:</i> Covid-19 Design concept Kota Baru Parahyangan Settlement sustainability</p> <p>*Corresponding author: Enrico Nirwan Hianto Architecture Doctoral Program, Faculty of Engineering, Universitas Katolik Parahyangan, Bandung, Indonesia Email: enriconh@unpar.ac.id ORCID: https://orcid.org/0009-0007-9750-1205</p>	<p>Kota Baru Parahyangan (KBP) is one of the luxury residential areas in West Bandung Regency, developed under the garden city concept. The area is designed to provide a comfortable, green, and integrated living environment. It consists of various residential clusters, educational facilities, commercial centers, and green open spaces. The Covid-19 pandemic triggered changes in residents' behavior, such as the rise in home-based activities (work from home) and an increased demand for open spaces. In this context, a study of the settlement sustainability concept in KBP becomes crucial, particularly to assess how adaptive and resilient the area has been in facing multidimensional crises. This research aims to examine how KBP endured the pandemic by evaluating aspects of environmental sustainability, architectural design, and economic strategies that support the resilience of the area. The research employs a qualitative-descriptive approach, using literature review, field observation, and interviews with KBP stakeholders. The absence of studies addressing the link between KBP's residential environment and its sustainability during the Covid-19 pandemic represents a research gap that this study seeks to address. Therefore, between 2021 and 2022, KBP can be regarded as having successfully navigated the challenges of the pandemic through its natural environmental concept, context-appropriate spatial and architectural planning, and effective marketing strategies.</p>

Introduction

Kota Baru Parahyangan (KBP) is a residential area located on the outskirts of Bandung. Over time, KBP has been committed to developing itself as a self-sufficient, civilised, and natural city, with the vision of becoming the “New Bandung.”

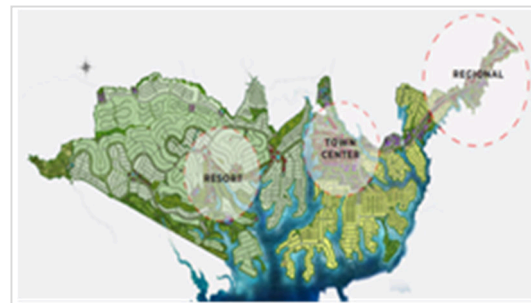


Figure 1. Master plan of Kota Baru Parahyangan
Source: [KBP marketing gallery, Padalarang](#)

However, between 2020 and 2023, the Covid-19 pandemic drastically altered the dynamics of residential environments. This period witnessed a

significant decline in people's purchasing power, resulting in a decrease in property demand by nearly 15–20%, as noted on the official Kota Baru Parahyangan website (2022): <https://kotabaruparahyangan.com/news/read/2022>. The pandemic also triggered behavioural changes among residents, such as the increasing prevalence of home-based activities (work from home and school from home) and a greater demand for open spaces. Within this context, examining the concept of settlement sustainability in KBP becomes crucial, particularly to assess how adaptive and resilient the area is in facing multidimensional crises.

This research aims to analyse how KBP endured during the pandemic by reviewing aspects of environmental sustainability, urban planning concepts, architectural design, and economic strategies that support residential resilience. This represents a research gap, as no prior studies have explored the relationship between KBP's residential development and its sustainability during the Covid-19 era.

Research question

Based on the above problem formulation, this study seeks to answer a key question concerning residential sustainability, which may also serve as an alternative reference for other settlements in responding to the pandemic, namely:

“How did the settlement of Kota Baru Parahyangan sustain itself during the Covid-19 pandemic?”

Methods

The research employed a Qualitative-Descriptive approach through literature studies, field observations, and interviews with KBP stakeholders to analyse the resilience of Kota Baru Parahyangan during the Covid-19 pandemic.

Several previous studies related to KBP form the State of the Art (SOTA) of this research. In terms of physical aspects, Fajar (2021) argued that KBP already possesses strong imageability and permeability concepts, as demonstrated by its clearly defined boundaries both natural (artificial lakes) and man-made (concrete walls) as well as a variety of road types designed for both pedestrian and vehicular movement. In terms of environmental aspects, Raharjo (2015)

highlighted that thematic parks serve as an attraction for children.

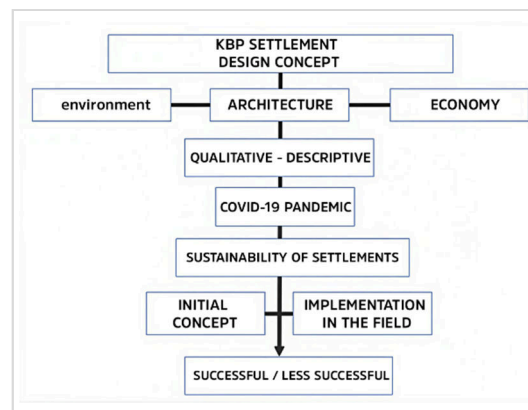


Figure 2. Research methodology framework

By comparing the initial design concepts covering environmental aspects (natural/physical, such as topography, roads, and land boundaries), architectural aspects (including urban planning and building design, for instance the New Bandung Tempo Doeloe housing typology compared with the Nayapati Residence), and economic aspects (the targeted upper-class market) with their implementation in practice the study reveals the extent to which the sustainability concept of KBP's settlement has been well received or less accepted by the market. The research was conducted between 2021 and early 2022, beginning with preliminary interviews, followed by field data collection, analytical processes, final interviews, and concluding synthesis. As an overview, KBP offers two main classes of housing: a middle-class segment (with estimated prices ranging from IDR 800 million to 2 billion) and an upper-class segment, priced above IDR 2 billion.

Literature review

Environmental identity

According to Relph (1976), environmental identity refers to the unique characteristics inherent in a particular area or condition, wherein an individual can recognise, recall, or retain memory of a place that differs from others because of its distinctive character and uniqueness (emotional attachment). This differentiation is often referred to as a sense of place. In line with this, Cheshmehzangi (2020) states that the development of an area (or city) begins with the evolution of the collective personality of a small

group of people, shaped by a set of aesthetics and cultural values, and interconnected with various contexts, which are expressed through the dimension of identity. Furthermore, Djefry (1990) emphasises that the identity of a city emerges through communication established via the visual impressions between the city observer and the formal elements of the urban environment.

In addition to these perspectives, there are also several other viewpoints that highlight the importance of environmental identity within a settlement, as it plays a crucial role in embedding a positive image in the face of contemporary challenges.

Table 1. Theories of environmental (urban) identity

Author/urban planning thinker	Theory of urban (Environmental) identity
Lynch (1960)	A mental image formed from the biological rhythms of place and specific spaces, reflecting a <i>sense of time</i> , which grows organically and is deeply rooted in the socio-economic and cultural life of the urban community itself.
Rossi (1982)	The city is a human-made physical formation (<i>urban artifact</i>) that is collective in nature, constructed over a long period of time, and rooted in the culture of its society through its developmental processes.
Fasli (2003)	A strong concept of image creation in the human mind, one that had not previously been fully understood.
Amar (2009)	Both physical (tangible) and psychological (intangible) elements are expressed as the factual condition of the order and function of urban life, together with historical and local values that establish uniqueness and specific characteristics, while not neglecting public appreciation and the surrounding environment.
Wikantiyoso (2008)	Environmental imagery is formed through the understanding and interpretation of an <i>image</i> of something that exists or has existed/been embedded within the city, or through the recognition of physical objects (buildings and other physical elements) developed over time. Historical aspects and the recognition of images captured by city dwellers shape this identity.

Area planning

The planning of an area can be examined from the perspective of settlements at small, medium, and large (urban) scales. Philip R. Berke (2006) states that land-use planning is not merely about shaping urban spaces, but also about addressing environmental sustainability, economic efficiency, and social equity. In line with this, Arthur B. Gallion and Simon Eisner (1993) argue that sound urban planning integrates architecture, landscape, and social planning in order to create cohesive and liveable communities. Finally, Alexander R. Cuthbert (2003) asserts that urban design goes beyond aesthetic preferences; it shapes the social, cultural, and economic dynamics of urban life.

The Garden City concept

The Garden City concept was first developed in 1902 by Ebenezer Howard (2008). In his book, he proposed that to counteract the negative impacts of urban conditions such as slums and unhealthy air caused by factory emissions during the Industrial Revolution it was necessary to combine the advantages of rural areas (scenic views, forests, gardens, clean air, expansive land, and relatively low land prices) with those of urban areas (administrative centres, upper-class residences, and major commercial hubs), interconnected by railway systems.

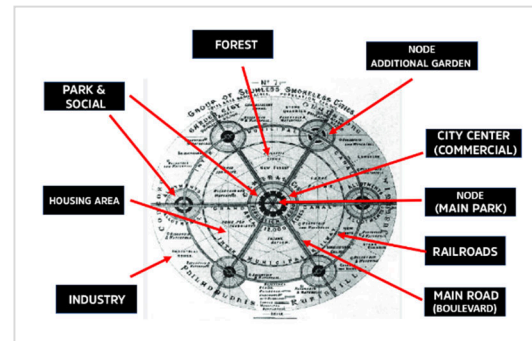


Figure 3. Garden city concept, Ebenezer Howard, 1902
 Source: Lecture Slides on the History of Urban Development, UNPAR

Howard's perspective divided a city into six primary zones: forests, parks and social areas, housing, city centre (commercial), railway, and industrial zones.

Environmental imaging (city branding)

According to Bergas (2023), environmental imaging (city branding) is a strategic effort to

create a unique and positive identity for a city through various communication activities, promotional campaigns, and infrastructure development. Its objective is to attract tourists, investors, and new residents, while simultaneously fostering civic pride and enhancing the well-being of local communities. In the context of settlements, this process should involve elements such as logos, slogans, marketing campaigns, cultural events, and development projects designed to strengthen a positive public image. Keith Dinnie (2011) further argues that effective city branding relies on the creation of a cohesive identity through visual elements, cultural narratives, and experiential strategies that engage both residents and visitors. Similarly, Tony Hines (2009) emphasises that place image integrates physical, social, and cultural elements to construct a distinctive identity aligned with its audiences, utilising visual identity and storytelling to

strengthen emotional connections. Robert Govers and Frank Go (2009) also suggest that place branding involves narrating a compelling story that aligns physical, cultural, and economic attributes of a location to project a unique identity and attract stakeholders. Finally, De Jong and Lu (2022) highlight that historical symbols and cultural heritage play an essential and effective role in shaping settlement branding and environmental identity.

S-Curve trend

Economic theories related to business trends are useful in understanding market behaviour, which typically follows a trajectory beginning with an initial stage, followed by growth, a peak, and eventual decline. This decline may be triggered by crises such as pandemics, the emergence of strong competitors, or market saturation, which, if not addressed wisely, can lead to business collapse.

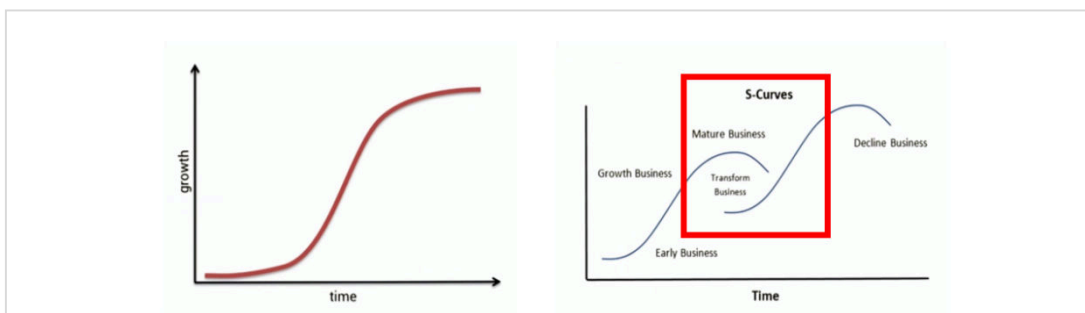


Figure 4. S-Curve (Definition, Stages and Types) in Business Trend

Source: Peter F. Drucker (1985)

Therefore, significant changes are needed through the second S-curve to maintain business continuity. Peter F. Drucker's (1985) perspective discusses how innovation follows an S-Curve pattern, from introduction, growth, to saturation.

Results and discussion

Environmental aspects

Based on physical data, Kota Baru Parahyangan (KBP), located in West Bandung Regency (www.google.com/maps), lies at approximately 6.8615° South Latitude and 107.5020° East Longitude. This indicates that KBP is situated within the Bandung Basin, surrounded by mountain ranges to the north and

West—an area offering significant natural potential and scenic views.

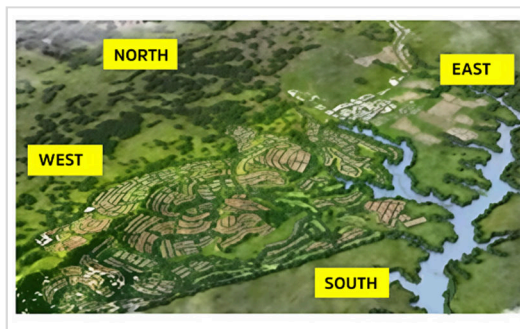


Figure 5. Physical Boundaries of KBP

More specifically, KBP's physical boundaries can be described as follows (table 2):

Table 2. Physical boundaries of KBP

Direction	Boundary description
North	Padalarang–Cianjur railway line, hilly areas, and residential settlements of Cipeundeuy Village
South	Residential settlements and an artificial lake (Saguling Dam)
West	Hills and green lands of Jayamekar Village and Gunung Masigit Village
East	Padalarang sub-district centre, public facilities (Tagog Apu Market), Padalarang–Cimahi main road, and Padalarang Timur Toll Gate

KBP lies at an elevation of approximately 630–700 metres above sea level (masl), with an average of around 670 masl, the highest point at ± 700 masl (hilly areas in the northwest), and the lowest at ± 630 masl (near Padalarang main road and toll access). This elevation provides a cool climate and makes KBP one of the premium residential areas with good air quality, characterised by temperatures between 28–30 °C and humidity levels of 70–80%. These environmental qualities make KBP highly suitable for supporting a healthy lifestyle during the pandemic, particularly for outdoor activities such as walking, running, and cycling.

Design concept of Kota Baru Parahyangan (KBP)

Kota Baru Parahyangan (KBP) adopts the garden city concept to create a lush and liveable residential environment, as stated by the CEO of KBP, Director of PT. Belaputera Intiland, Mr Ryan Brasali. The initial concept was designed by the architect, Mr Johannes Widodo, who was inspired by the form of a dragon symbolising prosperity. Based on Mr Widodo’s sketch: “*The dragon is visualised as descending from the mountain area, entering the waters, and ascending towards the city centre.*” Philosophically, this illustrates the spirit of sustainability and the resilient character of the KBP settlement in responding to the challenges of time.

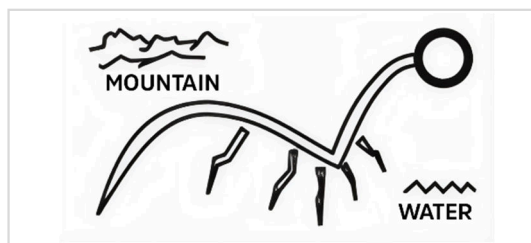


Figure 6. Redrawn sketch of the original concept of KBP (Johannes Widodo)

According to Ryan Brasali, KBP carries three main design concepts:

Table 3. KBP Design Concepts

Culture	History	Education
Sunda culture, represented through the naming of tatar or clusters inspired by the names of Sundanese royal nobles, such as Wangsakerta, Pitaloka, Tejakencana, Mayangsunda, etc.	The atmosphere of Old Bandung, where many upper-class residential houses adopted Indo-European architecture, arranged with the Garden City concept, with wide streets shaded by trees.	Bandung is known as one of the best educational cities in Indonesia, with institutions such as ITB (Institut Teknologi Bandung), Universitas Padjajaran, and UNPAR.

In this study, the historical concept is emphasised through a comparison between the garden city of Old Bandung and KBP, where the lush vegetation and building layouts with setbacks from the main roads, forming front gardens, align strongly with lifestyle needs during the pandemic era.

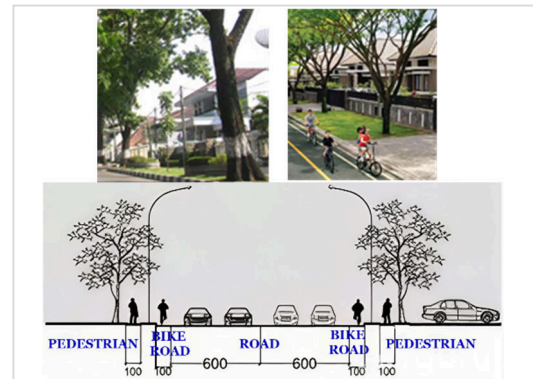


Figure 7. Atmosphere of Jl. Cipaganti in 2005, compared to the KBP Bandung Tempo Doeloe Corridor in 2021, along with its road width dimensions

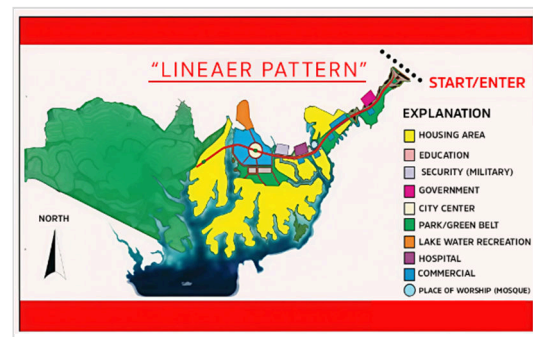


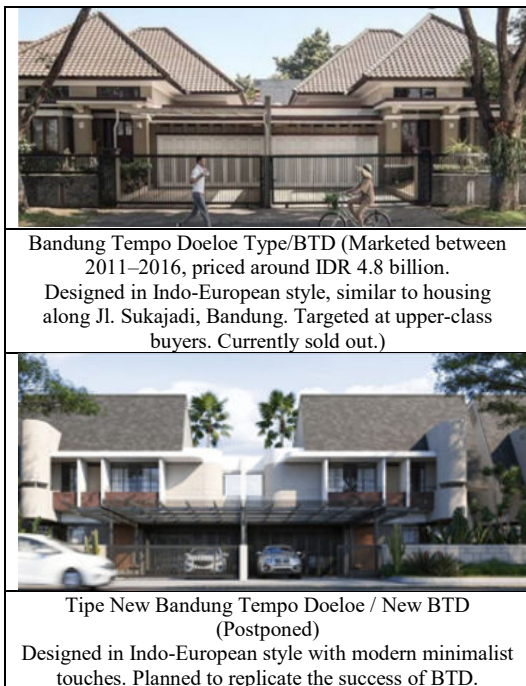
Figure 8. Main circulation pattern of KBP

The site of KBP exhibits a linear pattern extending from the east towards the southwest, forming a linear line that functions as the main vehicular road, serving as the primary circulation route. This layout offers positive value, as the residential zones are located far from the noise and air pollution of the main Padalarang–Cimahi road.

Architectural design

Initially, Kota Baru Parahyangan developed the *Bandoeng Tempo Doeloe* (BTD) house type in 2011 for the high-income class, designed in Indo-European style. Later, in 2021, KBP aimed to adopt the cultural spirit of *Bumi Parahyangan*, recalling the history of Old Bandung while introducing the glory of Priangan’s capital to present generations. The houses were planned in Modern Architecture with graceful and timeless Art Deco influences under the name *New Bandoeng Tempo Doeloe*. However, due to the pandemic, the project was postponed.

A comparison of three house types in KBP for the upper-middle class (priced between IDR 3.8 – 4.8 billion) is based on their façades, areas, and floor plans:



Tipe Nayapati Residence (Chosen for marketing in 2021, priced around IDR 3.8 billion)
 Designed in tropical minimalist style with a pavilion at the front, suitable for Covid-19 conditions.

Figure 8. Comparison of House Façades: BTD, New BTD, and Nayapati Residence
 Source: KBP Marketing Gallery, Padalarang

Launched in May 2021, Nayapati Residence received a positive market response. This is because its design was relevant to the demand for healthy housing and environments during the pandemic. *“The indoor-outdoor interaction in Nayapati was designed with openings on the walls. Glass sliding doors were applied to connect the family room with the outdoor area, creating a sense of spaciousness,”* explained Mr Joseph Ijong Dachlan, Marketing Manager of PT. Belaputera Intiland.



Figure 10. Comparison of Floor Plans: BTD, New BTD, and Nayapati Residence
 Source: KBP Marketing Gallery, Padalarang

Ultimately, Nayapati Residence was selected for development in 2021, promoting a Covid-19-resilient lifestyle. The design placed the kitchen and bathroom at the front, while all devices were connected to the Internet (IoT) to support *Work from Home (WFH)*. The design aimed to maintain a premium impression, pandemic-friendly features, slightly smaller land and building sizes, resulting in a lower selling price than BTD (differing by IDR 1 billion).

Economy aspects

The Covid-19 pandemic posed difficult times, yet with proper strategic adjustments, KBP experienced positive growth. While several property projects faced delays, KBP accelerated the development of housing, facilities, and infrastructure. This was marked by the inauguration of several supporting infrastructures in 2021, including the Padalarang interchange flyover and the Swedish furniture retail store IKEA, according to Mr Ryan Brasali (CEO of KBP).

Another effort by KBP to sustain economic growth was through aggressive online marketing campaigns via social media (Facebook, Instagram, TikTok), radio broadcasts (PRFM 107.5FM), and online discussions via Zoom. They used the tagline: “*Exclusive modern tropical housing in the heart of Kota Baru Parahyangan, family-friendly and supporting a healthy post-pandemic lifestyle*” to promote Nayapati Residence during the Covid-19 era.

These efforts, alongside emotional engagement with prospective buyers even through digital platforms proved successful, with positive market reception. Support from banks offering attractive mortgage (KPR) facilities also strengthened sales.

Table 4. Nayapati residence sales

Phase	Month/year	Units	Time sold out
1	May 2021	54	~2 months
2	Oct 2021	18	24 hours
3	Nov 2021	20	Almost sold out by early 2022

Source: <https://propertiindonesia.id/2021>

Based on data from *Properti Indonesia*, within six months of its launch in 2021, KBP successfully sold 92 units of Nayapati Residence.

Conclusions

The design concept of KBP, which adopts the garden city model with wide roads and front gardens, is highly compatible with lifestyle needs during the pandemic. Its topography at approximately 650 metres above sea level, with an average temperature of 29°C and humidity of 75%, makes KBP one of the premium residential areas with good air quality. Amidst weakened purchasing power during the pandemic, for upper-class consumers, KBP’s housing aligned with “green” principles, smaller land and building sizes, and modern tropical minimalist design became a preferred choice throughout 2021 to early 2022. Therefore, KBP can be considered successful in navigating the pandemic challenges through its natural environmental concept, appropriate planning and architectural design, and effective marketing strategy.

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Author(s) contribution

Enrico Nirwan Histante contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

Iwan Sudradjat contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.

Yohanes Karyadi Kusliansjah contribute to methodology, supervision, and validation.