

Hope or Despair?

Large-Scale Land Development in Peri-Urban Areas towards Sustainability of Local Communities

a Tale from New Town Developments in Indonesia



Rahmat Aris Pratomo

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according to the decision of the Doctorate Board
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"Our biggest challenge in this new century is to take an idea that seems abstract – sustainable development – and turn it into a reality for all the world's people."
— Kofi Annan

"Indeed, Allah commands justice, excellence, and giving to others…"
Q.S. An-Nahl: 90

"And do not deprive people of their due…"
Q.S. Ash-Shu'ara: 183

To my father and my mother,

whose prayers have always found their way to me.

To my sister,

for always inspiring me.

To my wife and my daughter,

for your unwavering love, patience, and belief in me, lighting my path.

TABLE OF CONTENTS

List of tables xiii
List of figures xiv
Abbreviations and acronyms xvi

Chapter 1 | General Introduction 19
1.1. Background 20
1.2. Setting the scene: Revisiting new towns as large-scale land developments in Indonesia's peri-urban areas 22
1.3. Contextual problems: Implications for local communities of new towns as large-scale land developments 24
1.4. Theoretical problems 25
1.4.1. New town development in peri-urban areas 26
1.4.2. Understanding the sustainability of local communities in an urban planning and development context 28
1.4.3. Measuring a holistic quality of life 31
1.4.4. Property rights over land 32
1.5. Research gaps 34
1.6. Research objective and questions 37
1.7. Research framework and data collection 38
1.7.1. Research framework 38
1.7.2. Research location 39
1.7.3. Data collection 40
1.8. Research design 44

Chapter 2 | Towards Sustainable Life of Local Communities in Coastal Cities: *A Longitudinal Study of New Town Development in Makassar* 48
2.1. Background 49
2.2. Coastal Cities Development 51
2.3. Linking Livelihood Assets to Quality of Life to Promote Sustainable Development 52
2.4. Makassar City and Its Surrounding Development: Transformation of the Urban Area 54
2.5. Impact of the New Town Development to Sustainable Life of Local Communities 57
2.6. New Town Developments towards Sustainable Development Goals: Between Hope and Reality 60
2.7. Conclusion 63

Chapter 3 | Living on the Edge: *Comparing the Quality of Life Transformation of Local Communities Induced by the New Town Development inn Different Peri-Urban Areas* **64**

3.1. Introduction 67

3.2. Literature Review 70

3.2.1 The evolvement of peri-urban areas in developing countries 70

3.2.2. New town development: Solutions for providing new urban activities in peri-urban areas? 72

3.2.3. Measuring quality of life in socio-economic development 74

3.3. Materials and Methods 79

3.3.1. Research location 79

3.3.2. Sampling 79

3.3.3. Evaluation of data survey 81

3.3.4. Measuring transformation of livelihood assets and QoL level 83

3.3.5. Assessing differences in impacts of new town development on local communities in different peri-urban areas 84

3.4. Results 85

3.4.1. Assessing the condition of livelihood assets 85

3.4.2. Assessing the quality of life of local people 86

3.4.3. Impact of new town development in the different peri-urban areas on quality-of-life transformation 87

3.4.3.1. Dependent paired t-test 87

3.4.3.2. Independent t-test 90

3.5. Discussion 92

3.6. Conclusion 94

Chapter 4 | Transformation of Local People's Property Rights Induced by New Town Development *(Case Studies in Peri-Urban Areas in Indonesia)* **96**

4.1. Introduction 99

4.2. Large-Scale Land Development 101

4.2.1. Large-Scale Land Development and Driving Forces of Urbanisation Pressure 101

4.2.2. New Towns as a Large-Scale Land Development 102

4.3. Property Rights Over Land 104

4.3.1. Different Categories of Property Rights Bundles Over Land 104

4.3.2. Security Level of Property Rights 109

4.4. Methodology 110

4.4.1. Research Location 110

4.4.1.1. Selection of Case Studies 110
4.4.1.2. The Characteristics of Land Use in Our Case Studies 110
4.4.2. Sampling 111
4.4.3. Assessing Transformation and Security Level of Property Rights 113
4.4.4. Assessing the Influence of Urbanisation on the Security Level of Property Rights 114
4.5. Findings 116
4.5.1. Transformation of Property Rights 116
4.5.2. Nexus Between Urbanisation Pressure and Security Level of Property Rights 123
4.6. Discussion 124
4.6.1. Transformation of Property Rights due to New Town Development 124
4.6.2. Effects of Urbanisation on the Change of Property Rights Security 126
4.6. Conclusion 128

Chapter 5 | Confronting Inequality: *Linking the Impacts of Large-Scale Land Development to the Quality of Life of Local Communities in Peri-urban Area* **130**

5.1. Introduction 133
5.2. Peri-urbanisation and sustainability 135
5.2.1. Characteristics of peri-urbanisation in countries in the Global South 135
5.2.2. Main challenges of the peri-urbanisation process 137
5.2.3 Linking the main impacts of large-scale land development in peri-urban area to communities' quality of life 140
5.3. Data and methodology 143
5.3.1. Research location and sampling 143
5.3.2. Assessing the main impact of large-scale land development on quality of life 146
5.4. Results and discussion: the main impacts of large-scale land development on local communities in peri-urban area 150
5.4.1. Displacement 150
5.4.2. Property Rights 153
5.4.3. Spatial Quality 154
5.4.4. Change in Quality of Life 156
5.4.5. Examining the linkages of the main impacts of large-scale land development in peri-urban areas to communities' QoL 157
5.5. Conclusion 161

Chapter 6 | Conclusion **165**
6.1. Synthesis of main results 167
6.1.1. New towns as large-scale land developments in peri-urban areas: Contributing to the long-term impact on the quality of life of local communities 167
6.1.2. Different settings of development: The consequences of geographical differences between peri-urban areas for the impact of new town development on local communities 168
6.1.3. The impact of new town development on the property rights of local communities 169
6.1.4. New town development: Property rights changes, displacement, and changes in spatial quality vs. the local community's quality of life 171
6.1.5. The impact of new town development on the sustainability of local communities 172
6.2. General reflections and implications 173
6.2.1. Reflections on theory 173
6.2.2. Reflections on practice 184
6.3. Research limitations and suggestions for future research 185

References **189**

Appendices **221**

Summary 224
Samenvatting 227
Ringkasan 230
Acknowledgements 234
About the Author 237

LIST OF TABLES

Table 1.1.	Different Characteristics of the Three Locations	42
Table 1.2.	Data Collection, Chapter, Location, and Explanation	42
Table 1.3.	The chapter's overview and publications	46
Table 2.1.	Observed urban land use/cover changes in Metro Tanjung Bunga (ha)	56
Table 3.1.	Indicators of quality of life	78
Table 3.2.	Distribution of respondents in MTB and KBP	81
Table 3.3.	Factor analysis and Cronbach Alpha Test	82
Table 3.4.	Dependent paired t-test for livelihood assets and QoL level	89
Table 3.5.	Independent t-test for livelihood assets and QoL level	89
Table 4.1.	Different characteristics of the three locations	112
Table 4.2.	Spatial transformation in KHI, KBP, and MTB	112
Table 4.3.	The number of respondents	113
Table 4.4.	The security level for each bundle of rights	113
Table 4.5.	Data requirements	115
Table 4.6.	Model summary	124
Table 4.7.	Coefficients of regression	124
Table 5.1.	Characteristics of peri-urban development	136
Table 5.2.	Distribution of respondents	145
Table 5.3.	Respondents' characteristics	146
Table 5.4.	Variable description	149
Table 5.5.	Change in local community jobs	152
Table 5.6.	Information on formed clusters	152
Table 5.7.	Research hypothesis results after a bootstrap was performed	159
Table 5.8.	The role of location variables in the relationship between the main impacts of large-scale land development and QoL changes	160

LIST OF FIGURES

Figure 1.1.	The global demand for land	21
Figure 1.2.	Research framework	38
Figure 1.3.	Locations of the Three Case Study Areas	41
Figure 2.1.	Relationship between livelihood assets and quality of life	53
Figure 2.2.	Observed urban land use/cover changes in Mammimasata metropolitan area	56
Figure 2.3.	Impact of MTB development on local communities	58
Figure 3.1.	Stages of development of peri-urban areas	71
Figure 3.2.	Components of quality of life	75
Figure 3.3.	Interaction among livelihood assets and quality of life in the context of socio-economic development	77
Figure 3.4.	Classification of levels of quality of life	78
Figure 3.5.	Distribution of *kampungs* in Metro Tanjung Bunaga and Kota Baru Parahyangan	79
Figure 3.6.	Livelihood assets in Metro Tanjung Bunga and Kota Baru Parahyangan	85
Figure 3.7.	Objective and subjective QoL of local communities in Metro Tanjung Bunga and Kota Baru Parahyangan	86
Figure 3.8.	Overall QoL transformation of local communities in Metro Tanjung Bunga and Kota Baru Parahyangan	88
Figure 3.9.	Comparison of multiple boxplots for the transformatioin of livelihood assets, objective QoL, subjective QoL, and overall QoL in MTB and KBP.	91
Figure 4.1.	Large-scale land development	101
Figure 4.2.	Conceptual framework of property rights in land development	105
Figure 4.3.	Locations of three case study areas	111
Figure 4.4.	Classification of security level transformation of property rights	114
Figure 4.5.	The number of property rights transformation on cultivated lands in KHI	117
Figure 4.6.	The number of property rights transformation on residential lands in KHI	118
Figure 4.7.	Transformation of the security level of property rights in KHI cultivated and residential lands	118
Figure 4.8.	The number of property rights transfromation on cultivated lands in KBP	119

Figure 4.9.	The number of property rights transformation on residential lands in KBP	120
Figure 4.10.	Transformation of the security level of property rights in KBP cultivated and residential lands	120
Figure 4.11.	The number of property rights transformation on cultivated lands in MTB	121
Figure 4.12.	The number of property rights transformation on residential lands in MTB	122
Figure 4.13.	Transformation of the security level of property rights in MTB cultivated and residential lands	123
Figure 5.1.	The three main challenges of large-scale land development led by peri-urbanisation	137
Figure 5.2.	The main impacts of large-scale land development on the quality of life	142
Figure 5.3.	Distribution of *kampungs* and selected 150 respondents in Kota Baru Parahyangan and Metro Tanjung Baru	144
Figure 5.4.	Type of displacement	150
Figure 5.5.	Motivation for displacement	151
Figure 5.6.	Strength of KBP and MTB clusters	153
Figure 5.7.	Security transformation in KBP and MTB	154
Figure 5.8.	Spatial quality	154
Figure 5.9.	Environmental status, physical quality, and socio-economic quality of Kota Baru Parahyangan and Metro Tanjung Bunga	155
Figure 5.10.	Change in QoL	157
Figure 5.11.	Relationship between main impacts of large-scale development and quality of life changes through the PLS-SEM model	158
Figure 6.1.	Conceptual Framework of Quality of Life for Urban Planning and Development	175
Figure 6.2.	Framework to Measuring QoL	177
Figure 6.3.	Classification of QoL Level	178
Figure 6.4.	How Geographical Settings Influence the Diverse Impacts of New Town Development on Local Communities	179
Figure 6.5.	Framework to Assess QoL	181
Figure 6.6.	Integrated Framework for Evaluating the Relationship Between the Main Impacts of Large-Scale Development on the Sustainable Local Community	183

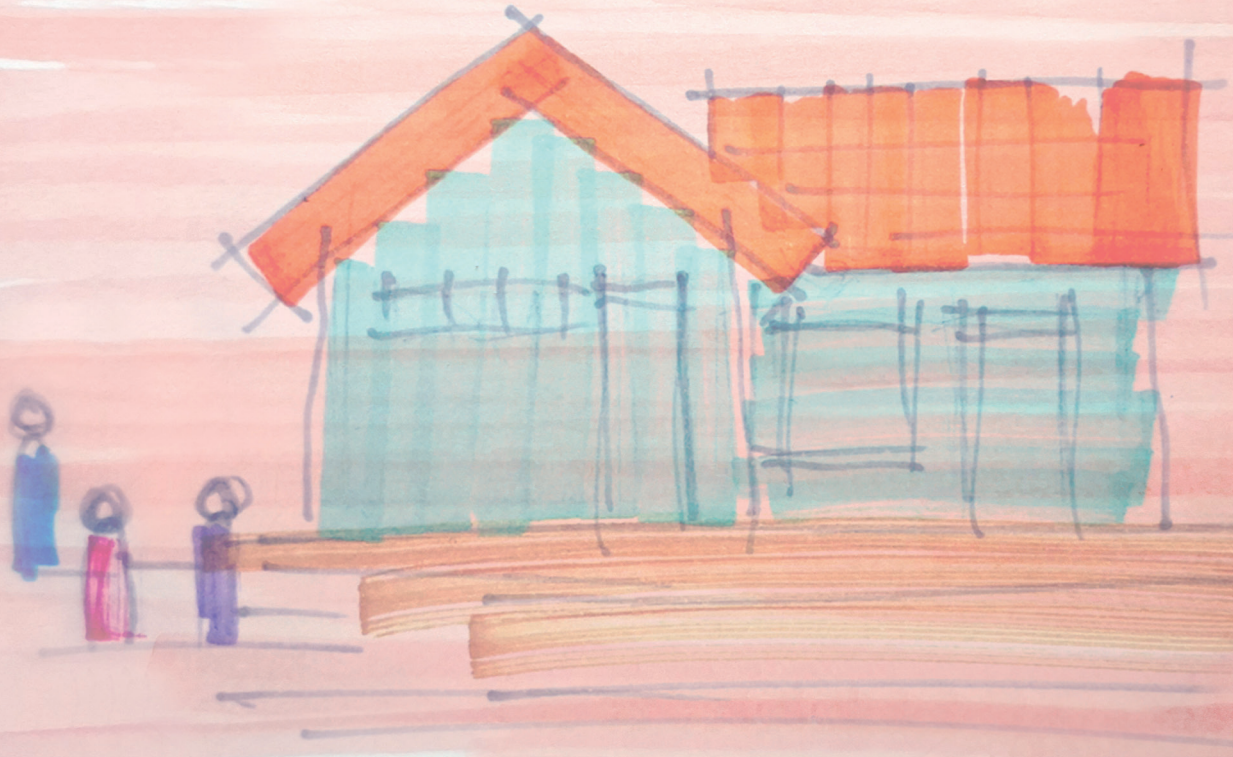
ABBREVIATIONS AND ACRONYMS

ATR/BPN	*Kementrian Agraria dan Tata Ruang/Badan Pertanahan Nasional* Ministry of Land and Spatial Planning/National Land Agency
BAL	Basic Agrarian Law
BSD	Bumi Serpong Damai
GMTD	Gowa Makassar Tourism Development
KBP	Kota Baru Parahyangan
KHI	Kota Harapan Indah
LSLD	Large-Scale Land Development
MDGs	Millenium Development Goals
MLR	Multiple Linear Regression
MMA	Mamminasata Metropolitan Area
MTB	Metro Tanjung Bunga
Perum	*Perusahaan Umum* Public Company
Perumnas	*Perusahaan Umum Pembangungan Perumahan Nasional* National Urban Development Corporation
Persero	*Perusahaan Perseroan* State-Owned Enterprise
PLS-SEM	Partial Lease Squares Structural Equation Modeling
POPSA	*Persatuan Olahraga Perahu Motor dan Ski Air* Motorboat and Water Ski Sport Association
PT	*Perseroan Terbatas* Limited Liability Company
QoL	Quality of Life
REPELITA	*Rencana Pembangunan Lima Tahun* Five-Year Development Plan
RT	*Rukun Tetangga* Neighbourhood Association
RW	*Rukun Warga* Citizens Association
SDGs	Sustainable Development Goals
SOEs	State-Owned Enterprises
SPPT	*Surat Pemberitahuan Pajak Terutang* Notification of Tax Due
SEE	Standard Error of the Estimate
UMR	*Upah Minimum Regional* Regional Minimum Wage

UN	United Nations
VIF	Variance Inflation Factor
VOC	*Vereenigde Oostindische Compagnie* Dutch East India Company
ZEE	*Zona Ekonomi Eksklusif* Exclusive Economic Zone

Chapter 1

General Introduction



1.1. BACKGROUND

Urbanisation has been a global phenomenon for centuries. Its growth accelerated following the Industrial Revolution in the 18th century. During the 19th century, the urban population increased by 10%, reaching 40% in the 1980s. By 2000, urbanisation had risen to 47%, equivalent to 2.9 billion people (Smart & Smart, 2003). This transformation has had profound implications for labour supply, sustainability, and development.

The urbanisation trend has persisted, particularly in Africa and Asia, where the urban population is projected to double between 2000 and 2030 (He, 2013). However, the process varies significantly between the Global North and Global South countries. In the Global North, urbanisation is driven by global economic competition, urban welfare policies, regionalisation, and a declining rural population.

Conversely, in the Global South, urbanisation is primarily fuelled by rural-to-urban migration, natural population growth, rural urbanisation, and extensive peri-urbanisation (Woltjer, 2014). According to the United Nations (2019), the urban population in developing countries grew by 52% in 2015—twice the rate recorded in 1950—and is projected to rise to 67% by 2050. Furthermore, according to the United Nations (2022), Asia has become the world's most densely populated region, a trend expected to continue until 2050. Approximately 54% of the global urban population, or more than 2.2 billion people, reside in Asia (United Nations, 2019).

Indonesia is among the most rapidly urbanising countries globally (Kurniati *et al.*, 2022). Over the past three decades, its urban population has grown from 17.2% to 49.7%, with Java experiencing faster urbanisation (Hassan & Pitoyo, 2018). Statistic Indonesia (2024) and the World Bank (Roberts *et al.*, 2019) report that 56% of Indonesia's population lived in urban areas in 2020, with projections indicating a rise to 66.6% by 2035—surpassing the global urbanisation rate of 55%. The World Bank (Roberts *et al.*, 2019) estimates that in the future, 220 million people, or 70% of Indonesia's total population, will reside in urban areas. These population increases inevitably create higher demands for land.

This demographic shift phenomenon is directly and proportionally linked to an increasing demand for land, a fundamental resource for sustaining human life. Data from the Food and Agriculture Organization and the United Nations (2019) show that global land demand has risen by approximately 100 million hec-

tares per decade, particularly in developing countries, where the trend is significantly increasing (see **Figure 1.1**). In contrast, developed countries exhibit a pattern of declining or stagnating land demand. The persistent rise in land demand within developing nations reflects the need for agricultural expansion, industrial development, and urbanisation (Winkler *et al.*, 2021). In Asia, Indonesia has the second-largest urban land area after China (Haryanto *et al.*, 2021). Most land demand is driven by the need for residential areas, fuelled by rapid urbanisation (Rondhi *et al.*, 2018).

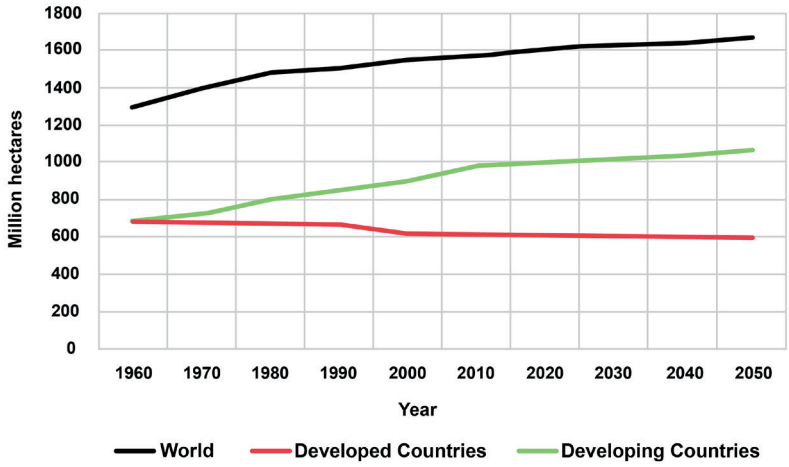


Figure 1.1 | The global demand for land. *Source:* FAO and United Nations (2018).

Population growth and the continuous expansion of urban activities make it difficult for urban areas to provide adequate services. Consequently, urbanisation extends toward the urban periphery, a phenomenon widely referred to as 'peri-urbanisation'. This process strengthens the role of suburban areas, transforming urban outskirts into emerging growth centres (Rahayu & Mardiansjah, 2018).

In some cases, peri-urbanisation is characterised by extensive large-scale development, driven by urban expansion (Wang *et al.*, 2010; Woltjer, 2014). This involves the construction of large-scale residential areas, the emergence of industrial estates, the establishment of economic activity hubs, and the expansion of transportation networks (Surya *et al.*, 2020b). Such large-scale land development thus refers to the transformation of extensive land areas, often requiring substantial investment (Nolte & Voget-Kleschin, 2014). At times, this development results in complex land use patterns that integrate housing, commercial

infrastructure, agricultural zones, and renewable energy production to accommodate a growing population (Colson *et al.*, 2017). The peri-urban development model aims to bridge the gap between city centres and their outskirts, stimulate regional economic growth, enhance urban infrastructure, and generate employment opportunities (Kaffah & Winarso, 2023).

1

1.2. SETTING THE SCENE: REVISITING NEW TOWNS AS LARGE-SCALE LAND DEVELOPMENTS IN INDONESIA'S PERI-URBAN AREAS

Large-scale land development can be classified into five main forms: large-scale infrastructure (Mok *et al.*, 2015; Zoomers *et al.*, 2017), industrial estates (Cartier, 2002; X. Zhang *et al.*, 2018), large-scale agricultural investment (Binswanger & Klaus Deininger, 1995; Zaehringer *et al.*, 2018), large-scale housing (Al-Shihri, 2016; Guan & Yang, 2015; Ott, 2020), and new towns (Dieleman, 2011; Firman, 2004b; Wang *et al.*, 2017). Among these, new town developments have gained increasing prominence in recent decades, particularly in developing countries such as Indonesia (Shirazi, 2013). New towns are often regarded as dynamic solutions to urban challenges, including rapid urban growth, rising housing costs, and social integration (Insa-Ciriza, 2012). While some new towns are developed within existing urban areas, they are more commonly located on the urban periphery. Between 1990 and 2010, at least 40 new towns were established in Indonesia, followed by the construction of approximately 20 more between 2010 and 2020 (Kartiwa, 2016). Notably, 70% of these developments are concentrated in the peri-urban Jakarta metropolitan area. This trend, which reflects a broader process of peri-urbanisation, is considered to alleviate population density and the concentration of economic activity in city centres (Cai *et al.*, 2020; Insa-Ciriza, 2012; Wang *et al.*, 2017).

Throughout the 20th century, alongside the industrialisation of architecture and urban development, many countries, including Indonesia, experienced large-scale development (Cai *et al.*, 2020). In Indonesia, large-scale land development evolved through several phases, reflecting shifts in urban planning strategies (Diningrat, 2015; Firman, 2003). The origins of large-scale land development lie in the precolonial era, marked by the territorial expansion of kingdoms such as Majapahit and Mataram, and in the arrival of the VOC, which led to the establishment of new cities under colonial rule, including Kota Sunda Kelapa

and Semarang. During the colonial period (1900–1950s), the Dutch government continued to develop land for local administrative purposes, often influenced by modern city planning principles and architects such as Thomas Karsten. From the 1950s to the 1980s, large-scale land development accelerated as Indonesia transitioned into the independence era. The early 1950s saw the establishment of new residential areas and satellite towns, such as Kebayoran Baru (1950), to accommodate Jakarta's growing housing needs. Other developments include Palangkaraya (1955) and Pekanbaru (1963), which were designed to support forestry and oil-based economy, as well as Banjarbaru (1965), which became a new administrative centre. The introduction of the Five-Year Development Plan (REPELITA) IV (1984–1989) further intensified large-scale development on the urban fringes, driven by increasing collaboration between the government and the private sector. In the early 1990s, urban populations had grown significantly, leading to expansion beyond established city boundaries, particularly in the Jakarta metropolitan area. This decade also marked the rise of large-scale peri-urban development, which was expected to generate employment and stimulate the growth of creative and innovative small businesses (Karyoedi, 1993; Rahayu & Mardiansjah, 2018; Sujarto, 1980; Winarso *et al.*, 2015).

Large-scale projects associated with new towns in Indonesia have been developed by multiple stakeholders, primarily the government and the private sector. Both have played a crucial role in the country's development history. The government typically operates as a developer through state-owned enterprises (SOEs), which may take the form of Perusahaan Umum (Perum) or Perusahaan Perseroan (Persero). These SOEs serve as key development agents, particularly in large-scale projects, and focus on strategic sectors critical to public needs, such as infrastructure, industry, commerce, and residential housing (Asian Development Bank, 2022). A notable example of a government-led mega project is the large-scale public housing development in Depok, initiated by Perum Perumahan Nasional (PERUMNAS) in 1974, which later evolved into a new town. However, from the late 1980s, the private sector began to dominate large-scale project development in Indonesia. In 1989, private companies started investing in large-scale housing developments (Hudalah *et al.*, 2013; Kwanda, 2000). One of the most prominent private-sector-led new town projects is Bumi Serpong Damai (BSD), which has become a benchmark for similar developments. Designed to provide comprehensive infrastructure while promoting an environmentally sustainable and upscale lifestyle, BSD exemplifies private-sector involvement in urban expansion (Noegroho, 2012). While government-led projects typically focus

on sectors deemed strategically vital for public needs, private-sector projects are often profit-driven. Nonetheless, both have comparable impacts on local communities (e.g., Noegroho, 2012; Hasan & Azis, 2018; Dauliyeva *et al.*, 2020; Nurhayati *et al.*, 2020; Santosa & Noviyanti, 2020).

1

1.3. CONTEXTUAL PROBLEMS: IMPLICATIONS FOR LOCAL COMMUNITIES OF NEW TOWNS AS LARGE-SCALE LAND DEVELOPMENTS

The main goal of large-scale land development, particularly new town projects, is to stimulate regional economies. However, these developments not only transform the designated areas but also impact their surroundings. Initially, they alter land use patterns, concentrating certain activities and subsequently reshaping adjacent areas. This transformation shifts the character of these areas from predominantly rural to urban. On a broader scale, new town developments generate positive impacts, particularly for the designated areas and highly skilled migrants, who are often from middle- to upper-income groups (Winarso *et al.*, 2015). Additionally, these developments drive up land values in both the designated and the surrounding areas by increasing economic activity (Hasanawi & Winarso, 2018; Karuniawati, 2016; Surya *et al.*, 2018). Improved urban facilities and infrastructure further enhance the area's strategic importance. Another benefit is the provision of higher-quality housing, as seen in Metro Tanjung Bunga, Makassar (Surya & Taibe, 2022). Moreover, these projects contribute to urban service efficiency and overall liveability (Irawati *et al.*, 2016; Woltjer, 2014).

However, while new town developments can offer some advantages to local communities, these benefits are often limited to individuals with specialised skills (Mauleny, 2015). The expectation that such projects will create employment opportunities for local communities tends to be short-lived (Suharto *et al.*, 2017). Over time, migrant workers often take over the available jobs, reducing long-term employment prospects for the local population. Thus, despite their economic promise, new town developments frequently have negative consequences for long-established local communities that relied on the area prior to urban expansion (Octifanny & Hudalah, 2017; Pravitasari *et al.*, 2018; Vanclay, 2017). The projects align with neoliberal urban policies that prioritise the interests of the middle and upper classes, raising concerns about broader social inclusivity (Swyngedouw *et al.*, 2002). In practice, the development of a new town

frequently results in the relocation of the local community and the acquisition of agricultural land (Wang *et al.*, 2010). Furthermore, during the development process, developers, whether sometimes in collaboration with, or solely led by government authorities, often displace local communities to areas beyond the designated area or into pockets of settlement within the new town, without providing adequate and affordable facilities or job opportunities for them.

In several cases, the lack of meaningful community participation in the development process has led to alterations in the original landscape and disrupted the social balance within the area (Wang *et al.*, 2010). This condition was also noted by Surya *et al.* (2018): the construction of new towns acts as a catalyst for changes in social structure, social mobility, and cultural patterns in the local community. Other negative impacts have also been identified, such as reduced social interaction (Arifin, 2021; Greenstein *et al.*, 2000), health risks (Arifin, 2021), declining social awareness (Firman, 2004b), a rise in economically vulnerable groups (Diningrat, 2015), and an increase in crime rates (Kreager *et al.*, 2011; Oh, 2005). The implications of new town development raises questions about the consequences of large-scale development in peri-urban areas for the sustainability of local communities' livelihoods due to the tendency towards an imbalance in spatial planning and control within the area.

1.4. THEORETICAL PROBLEMS

This section outlines the theoretical concepts that form the foundation for understanding the relationship between new town development in peri-urban areas and the sustainability of local communities. In this dissertation, sustainability is framed not only in terms of spatial or territorial continuity but, more critically, as the long-term preservation of social, economic, and environmental well-being—particularly for local communities that are often marginalised in the development process. These concepts are essential for capturing the complexity and multidimensionality of new town development impacts and for framing a more inclusive and context-sensitive assessment of sustainability. To support the operationalisation of these interconnections, several conceptual approaches should be meaningfully integrated. Four overarching conceptual approaches are emphasised: new town development in peri-urban areas, the sustainability of local communities, quality of life (QoL), and property rights.

1.4.1. New town development in peri-urban areas

The establishment of new towns acts as a vital tool for facilitating organised and balanced urbanisation, especially within the context of larger agglomeration areas, such as metropolitan regions. The term 'new town' originally evolved from the concept of a 'new community', which, according to Eichler and Kaplan (1967) and Griffin (1974), refers to a large-scale development characterised by a comprehensive and multifunctional design, guided by a single master plan, and intended to accommodate a socially diverse population. A *new community* that demonstrates a higher degree of self-sufficiency can be classified as a *new town*, which specifically denotes a settlement designed to generate greater social, environmental, and economic benefits than conventional, less-planned urban developments (Insa-Ciriza, 2012). Beyond the goal of redistributing densely populated areas and industries, new town development aims to enhance the connection between the primate city and its surrounding areas, thus fostering economic and spatial equilibrium (Tan, 2010). Additionally, Forsyth and Peiser (2021) clarify that the concept of new towns is distinct from other planning frameworks, such as planned communities, planned neighbourhoods, and job-oriented developments, due to the more intricate functions that new towns encompass.

While the implementation of new town developments has predominantly occurred within urban centres—illustrated by examples such as Manhattan (Golany, 1976), Multicentro in Bogotá (Thomas & Bregón, 1979), Wujin in Changzhou (Chen *et al.*, 2015) , and Sadra Town in Iran (Etminani-Ghasrodashti *et al.*, 2017) — there is compelling evidence to suggest that these initiatives may yield greater success when situated in peri-urban or in less-developed areas (Wang *et al.*, 2010). Peri-urban areas offer a combination of expansive and affordable land, significant investment potential, and access to abundant natural resources and low-cost labour. These characteristics render peri-urban locations particularly conducive to large-scale development endeavours (Woltjer, 2014). As a result, the establishment of new towns can serve as new economic growth poles and attract investments and populations that may overflow from the nearest primate city areas (Wang *et al.*, 2010).

Ideally, the development of new towns should provide opportunities for all activities across diverse groups. These towns are designed to create improved urban patterns that fulfil various social objectives, enhance efficiency, and demonstrate innovation in planning, design, and development. Song *et al.* (2020) further emphasise that new town development must enhance urban QoL and serve as a solution for making urban transitions more innovative. This is supported

by Kleniewski's (2005) findings, which indicate that new town development can significantly improve the QoL for residents, particularly for migrants from the middle and upper classes.

Although new towns are designed as comprehensive solutions to urbanisation issues, their development has often revealed significant challenges and negative consequences for local communities. Several studies highlight these concerns (e.g., Zhao, 2012; Adam, 2014b; Kleemann & Thiele, 2015; Yengoh & Armah, 2016; Bartels *et al.*, 2020). These impacts fall into three main categories: displacement, the security of property rights, and spatial quality. One of the earliest stages of large-scale development, land acquisition, inevitably results in displacement (Cernea, 1997; Wilmsen & Webber, 2015) and changes in property rights (Bren d'Amour *et al.*, 2017; Koirala *et al.*, 2017).

Narayanan (2017) explains that communities experiencing displacement face various issues, such as limited access to decent employment opportunities, social services, and public transportation. Additionally, displacement increases the marginalisation of vulnerable groups, such as the poor (Narayanan, 2017) and the elderly (Ahsan, 2019). Furthermore, during the development process, displaced communities often lose access to their livelihoods (Kabra & Mahalwal, 2014), which worsens their social and economic situation (Sanjoy, 2013). Moreover, the displacement can disrupt the social structure of communities, rendering displaced individuals more vulnerable to poverty (Cernea, 2000; Terminski, 2013).

The development not only forcibly displaces communities but also impacts their property rights. The loss of land due to development can exacerbate the marginalisation of communities that depend on land for their livelihoods (Somayaji & Talwar, 2011), particularly peri-urban communities that consider land integral to their identity and way of life (Hoshour & Kalafut, 2010). The loss of access to landownership as a result of development processes (e.g. land acquisition) can also have serious implications for food insecurity and increased poverty (Tsikata & Dede-Esi, 2009). This is connected to how new towns, as a form of large-scale development, lead to the loss of productive assets and sources of livelihood for communities (Terminski, 2013; Vagholikar & Das, 2010). These disruptions not only strip individuals of their sources of income but also affect social structures and community interactions. For example, peri-urban areas of the Jakarta metropolitan region have experienced widening economic and social inequalities due to large-scale housing and new town developments (Winarso *et al.*, 2015).

Another major consequence of new town development is the transforma-

tion of spatial quality, which significantly affects local communities. This includes changes in land use patterns, physical landscapes, visual aesthetics, and the service quality of urban infrastructure. While some aspects of these changes may be considered improvements, they often lead to environmental degradation in surrounding areas. For instance, increased temperatures and air and water pollution can reduce overall comfort and pose health risks to local residents (Cover, 2000; Latue & Latue, 2023). Additionally, changes in spatial quality can contribute to spatial segregation, exacerbating existing social and economic disparities (Diningrat, 2015; Gong *et al.*, 2018; Winarso *et al.*, 2015). These challenges manifest in various ways, including the growth of slum areas (Arifin, 2021), reduced social interaction (Greenstein *et al.*, 2000), declining social awareness (Firman, 2004b), a rise in economically vulnerable groups (Diningrat, 2015), and an increase in crime rates (Bjerk, 2006).

Each of these, individually or in combination, can trigger a complex set of secondary consequences. These primary impacts are often the initial challenges faced by local communities and are considered major obstacles to large-scale development. However, to this day, each impact is often viewed only partially, although these effects can be interconnected. Collectively, these issues highlight the difficulties of achieving sustainable community development in the wake of large-scale urban expansion.

1.4.2. Understanding the sustainability of local communities in an urban planning and development context

Sustainability is a concept that seeks to ensure the continuity of human life by addressing present needs without compromising the ability of future generations to meet theirs (Asheim, 1994; WCED, 1987). Although no universally accepted definition exists, sustainability is often described as an approach that enables human needs to be met without depleting the environment's capacity to sustain life in the future (UNESCO, 2005). The term emerged in response to growing awareness of environmental degradation and the social and economic disparities caused by unsustainable development patterns (Rees, 1996). Sustainability is typically framed around three interdependent pillars—social, economic, and environmental—which interact in complex ways (Hawken *et al.*, 1999).

Over time, the concept has evolved in line with the global need for holistic solutions to address multifaceted development challenges (Folke *et al.*, 2005). Its importance in development practices was first acknowledged at the United Nations Conference on the Human Environment in 1972 in Stockholm. The 1987

World Commission on Environment and Development further advanced the discourse with its report *Our Common Future*, which sought to define sustainable development. However, the concept's operationalisation gained momentum only at the 1992 Earth Summit in Rio de Janeiro and was further reinforced at the 2002 World Summit on Sustainable Development in Johannesburg (Baron *et al.*, 2020). Sustainability gained wider recognition through the 2030 Agenda for Sustainable Development, published in 2015, which underscores its role in addressing global challenges such as climate change, poverty, and inequality (Klarin, 2018). The adoption of sustainability principles in development is expected to generate long-term benefits, as sustainability is integral to comprehensive planning efforts (Ziaul & Shuwei, 2023). Emas (2015) emphasises that sustainable development requires the integration of economic, environmental, and social considerations in decision-making. Its implementation aims to enhance both present and future opportunities, with participation seen as a crucial step toward achieving sustainable development goals. Ultimately, the objective is to ensure the long-term sustainability of community life.

The principle of 'leaving no one behind' in sustainable development underscores the need for inclusivity, ensuring that no individual is excluded from the development process. It seeks to guarantee that everyone benefits from these efforts, regardless of their circumstances or location (Kharas & McArthur, 2019). This principle is particularly relevant to local communities, which are often marginalised in development processes (Allahwala *et al.*, 2013; Terminski, 2013). As key stakeholders, local communities play a central role in sustainable development initiatives due to their deep connections to natural resources, social structures, and economic well-being. Moreover, sustainability can foster self-sustaining local or regional economies (Curtis, 2003) and, more broadly, mitigate the risk of major community challenges (Que *et al.*, 2018).

Ideally, sustainability should positively impact community development in both the short and the long term, with factors such as infrastructure, environmental conditions, and human resources playing a crucial role (Ebbesson & Ellen, 2022). However, the impacts of area development on local communities vary according to contextual factors (e.g., Narain & Nischal, 2007; Zhao, 2013; Akiyode *et al.*, 2017; Krasnoshtanova, 2023), with geographical setting being a crucial factor (Brakman *et al.*, 2001). These impacts can differ in both scale and intensity. In Indonesia, the development of peri-urban areas predominantly occurs in coastal regions, as evidenced by urban expansion along the coastline. This phenomenon is closely associated not only with Indonesia's position as one of

the largest archipelagic nations (Arifin *et al.*, 2023; Rudiarto *et al.*, 2018) but also with the substantial economic advantages provided by coastal areas (Creel, 2003), including fishery hubs, tourism, and biodiversity (Effendi *et al.*, 2018). Furthermore, Setyono *et al.* (2016) point out that Indonesia is a nation with a deep-rooted agrarian history—one that may still be relevant today—and urban development expansion into peri-urban areas also reaches inland regions. Development in both of these contexts may have significant repercussions for communities that continue to depend on land and other natural resources (Octifanny & Hudalah, 2017; Pravitasari *et al.*, 2018).

Coastal communities, which are highly dependent on coastal resources, are more vulnerable to development pressures than non-coastal areas, where residents typically have more diverse skills. H. Li *et al.* (2015) demonstrate that statistically, coastal regions experience slower regional economic convergence than inland areas due to development. Similarly, Liu *et al.* (2021) highlight that the environmental impacts of development differ between these two geographical settings, particularly in relation to water resource infrastructure. Development also leads to differential impacts on land prices, particularly in residential areas (Zhang *et al.*, 2015). Residential development tends to drive greater increases in coastal area land prices than in non-coastal areas prices, primarily due to better urban facilities, a higher population density, more diverse economic opportunities, stronger market activity, government policies, and favourable price trends.

Fundamentally, sustainability can be linked to, or is even be inseparable from, QoL. QoL does not only describe how the sustainability of a community is maintained overall (Martinez *et al.*, 2021) but also indicates ways to achieve the sustainability of a community (Petrovič & Murgaš, 2020). Massam (2002) explains that QoL reflects the overall sustainability of society. This is because QoL can serve as a strategic resource to promote sustainable development and improve resident satisfaction in the future (Lee, 2008; Myers *et al.*, 2007; Tesfazghi *et al.*, 2010). Moreover, QoL is also seen as a reflection of the well-being of individuals and community groups, including satisfaction (Sirgy *et al.*, 2010) and the fulfilment of needs (Kelley-Gillespie, 2009; Matarrita-Cascante, 2010).

In the context of urban planning and development, QoL can help establish a new consensus on planning objectives and decision-making, highlighting the need to protect and improve QoL as a strategic resource to support sustainable development and future citizen satisfaction (Lee, 2008; Myers *et al.*, 2007; Tesfazghi *et al.*, 2010). QoL, regarded as a fundamental aspect of current urban design and planning theories (Khalil, 2012), is closely linked to its surrounding

environment (Mittal *et al.*, 2020) and place-related conditions (Marans & Stimson, 2011), including geographic and environmental factors affecting individuals and communities. Therefore, from a planning approach, these places can be designed to enhance residents' overall life satisfaction (Marans & Stimson, 2011). Consequently, QoL is often associated with the concept of 'quality of urban life' (Rezvani *et al.*, 2013).

In planning practice, QoL is still defined empirically by fragmented aspects, such as transportation, parks, or other urban services (Myers *et al.*, 2007; Rezvani *et al.*, 2013). Even though QoL serves as a tool for planning and managing sustainability, this merely indicates that it has yet to fully accommodate human needs as defined by Steg *et al.* (2007), which should incorporate both social and physical aspects rather than focusing solely on the provision of public goods. Additionally, urban planning tends to adopt large-scale approaches, which frequently overlook local-level needs that directly influence QoL (Romice *et al.*, 2017). A comprehensive understanding of QoL can enhance the effectiveness and efficiency of urban planning. To date, urban planning effectiveness and efficiency remain highly constrained, particularly in developing countries (Belsky *et al.*, 2013; Huynh, 2015).

Comprehensively, QoL should serve as a benchmark for assessing how livelihoods are affected by area development (Sirgy, 2011). Pukeliene and Starkauskiene (2011) identify multiple factors influencing QoL, including physical living standards (income, consumption, and wealth), health, education, peace of mind, and physical and mental safety. Massam (2002) further argues that QoL can be used as an indicator of a community's sustainability. Several scholars have empirically examined the connection between livelihoods and human needs through the lens of QoL (e.g., Costanza *et al.*, 2007; Sirgy, 2011; Oldenhuizing, *et al.*, 2013). These studies define QoL as an individual's ability to achieve fulfilment and satisfaction through access to essential assets, which are classified into social, financial, physical, human, and natural resources. Costanza *et al.* (2007) and Sirgy (2011) clarify that the possession of these assets directly enhances QoL. Furthermore, some scholars (Costanza *et al.*, 2007; Estoque *et al.*, 2019; Sirgy, 2011) have used these five livelihood assets as indicators for evaluating the eight core components of QoL: education, environmental quality, income, housing, social bonds, health, employment, and civil and political freedom.

1.4.3. Measuring a holistic quality of life

QoL is often measured using objective and subjective approaches separate-

ly, as they are considered (Koirala *et al.*, 2017; Lee, 2008; Nikuze *et al.*, 2019; Oldenhuizing *et al.*, 2013; Santos & Martins, 2007). However, measurement using these separate methods fails to capture the full impact of development on the sustainability of local community life. Objective QoL refers to characteristics that can be directly observed or measured using indicators derived from secondary data (Apparicio *et al.*, 2008; G. Li & Weng, 2007). In contrast, subjective QoL emphasises subjective well-being based on individuals' perceptions and satisfaction with their lives, which can be assessed through surveys (Khaef & Zebardast, 2016; Sirgy *et al.*, 2008).

Diener *et al.* (2010) argue that both assessment approaches to QoL can be combined by analysing them simultaneously. A comprehensive approach that integrates subjective and objective dimensions (Cummins, 2000) can yield more reliable results (Abbott & Wallace, 2012). This is because each dimension has its own strengths and weaknesses, with the objective dimension tending to have strong reliability but low validity in capturing human well-being (Seik, 2000), while the subjective dimension allows individuals to describe satisfaction based on their feelings (Ibrahim & Chung, 2003; Veenhoven, 2008).

Scholars have classified QoL into four positional categories: well-being, deprivation, dissonance, and adaptation (Noll, 2013; Olson & Schober, 1993). Well-being occurs when individuals or groups experience optimal conditions for fulfilling and satisfying their needs. In contrast, deprivation represents the worst conditions, in which human needs are barely met, and satisfaction is at its lowest (Seik, 2000). Dissonance and adaptation represent intermediate conditions (Olson & Schober, 1993; Seik, 2000). Dissonance arises when basic needs are met but at the lowest acceptable standard, resulting in minimal satisfaction—a phenomenon often referred to as the 'dissatisfaction dilemma' (Olson & Schober, 1993). Conversely, adaptation, which can be seen as the inverse of dissonance, is described as the 'satisfaction paradox'. In this state, individuals adjust to less-than-ideal conditions while maintaining a sense of contentment. Despite these established classifications, the literature reveals a lack of consensus on the hierarchical relationships among these categories. This highlights the necessity for further investigation into the interactions between these dimensions and their collective impact on overall QoL.

1.4.4. Property rights over land

In the context of development, Lai (2020) highlights the critical role of property rights. These rights significantly influence the behaviour of various

stakeholders involved in development, including governments, developers, and individuals, by determining the distribution of landownership, the allocation of land resources, and the facilitation of investments (Ma *et al.*, 2024). Therefore, it is essential to define property rights in a holistic manner (Adam, 2014b; Agegnehu *et al.*, 2016), given the diverse implications that can arise within communities (Platteau, 1996). To date, the understanding of property rights remains fragmented, often focusing on specific categories such as different kinds of ownership rights (Agegnehu *et al.*, 2016; Feder & Onchan, 1987), utilisation (e.g., Schlager & Ostrom, 1992; Barzel, 1997; Alston & Mueller, 2008; Sikor *et al.*, 2017), and the right to define institutional rules (Lanjouw & Levy, 2002; Zhu & Simarmata, 2015).

Property rights are pivotal in determining the level of security associated with them. Each category of property rights exhibits different degrees of security, which are influenced by the type of rights, usage restrictions, and the strength of formal recognition. The optimal level of security for property rights is achieved when an individual or entity can utilise a property without limitations, supported by robust legal recognition. This security level is shaped by various types of property rights, including appropriation rights, ownership rights, and formality rights.

As a critical element in the development process, the (in)security of property rights can lead to social conflicts stemming from uncertainties about land and resource ownership (Zhu & Simarmata, 2015). This uncertainty arises because property rights significantly influence the utilisation of resources and assets (Schlager & Ostrom, 1992). Furthermore, the security of property rights can influence income, particularly in the agricultural sector (Abab *et al.*, 2023), as well as access to credit and investment opportunities (Bizoza & Opio-Omoding, 2021).

Considering these factors, the security of property rights is of paramount importance. A lack of a comprehensive understanding of property rights can lead to unforeseen consequences. This is illustrated by several cases in which enhanced security of property rights provided individuals with opportunities to sell their properties, yet this can also lead to a loss of sovereignty (de Soto, 2000; Oliver, 2011). If not addressed, such situations are likely to exacerbate the vulnerability of communities during the development process (Gauster & Isakon, 2008).

1.5. RESEARCH GAPS

To examine the relationship between new towns as large-scale land developments in peri-urban areas and the sustainability of local communities, this dissertation identifies four key research gaps:

1. *A limited understanding of and empirical evidence for QoL in urban planning and development studies, beyond merely assessing the fulfilment or satisfaction of human needs.*

    In urban planning and development, QoL is often employed as a tool for evaluating the liveability, sustainability, and competitiveness of cities (Seik, 2000). As a comprehensive measure, QoL should integrate both objective conditions and subjective well-being, making it a more holistic instrument for assessing individual and collective sustainability (Das, 2008). However, many QoL studies continue to assess objective indicators and subjective satisfaction separately (e.g., Lee, 2008; Oldenhuizing *et al.*, 2013; Santos *et al.*, 2007), with a prevailing emphasis on subjective dimensions (Diener *et al.*, 2018; McCrea *et al.*, 2011). This trend persists because subjective approaches are considered valuable in planning and policy, as they allow individuals to express their perceptions and provide direct feedback on their lived experiences (Ibrahim & Chung, 2003; Veenhoven, 2008).

    Nonetheless, relying solely on subjective assessments is insufficient to fully represent well-being, as such measures are perception-based and may lack grounding in actual conditions (Noll, 2013). A more accurate and meaningful evaluation of QoL must also account for the fulfilment of basic human needs, including economic stability, social integration, and physical well-being (Mohit, 2013). Thus, combining objective and subjective dimensions of QoL is critical to capturing a comprehensive picture of community well-being (Das, 2008). While some studies have attempted to integrate both aspects (e.g., Olson and Schober, 1993; Tesfazghi *et al.*, 2010; Berhe *et al.*, 2014), they often fall short by failing to classify specific QoL levels, which limits their effectiveness in explaining the varying impacts of development. Moreover, existing research has largely overlooked local communities, despite the fact that they are often the most directly affected by peri-urban expansion and development interventions (Zoomers *et al.*, 2017).

    Given the limitations of existing studies and the critical need for a comprehensive understanding of QoL, it is essential to develop a framework

that integrates both subjective and objective dimensions of QoL, along with a measurable classification of its levels. Such a framework enables more context-sensitive and policy-relevant assessments, particularly in identifying the multifaceted impacts of development on the sustainability of local livelihoods. Numerous indicators and composite indices have been developed to provide a detailed understanding of QoL at both individual and community levels. However, there remains considerable debate over the most effective way to measure QoL, largely due to the lack of assessment tools that are simultaneously comprehensive, accessible, and communicable (Fuchs *et al.*, 2020). This absence of effective and holistic QoL measurement has made it challenging for policymakers to advocate for and integrate QoL considerations into development policies and practices (Hák *et al.*, 2018).

2. *Theoretically, different area characteristics may influence the degree of development impact. However, no study has compared the effects of new town development on various peri-urban areas, particularly regarding community quality of life.*

    Numerous studies highlight geographical settings as a critical determinant influencing the diverse impacts of development on local communities (e.g., Démurger *et al.*, 2002; Webster, 2002; Y. Li *et al.*, 2015; Michalski, 2019). In the context of Indonesia, large-scale peri-urban development has predominantly occurred along coastal zones (Wibowo & Supriatna, 2011), where local communities exhibit a significant dependence on fisheries for their livelihoods. Conversely, analogous patterns of development are increasingly encroaching on inland areas (Pribadi *et al.*, 2018), which are primarily characterized by agricultural livelihoods.

    While existing studies have explored the consequences of peri-urban development across various scales (Kusiluka *et al.*, 2011; Wang *et al.*, 2010; Zoomers & Otsuki, 2017), little empirical evidence exists on how such development affects peri-urban communities with distinct geographical settings. These contextual differences are expected to produce varied responses and development outcomes (Borras *et al.*, 2013; Zoomers & Otsuki, 2017), reinforcing the need for more geographically nuanced analyses.

3. *A comprehensive understanding of property rights in development studies is lacking, highlighting the need to re-examine the relationship between full property rights and urban expansion.*

    The rapid expansion of urban areas into peri-urban regions has signif-

icantly reshaped property rights (Agegnehu *et al.*, 2016). Since many peri-urban residents depend on land and property for their livelihoods, property rights play a crucial role in their lives. While various scholars have examined the impacts of development, studies on property rights tend to treat different dimensions in isolation, focusing on different aspects: the right to appropriate (e.g., Schlager & Ostrom, 1992; Sikor *et al.*, 2017), the right to own (Agegnehu *et al.*, 2016; Feder & Onchan, 1987), and the right to enforce institutional rules (Lanjouw & Levy, 2002; Zhu & Simarmata, 2015).

However, property rights in land development cannot be understood separately, as various rights are interconnected within the same properties (Adam, 2014b; Agegnehu *et al.*, 2016), even when different parties hold those rights. A non-holistic approach may lead to the neglect of complex social impacts, such as landownership conflicts and uncertainties about resource utilisation (Zhu & Simarmata, 2015). Therefore, a comprehensive investigation that captures the full spectrum of property rights is essential for assessing changes in property rights security, particularly in areas undergoing rapid land transformation. A more integrative approach is necessary to ensure that the understanding of property rights is not merely partial but can elucidate their interconnected roles in promoting or hindering equitable and sustainable urban development (Platteau, 1996; Schlager & Ostrom, 1992).

4. *There is limited research on how the main impacts of new town development relate to the quality of life in local communities.*

Research on QoL within the context of urban planning and development reveals several limitations, particularly concerning the conceptual understanding of QoL, the absence of an integrated approach that connects QoL with the primary impacts of new town development, and the separate measuring of subjective and objective dimensions. Consequently, despite the extensive implementation of new town development in peri-urban areas, comprehensive studies elucidating the relationship between the main impacts of development and QoL remain scarce. Previous studies have tended to address these aspects only partially, failing to provide a cohesive conceptual framework, which results in an incomplete understanding of the complex impacts experienced by communities affected by development.

The main impacts of new town development are closely linked to QoL, with changes resulting from development—such as alterations in property rights, displacement, and spatial quality—directly and indirectly influencing

the sustainability of local communities as reflected in QoL. However, this relationship has yet to be fully captured. QoL encompasses both objective (physical, economic, and environmental conditions) and subjective dimensions (individual satisfaction and perceptions), serving as a crucial benchmark for holistically assessing these impacts. In the context of new town development, integrating these dimensions allows for a more comprehensive understanding of the complex effects of development, thereby clarifying the extent of community impact.

1.6. RESEARCH OBJECTIVE AND QUESTIONS

As previously discussed, research on the extent to which peri-urbanisation contributes to the sustainability of local communities is essential. This dissertation examines the relationship between new town development in peri-urban areas and the sustainability of local communities. Without a clear understanding of the main impacts of new town development and a holistic measurement of community life components, it is difficult to obtain a comprehensive overview of their interconnections. Therefore, this study addresses the following main research question:

How does new town development in peri-urban areas influence the sustainability of local communities?

Considering the identified research gaps, I formulated four subquestions have been formulated to address the main research question:

1. *How can the QoL framework be reformulated to comprehensively assess the sustainability of local communities affected by new town development?*
2. *To what extent do geographical differences between peri-urban areas influence the impact of new town development on local communities?*
3. *To what extent has new town development affected the property rights of local communities?*
4. *How do changes in property rights, displacement, and spatial quality due to new town development affect the quality of life of local communities?*

1.7. RESEARCH FRAMEWORK AND DATA COLLECTION

1.7.1. Research framework

I developed a conceptual framework to provide a clear analytical structure for this study (see **Figure 1.2**). This dissertation examines how new town development, arising from urban expansion, affects the sustainability of local communities through its effects on their QoL. In this context, urban expansion refers to the emergence of new towns as a form of large-scale land development in peri-urban areas, primarily intended to meet the increasing demand for housing, urban services, and autonomous urban functions.

Costanza *et al.*'s (2007) concept of QoL fundamentally paves the way for this study in understanding the sustainability of the lives of local communities as the most marginalised party in development (Zoomers *et al.*, 2017). In this study, I approach QoL holistically by incorporating livelihood assets into its core dimensions and by integrating subjective and objective measures of well-being. The assumption is that QoL may be significantly affected by various aspects of new town development, especially when such developments give rise to critical disruptions (Alston & Mueller, 2008; Gellert & Lynch, 2003; Kombian, 2011; Terminski, 2013).

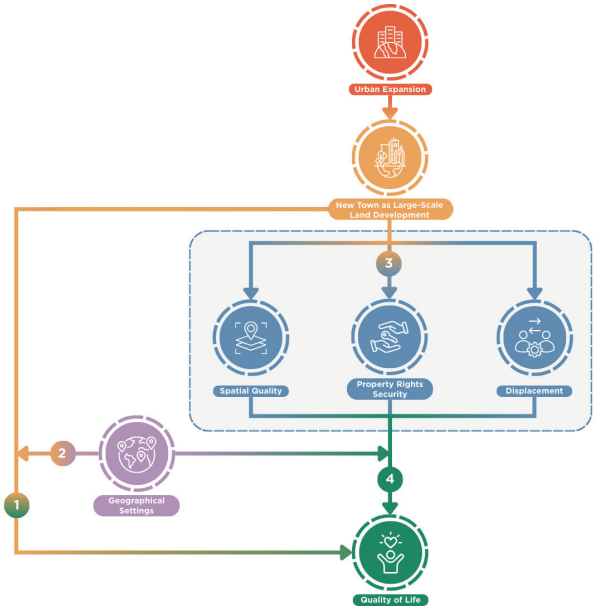


Figure 1.2 | Research framework.

A synthesis of the literature, as outlined in subsections 1.4.1 and 1.5, identifies three main impacts of new town development: changes in spatial quality, changes in the security of property rights, displacement. Specifically, property rights, although they are crucial to the social, economic, and cultural stability of local communities (Abab *et al.*, 2023; Bizoza & Opio-Omoding, 2021; Schlager & Ostrom, 1992; Zhu & Simarmata, 2015), are often evalluated in a fragmented manner. This research contends that property rights should instead be understood as an integrated bundle of rights that encompasses ownership, access, use, and formal recognition.

Accordingly, this dissertation emphasises the need to revisit the concept and security of property rights within the discourse on development. Ample attention is given to the context of property rights, as these rights play a pivotal role in shaping the lives of communities in peri-urban areas (Lai, 2020). Understanding them requires a nuanced and multilayered perspective. The proposed framework facilitates a comprehensive evaluation of property rights while acknowledging how urban expansion influences their security. To understand how new town development shapes the sustainability of local communities, the research integrates theoretical insights on property rights with empirical examinations of displacement and spatial quality.

The three main impacts of new town development as mentioned above are further tested through statistical analysis to determine QoL outcomes moderated by geographical differences. Therefore, in this framework, geographical settings are a crucial contextual layer that interacts with both new town development (Brakman *et al.*, 2001) as a form of urban expansion and QoL. Positioned as a moderating factor in the conceptual model, geographical settings capture variations in physical landscapes, ecological conditions, socio-economic structures, and cultural characteristics across peri-urban areas. These contextual variations shape the consequences of development for QoL, in terms of property rights changes, displacement, and spatial quality. By situating the analysis within diverse geographical contexts, this study recognises the heterogeneity of development and ensures that the assessment of QoL is sensitive to place-specific conditions.

1.7.2. Research location

This dissertation examines three locations representing new town developments in Indonesia: Kota Baru Parahyangan in West Bandung Regency, Metro Tanjung Bunga in Makassar, and Kota Harapan Indah in Bekasi Regency. The

selection of these three locations aims to capture a more balanced and representative pattern of development across Indonesia, as these locations extend beyond Java Island, which has long been recognised as the primary locus of development over the past decades. While this diversification may raise questions about potential differences in the nature and implementation of urban planning in these regions, such considerations have been critically addressed in the research design. In the context of large-scale development, including new town projects, the regulatory framework is predominantly determined at the national level. Consequently, despite regional variations in planning practice and local governance dynamics, the overarching institutional and policy structures guiding large-scale development remain substantially centralised and standardised across locations.

These locations were selected based on their varied geographical settings in which large-scale land development predominantly occurs, particularly in peri-urban areas (Woltjer, 2014). These geographical differences contribute to variations in the socio-economic conditions of local communities. Additionally, the duration of development was considered in site selection to better understand its long-term impact. As Winarso and Firman (2002) note, large-scale developments often follow a gradual process, which may significantly influence the sustainability of local communities. The detailed characteristics of these new towns are presented in **Table 1.1**.

These three locations were analysed differently, depending on the specific research questions explored in each chapter.

1.7.3. Data collection

This study employed a mixed-method approach, with data collected from both primary and secondary sources. Primary data were obtained through field observations, interviews, and questionnaires, while secondary data were gathered through desk research (see **Table 1.2** for a summary).

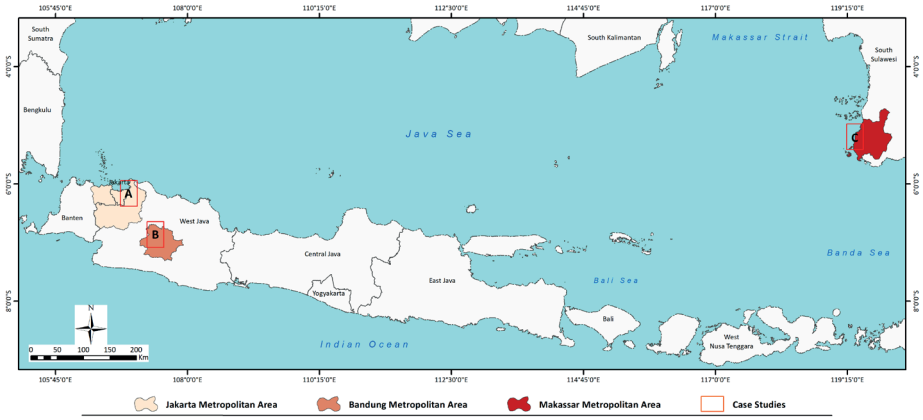








Figure 1.3 | Locations of the Three Case Study Areas: (A) Kota Harapan Indah, (B) Kota Baru Parahyangan, and (C) Metro Tanjung Bunga. *Source:* Pleiades satellite imagery, 2017.

Table 1.1 | Different Characteristics of the Three Locations. *Sources:* [a]Bureau Statistics of Bekasi city (2002); [b]R. A. Diningrat (2014); [c]West Bandung Regency Statistics (1996); [d]Megawati *et al.* (2014); [e]Bureau Statistics of Makassar city (1996); [f]Surya (2011).

No.	New Town	Metropolitan Area	Geographical Location	Livelihood	Year of Development	Area (Ha)	Developer
1	Kota Harapan Indah	Jakarta Metropolitan Area	Low land	Farmer and non-farmer[a]	2003[b]	1400[b]	PT Hasanah Damai Putra[b]
2	Kota Baru Parahyangan	Bandung Greater Area	High land	Farmer[c]	1997[d]	1250[d]	PT Belaputera Intiland[d]
3	Metro Tanjung Bunga	Mammimasata Metro-politan Area	Coastal area (Jeneberang Delta)	Fisherman and fish-pond farmer[e]	1997[f]	1200[f]	PT Gowa Makassar Tourism Development[f]

Table 1.2 | Data Collection, Chapter, Location, and Explanation.

Data Collection	Chapter	Location	Explanation
Interviews	Chapter 2	Metro Tanjung Bunga	Interviews were conducted with key respondents from the local community who experienced loss of land and property due to the establishment of the new town of MTB. The objective was to gain a deeper understanding of the livelihood changes and the impacts of development on these individuals. Respondents included village heads, leaders of community groups (*rukun warga*), and respected people from within the community. The evaluation considered five distinct phases of MTB's development, spanning from the period prior to development through to the post-development phase.
	Chapter 3	Kota Baru Parahyangan and Metro Tanjung Bunga	Kota Baru Parahyangan and Metro Tanjung Bunga Interviews were conducted with key actors across a total of 13 kampungs, comprising eight kampungs distributed among four villages in KBP and five kampungs located in three subdistricts of MTB. The purpose of involving these actors was to gain a deeper understanding of the impacts of development on the community both before and after the construction. The selected respondents were local community members who had initially inhabited or worked at the site of the new town development.
	Chapter 4	Kota Harapan Indah, Kota Baru	Interviews were conducted with key respondents, including local government officials, village heads, and leaders of community groups (*rukun warga*), to gather information on individuals whose land was

Data Collection	Chapter	Location	Explanation
		Parahyangan, Metro Tanjung Bunga	acquired as a result of the development.
Questionnaires	Chapter 2	Metro Tanjung Bunga	Data collection was conducted by deploying questionnaires to 75 respondents across five kampungs in the MTB area, utilising a purposive sampling method that targeted local community members who had lost land and property or were otherwise affected by the new town development. We considered the extended duration of development, up to 25 years, to fully comprehend the impacts of the development process.
	Chapter 3	Kota Baru Parahyangan and Metro Tanjung Bunga	Data were collected using a purposive sampling method at the household level. The respondents selected were local community members who initially inhabited or worked at the site of the new town development. Individuals meeting the criteria were then randomly selected to ensure that each person fulfilling the criteria had an equal opportunity to participate as a respondent. A total of 150 questionnaires were evenly distributed across each *kampung* in both locations of the new town development. However, in several kampungs, we encountered challenges in data collection due to security and privacy concerns. As a result, we included additional respondents from other *kampungs* to meet the minimum required number of participants.
	Chapter 4	Kota Baru Parahyangan, Metro Tanjung Bunga, and Kota Harapan Indah	Questionnaires were distributed door-to-door to local residents based on information from key respondents to gather data related to property rights. A total of 252 respondents were selected, comprising 80 respondents from Kota Harapan Indah, 95 respondents from Kota Baru Parahyangan, and 77 respondents from Metro Tanjung Bunga.
	Chapter 5	Kota Baru Parahyangan and Metro Tanjung Bunga	The assessment of spatial quality involved 3,444 households, while information regarding displacement, property rights, and QoL was gathered from 150 respondents affected by the new town development. The respondents were selected based on specific criteria: 1) they had to be adults (over 20 years old); 2) they had to have lived and/or worked in the new town development area prior to the development period; and 3) they had to have experienced one or more significant impacts of large-scale development, such as changes in property rights, displacement, or alterations in spatial quality.



1.8. RESEARCH DESIGN

This dissertation consists of six chapters based on three journal articles and one book chapter (i.e. Chapters 2-5), plus this introduction and the conclusion.

Chapter 1 paves the ground for this research by explaining the underlying motivations behind the research, including revisiting new towns as large-scale land developments in peri-urban Indonesia and the implications of these developments for local communities; discussing the core concepts of sustainability and QoL; identifying the research gaps; outlining central and sub-research questions; and explaining the research framework and data collection; and outlining the dissertation structure.

Chapter 2 addresses research question 1. This chapter attempts to capture to what extent a new town in Makassar (i.e., Metro Tanjung Bunga), as a form of large-scale land development, has impacted the sustainability of the local coastal community by measuring the level of QoL. A longitudinal study was performed to observe the dynamic QoL level of the community for 25 years, starting before the development up to the present. In addition, this chapter investigates the extent to which new town development has contributed to the Sustainable Development Goals (SDGs). The findings show that the coastal new town development has increasingly marginalised local communities, which in this case can be indicated as vulnerable groups in the urbanisation process. This situation can also be considered a challenge in realising the SDGs, specifically Goals 1 and 11 on poverty eradication and inclusive development for sustainable cities and communities.

Chapter 3 is linked to research question 2. The chapter compares the impact of new town developments on local communities in two peri-urban areas with different geographical characteristics: coastal and inland. The details of this section have an overlap with chapter 2 in terms of outlining a holistic QoL measurement. The discussion shows that, statistically, the two peri-urban areas have experienced significantly different development impacts: coastal peri-urban communities experienced a more significant decrease in their QoL than non-coastal peri-urban communities.

Chapter 4 investigates to what extent new town development in Indonesia has affected the property rights of local communities, in terms of the transformation of rights and their security level. Moreover, it examines to what extent this transformation has been affected by urbanisation pressure. Ample attention

is paid to the transformation of various bundles of rights concerning different usages of property, both residential and for cultivation. Besides promoting an alternative framework to assess the characteristics of property rights, particularly in terms of land development, the chapter also reveals that the transformation of local communities' property rights mainly concerns the appropriation rights. These rights refer to the authority to use and allocate property. The finding also indicates that there is a tendency for the security level to decrease, which statistically appears to be affected by urbanisation pressure variables: type of land, land use, and occupation.

Chapter 5 deals with the research question 4. It examines how the main impacts of new town development led by peri-urbanisation affect the QoL of local communities. It focuses on the attributes of the three main challenges of large-scale land development. The chapter shows that statistically, the type of displacement, socio-economic quality, and the level of property rights' security influence changes in local communities' QoL.

Chapter 6 synthesises the main research findings presented in the four articles and provides a general conclusion on how new town development in peri-urban areas influences the sustainability of local communities. It also outlines the contribution of this dissertation to global knowledge and development practice in peri-urban areas.

To conclude, **Table 1.3** links between each research question to the titles of the chapters and publications produced as part of this dissertation.

Table 1.3 | The chapter's overview and publications.

Research Question	Chapter	Title	Publication
N/A	Chapter 1	General Introduction	N/A
RQ1: How can the QoL framework be reformulated to comprehensively assess the sustainability of local communities affected by new town development?	Chapter 2	Towards a Sustainable Life of Local Communities in Coastal Cities: A Longitudinal Study of New Town Development in Makassar	Published as a book chapter in: *Routledge Handbook of Urban Indonesia*, 2023; https://doi.org/10.4324/9781003318170
RQ2: To what extent do geographical differences between peri-urban areas have significant consequences for the impact of new town development on local communities?	Chapter 3	Living on the Edge: Comparing the Quality of Life Transformation of Local Communities Induced by New Town Development in Different Peri-Urban Areas	Published in: *Sustainability*, 2022, 14(20), 13435; https://doi.org/10.3390/su142013435
RQ3: To what extent has new town development impacted the property rights of the local community?	Chapter 4	Transformation of Local People's Property Rights Induced by New Town Development (Case Studies in Peri-Urban Areas in Indonesia)	Published in: *Land*, 2020, 9(7), 236; https://doi.org/10.3390/land9070236
RQ4: How do changes in property rights, displacement, and transformations in spatial quality resulting from new town development influence the quality of life of local communities?	Chapter 5	Confronting Inequality: Linking the Impacts of Large-Scale Land Development to the Quality of Life of Local Communities in Peri-urban Area	Published in: *Habitat International*, 2025, 162, 103429; https://doi.org/10.1016/j.habitatint.2025.103429
Main RQ: How does new town development in peri-urban areas influence the sustainability of local communities?	Chapter 6	Conclusion	N/A

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Chapter 2

Towards Sustainable Life of Local Communities in Coastal Cities:

A Longitudinal Study of New Town Development in Makassar



2.1. BACKGROUND

As the largest archipelagic country with the second-longest coastline in the world (Loke *et al.*, 2009), it is not surprising that the progress of urban development in Indonesia cannot be separated from coastal cities. It is recorded that more than 70 percent of the big cities in Indonesia are coastal cities (Wibowo & Supriatna, 2011). Most of these cities have existed for centuries and developed into strategic areas, playing important roles as economic and political centres in the region.

As the only metropolitan city and the largest coastal city in the eastern part of Indonesia, Makassar City is experiencing rapid development pressure. Like many other cities, this development pressure has forced the development to expand to the periphery (McGee & Robinson, 1995). Consequently, this brings significant changes not only to the spatial morphology of the area but also to the social and economic situations of the local community (Mega, 2016). Due to the unique and complex characteristics of coastal areas with a combination of ocean and land ecosystems (Campbell & Marshall, 2006), they are susceptibly more vulnerable to development pressure and urban expansion compared to other areas, especially when development takes place on a large scale.

As a form of large-scale development, new towns are widely discovered in many urban outskirts in Indonesia to provide new residential space and stimulate new economic activities and growth (Diningrat, 2014; Firman, 2004b). The Metro Tanjung Bunga (MTB) development in Makassar City is an example of new town development in the Indonesian coastal area, which evidently has made a huge contribution to the economic growth in the area (Surya, 2014a-b). However, MTB development has also created crucial issues related to the sustainability of its coastal communities. These communities had been located there for decades before this new large-scale residential was developed. Their livelihood assets and activities are mostly related to the fishery and agricultural sectors. The development of MTB has forced many to shift their livelihood assets, potentially leading to significant consequences on their quality of life (QoL). This QoL has a strong capability to capture the level of their sustainable life because it accommodates not only the objective conditions of an individual or even groups but also the subjective ones (Das, 2008).

This chapter focuses on capturing to what extent the new town development of MTB has impacted the sustainability of local community life in coastal areas by measuring the level of their QoL. A longitudinal study was performed

to observe the dynamic QoL level of the local community for 25 years, starting before the development of MTB to recent days. The approach is useful to capture the living conditions of the community periodically. In addition, this chapter investigated the extent to which new town development has contributed to the Sustainable Development Goals, especially Goals 1 and 11, which respectively underline the inclusiveness of the development to potentially eradicate poverty as well as to promote the sustainability of the city and its community.

The next section of this chapter elaborates on the dynamics of coastal cities and their development dynamic. In response to this, the relationship between livelihood assets and QoL towards sustainability will be discussed in the third section. Afterwards, the fourth section illustrates the Makassar City profile through its urban transformation, including the Metro Tanjung Bunga (MTB) as its new town area. The fifth section explains the impact of the new town development on the sustainable life of the local coastal communities. This section provides both the livelihood assets and the QoL condition of the local communities due to the large urban development of MTB in several periods. The sixth section explains how the development of a new city has been linked to the Sustainable Development Goals 1 and 11, followed by the conclusions.

2.2. COASTAL CITIES DEVELOPMENT

Most of the world's megacities are located in the coastal zone (Neumann *et al.*, 2015), where 75 percent of the Southeast Asia population live along or within short distances to the coastal area (Yeung, 2001; Subramanian, 2012). These phenomena occur because many coastal cities offer attractive opportunities like the diversity of job alternatives not only related to maritime but also trade and commercial activities supported by shipping and port facilities. Hence most of the coastal cities worldwide play a significant role in socio-economic and political activities (Han & Yan 1999). Their strategic geographical location impacted the trade increases and communication accessibility that form coastal cities development.

However, intensive urban developments (e.g., large scale residentials and their supporting activities) in coastal areas tend to have more complex impacts because these areas are evidently more vulnerable than inland areas to certain meteorological-related disasters (Wijaya *et al.*, 2020; Miharja & Arsallia, 2017). This condition is further exacerbated by the increasing climate change effects, which

would create unprecedented challenges to the livelihood of the local communities (Heidkamp & Morrissey, 2019). Many studies have shown livelihood challenges faced by local communities in urban coastal areas, including loss of property rights, financial insecurity, increasing employment insecurity and underemployment, marginalisation and criminalisation of their livelihood, increased use of child labour and increasing gender imbalance (Campbell & Marshall, 2006).

2.3. LINKING LIVELIHOOD ASSETS TO QUALITY OF LIFE TO PROMOTE SUSTAINABLE DEVELOPMENT

In the context of sustainable development, quality of life (QoL) can be considered as a benchmark in determining livelihood that is potentially impacted or affected by area development (Sirgy, 2011). According to Pukeliene and Starkauskiene (2011), the QoL has multiple factors, including physical living standard (income, consumption, and wealth), health, education, peace of mind and safety (physical and mental). As argued by Massam (2002), QoL is also directly related to sustainability because it can express the level of sustainability of society as a whole. Empirically, the idea of QoL that emphasises the link between livelihood and human needs has been well explained by many scholars (see e.g. Oldenhuizing *et al.*, 2013; Sirgy, 2011; Costanza *et al.*, 2007). They define QoL as an assessment of individuals' ability to combine their fulfilment and satisfaction related to certain assets with human needs. Those assets can be defined as resources owned by individuals to meet their needs, and they can be categorised into social, financial, physical, human, and natural assets (Sirgy, 2011; Costanza *et al.*, 2007). Anielski (2007) clarifies that possessing those assets will improve people's quality of life. Some scholars (e.g. Costanza *et al.*, 2007; Sirgy, 2011; Estoque *et al.*, 2019) have specifically used the indicators of those five livelihood assets to assess the eight main components of QoL, which include education, environmental quality, income, housing, social bonds, health, employment, and civil and political freedom component, as illustrated in **Figure 2.1**. The better the condition of the livelihood assets, the easier it is for individuals to achieve sustainable conditions (Mulder *et al.*, 2006; Turkoglu, 2015).

QoL is often measured using objective and subjective approaches. The former is carried out based on norms or standards in measuring the fulfilment of individual needs (Das, 2008; Oldenhuizing *et al.*, 2013). These norms or standards can be measured by observing the targets of government regulation or policy

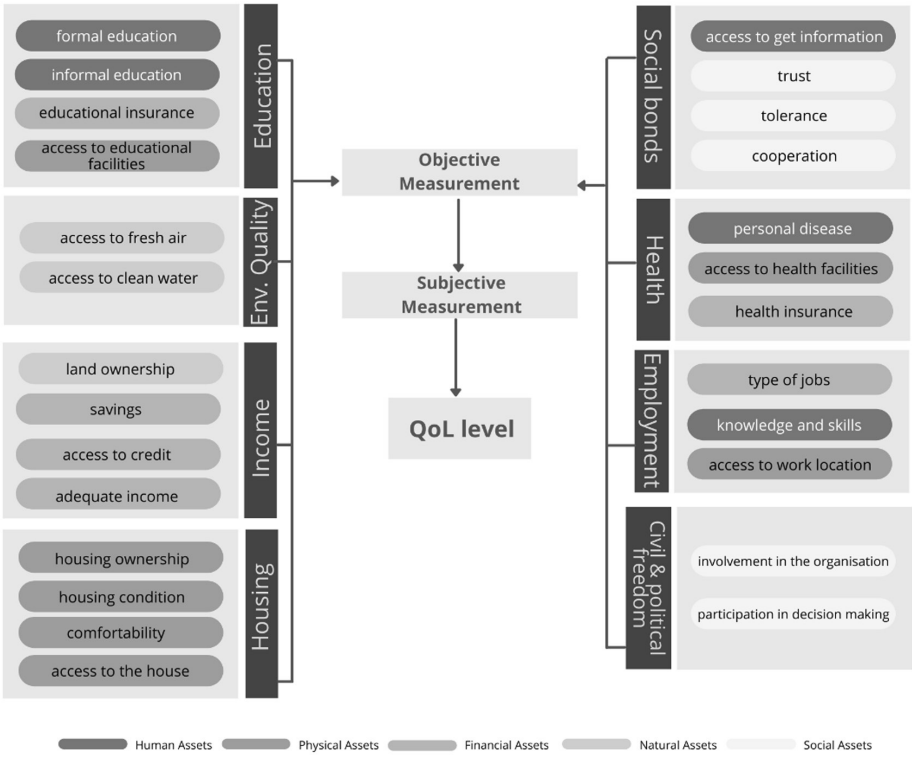


Figure 2.1 | Relationship between livelihood assets and quality of life.
Sources: Own elaboration based on Costanza *et al.* (2007); Sirgy (2011); Bhandari (2013); Estoque *et al.* (2019); Tesfazghi *et al.* (2010); Brinkerhoff *et al.* (1997); Streeten & Burki (1978); DFID (1999); Atkinson & Bourguignon (2000); Grasso & Canova (2007); Berhe *et al.* (2014)

in improving social services that have been achieved or certain empirical studies that look at social and economic conditions of the local communities; while the subjective measurement relies on individual's perceptions and opinions on their social and economic conditions (Lee, 2008; Santos *et al.*, 2007). This measurement gives freedom to individuals to assess their satisfaction with the fulfilment of their needs. The combination of the two types of indicators can offer more reliable and valid data on QoL. This study uses a simple dichotomous value (high and low) for the objective and subjective measurements and therefore the combination of the two measurements produces four types of QoL. Following the studies of Noll (2013) and Seik (2000) on the need for objective and subjective measurements, the four types of QoL can be labelled from the highest to the lowest level as well-being (high-high), dissonance (high-low), adaptation (low-high), and deprivation (low-low).

2.4. MAKASSAR CITY AND ITS SURROUNDING DEVELOPMENT: TRANSFORMATION OF THE URBAN AREA

Makassar is currently the largest coastal city in eastern Indonesia. Its development has a long history that cannot be separated from the colonial era (Ford 1993). Looking back to the early twentieth century, Makassar was one of the distribution centres of colonial cultural products and also the most important trading centre of Indigenous people that connects the area to the other regions in the west of *Nederlandsch-Indië* (former name of Indonesia under the Dutch colony), thanks to its morphology and geographical location (Antweiler, 2014; Knaap, 2006; Makkelo, 2018). The development of Fort Rotterdam as the vital port with a high level of trade activity at that time had strengthened the existence of the Makassar City. The increasing economic activity as the major impact of Fort Rotterdam existence has triggered people in lagging hinterland flocks to migrate to the coastal area of Makassar to improve their quality of life.

Furthermore, since Makassar was designed as the support area of Batavia City (Jakarta) as its trading partner in the east of *Nederlandsch-Indië* (Knaap, 2006), it began to undergo a spatial transformation. This was done by improving villages (*kampoongverbetering*) by rearranging the settlement areas and constructing modern infrastructures like canals and paved roads as well as public services and facilities like hospitals and schools (Makkelo, 2018). On 1 April 1906, the *Nederlandsch-Indië* government formed the city government council in Kampung Baru, which was located in the area of Losari Beach and Fort Rotterdam. But only in 1918, Makassar had its first mayor with the appointment of J. E. Dambrink by the *Nederlandsch-Indië* government. Not long after he was appointed, the main policy related to urban spatial planning, the *Bouw en wonverordening voor de Gemeente Makassar*, which regulates the city's building permit, was issued. The policy was then followed by the second regulation, which was issued in 1926 (Antweiler, 2014) to secure the trading and industrial activities in the city (*Hinderordonantie*). These policies were followed by increased accessibility with the construction of the Makassar-Takalar railway line that connects Makassar with its surrounding areas.

After the independence of Indonesia on 17 August 1945, the city continued to grow as a tourism destination and hub. For instance, the redevelopment of the Losari beach area, the POPSA headquarters (Water Ski Sports Association) in the city, triggered the growth of service trade activities in the city with the emergence

of modern shopping centres. In order to accommodate the rapid growth of the city, the *Ujung Pandang Plan*[1] was introduced in 1988, which can be considered as the embryo of a satellite town development in eastern Makassar. This area was originally a swampy rural area with a small population and was transformed by a private sector into a new activity centre area in Makassar equipped with basic infrastructure and a government centre (Makkelo, 2018).

Recently, Makassar City has become an essential part of the Mamminasata Metropolitan Area (MMA), consisting of Maros, Sungguminasa, and Takalar Regencies. As the largest metropolitan area in the eastern part of Indonesia, MMA has been formally recognised as one of the National Strategic Regions of Indonesia with the enactment of the Indonesian Presidential Regulation Number 18/2020. **Figure 2.2** shows how the built-up area in MMA has expanded in the last three decades.

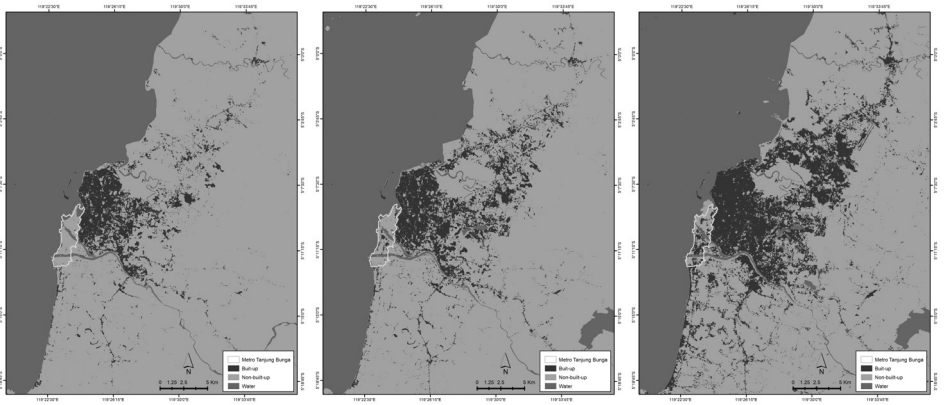
As the focal point of the development in MMA and even in the eastern part of Indonesia in general, Makassar City faces a huge demand for land to accommodate its growing population and activities. The MMA population reached 2.91 million people in 2020, and it is still expected to grow rapidly (Bureau Statistics of Makassar City, 2021). This has led to new developments and land conversions in its suburbs, including coastal areas, which sometimes take place on a large scale. One of them is the development of Metro Tanjung Bunga (MTB) new town located in the west part of the city (indicated with the white line in **Figure 2.2**).

The MTB area comprises two districts in Makassar City: Mariso and Tamalate Districts and Barombong District in Gowa Regency. The area is a part of the ecosystem of the Jeneberang delta, which was previously dominated by fishponds and swamps. The development of MTB was started in 1997 by a private developer, PT. Gowa Makassar Tourism Development (GMTD), through the concept of a waterfront city to support the economic activities of the main city. The development covers a total area of about 1,200 hectares, comprising mixed land-use patterns for residential areas, shopping centres, office buildings, theme parks, and recreational facilities (Annas & Rusnaedy, 2019; Surya, 2011; Yanti, 2002).

Back before the start of the development, the MTB area was dominated by the non-built-up area used mostly for fishery and agricultural activities. In 1995, this non-built area covered 75 percent or 899.8 hectares of the area, and in the following nine years, it decreased by 5.7 percent, accompanied by the increase in

1 Ujung Pandang was the name given to Makassar City from 1971 to 1999 by the Indonesian government due to political reasons.

built-up areas accounting for 11 percent (see **Table 2.1** for details). The water body in the area was also reduced due to reclamation at the west coast of Janebarang delta (**Figure 2.2 (b) and (c)**). These land-use changes also translated into changes in the local community's socio-economic activities, impacting their quality of life. More about the influence of MTB new town development on the local community's livelihood and quality of life, which comprise the sustainability of their livelihood, will be elaborated on in the next section.



(a) 1995 (b) 2006 (c) 2019

Figure 2.2 | Observed urban land use/cover changes in Mammimasata metropolitan area.
Source: Classified from Landsat imagery

Table 2.1 | Observed urban land use/cover changes in Metro Tanjung Bunga (ha).

Land use/cover	***1995–2006***	***2006–2019***
Built-up	129.70	202.37
Annual rate of change (ha/year)	11.79	15.57
Non-built-up	-68.90	-142.06
Annual rate of change (ha/year)	-6.26	-10.93
Water	-60.8	-60.3
Annual rate of change (ha/year)	-5.53	-4.64

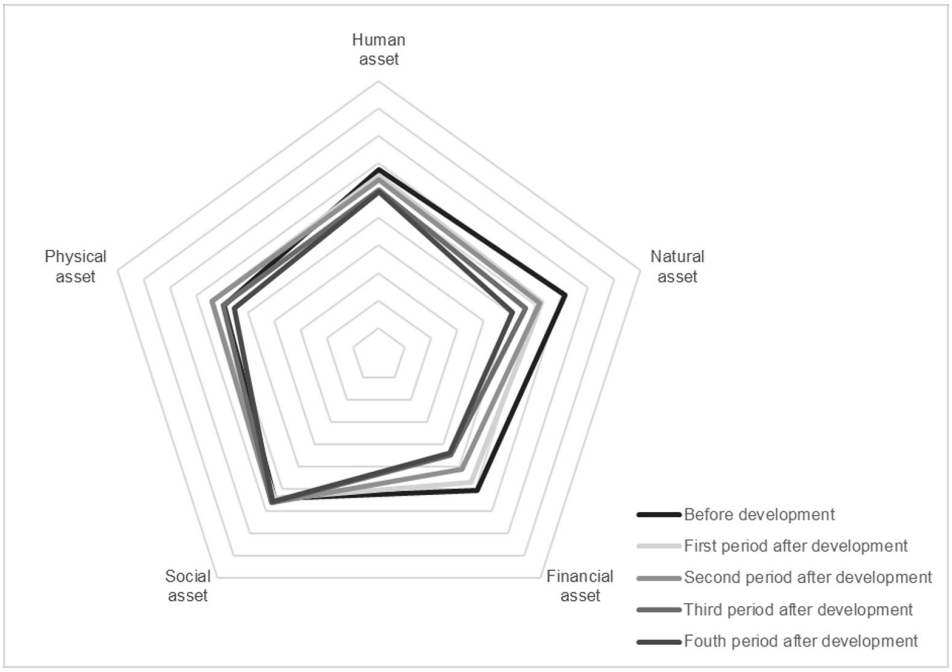
Source: Authors' analysis from the Landsat imagery extraction

2.5. IMPACT OF THE NEW TOWN DEVELOPMENT TO SUSTAINABLE LIFE OF LOCAL COMMUNITIES

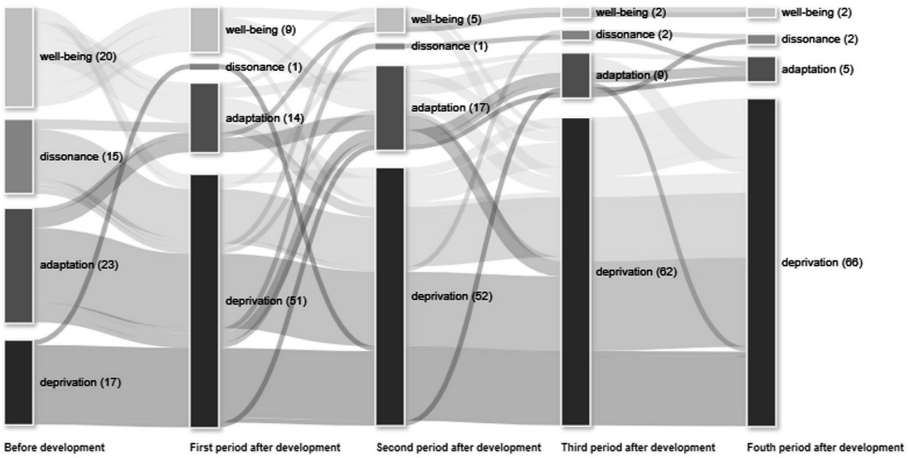
The penetration of new town development into urban outskirts certainly impacts regional spatial transformation, which could create problems for the local communities who have lived in the area for several decades. This situation was experienced by the residents who were affected by the MTB development on the western coast of Makassar City. Before the development, most of the local people depended on the coastal natural resources where they lived. They work in traditional fishing and rice farming activities (Surya, 2016). In order to analyse changes in the livelihood assets and the QoL level of the local community in the MTB area after the development of MTB, the research conducted a survey and interviews using the purposive sampling method targeting the local people who had lost their land and property due to the new town development. Both their objective and subjective livelihood conditions were evaluated during five different periods of the MTB development start from the period before the development until the period after the development, divided into four periods. In total, 75 respondents from five *kampungs* in the MTB area were involved in this research.

The findings can be summarised in **Figure 2.3**. The most prominent livelihood assets of local communities in the pre-development period were the natural assets. The natural assets commonly consist of three major components: land, water, and forest (Sati & Vangchhia, 2017), where resource flows and services for livelihoods are derived. Over the years, local communities in MTB have had diversified livelihood assets. Concerning their level of QoL, as shown in **Figure 2.3 (b)**, it was almost the same at each level before the new town development. About 50 percent of the local community are in the middle condition, with 30 percent of the local community being at the level of adaptation and 20 percent at the dissonance level. Furthermore, only 22 percent of respondents were at the deprivation level or the lowest QoL level. This situation indicates that before the new town development, the local community in the MTB area could still support their livelihoods with the natural assets they owned.

Meanwhile, in the first period after the MTB development process, the livelihood conditions of local communities had transformed with a decrease in their natural assets. This condition was caused by the land acquisition on local community property as a part of the new town development process (Pratomo *et al.*, 2020). The acquisition process led to a change or loss of their property rights, which was their main component for maintaining their livelihood. The low



(a) Livelihood assets



(b) QoL level

Figure 2.3 | Impact of MTB development on local communities.
Source: Authors

compensation as an integral part of the land acquisition process was also found to be a negative issue impacting the local community's life (Firman, 2004a). Although the compensation reinforces their financial capacity to buy new houses and other physical assets in the area of its surroundings (Tong *et al.*, 2018; Shaw

& Saharan, 2019), this condition is temporary, and most of the locals spend the compensation money for unproductive purposes (Shee & Maiti, 2018). The transformation of asset-related conditions clearly plays a central role in changing their QoL level. Based on **Figure 2.3 (b)**, almost 70 percent of the respondents were at the lowest QoL level in the category of deprivation. This condition is in line with the finding of Vento (2017), suggesting that although some cases of large development generate few economic benefits, it obviously causes social cost and environmental damages in its surroundings.

During the second period (five years after the first period), the financial assets of the local community were significantly declining while the other assets were still in the same condition as in the first period. The financial assets can be translated into people's ability to have savings, credit, formal/informal debt, remittances, pensions, wages and other financial means that are essential to pursue a livelihood strategy (Dehghani *et al.*, 2018; Yang *et al.*, 2018). The findings on the livelihood assets in the second period indicate that after five years of the new town development, the local community had not yet been able to restore their financial condition. The changes in livelihood assets were also followed by QoL levels. This period highlighted the increase in the number of people who were at the level of adaptation, and the narrow majority of them in the previous period were at the level of well-being (i.e. decreased of QoL) compared to the people who previously were at the level of deprivation (i.e. increased of QoL). This condition shows how the local community is increasingly struggling with the adaptation towards the changes of their environmental conditions from coastal rural areas to modern urban areas.

Then, in the third and fourth periods after development, the livelihood conditions of local communities tended to worsen. **Figure 2.3 (a)** shows that the local community's financial, human and physical assets have declined. The financial assets had declined the most, followed by the human assets, including skills, knowledge, ability to work, and good health (Sati & Vangchhia, 2017). The decline of the human assets can be attributed to the fact that the local communities are struggling to compete with the urban-characterised employment sector due to their limited skills and capacity to adapt to the changing of economic activities in the area (Saleh *et al.*, 2016).

Another interesting finding is related to the condition of the community's physical assets, which also appeared to decline in the last two periods. This situation could be explained by the fact that the local community usually tried to sell their physical assets or experienced secondary displacement as a consequence of

the decline of their financial assets (Nikuze *et al.*, 2019; Rijanta *et al.*, 2019). As in the previous periods, the changes in the local community's livelihood assets, as explained above, have also reflected on their QoL level. As shown in **Figure 2.3 (b)**, the increase in the number of respondents who had the worst QoL level remained to the third and fourth periods. In total, the evidence indicates that there was an increase in the category of deprivation of QoL, accounting for 65 percent.

2.6. NEW TOWN DEVELOPMENTS TOWARDS SUSTAINABLE DEVELOPMENT GOALS: BETWEEN HOPE AND REALITY

As indicated in the Sustainable Development Goals (SDGs), urban development should ensure the sustainability of people's livelihoods and quality of life (Porio, 2015). The concept of sustainable development is not a new idea. The SDGs are global initiatives that aim to improve human life in social and economic aspects and at the same time also synergise them with the environmental aspect. The environmental aspect has become important due to the limitation of natural resources, so that preservative measures are expected to guarantee the sustainability of future generations. In contrast to the Millennium Development Goals (MDGs), the SDGs explicitly accommodate development issues more comprehensively both with qualitative and quantitative measures and target the completion of their goals and objectives.

Learning from the previous experience with the MDGs, Indonesia is now trying to avoid delays in implementing the SDGs. This time, the Indonesian government has shown its seriousness in implementing the SDGs by transforming its national development agenda to include SDGs. Unfortunately, this transformative spirit still faces some challenges to achieve the SDGs before 2030, as agreed during the 2015 UN general assembly. Here, the chapter is also discussing those challenges in the context of large-scale urban developments in Makassar City, as explained before, especially to achieve SDG1 on poverty eradication and SDG11 on sustainable cities and communities.

Most of the new town developments were designed due to several advantages they offered. They particularly aim to extend housing and infrastructure availability and reduce spatial disparities in peri-urban areas (Firman & Dhar-

mapatni, 1994; Sujarto, 1993). Therefore, the development looks highly promising and is considered a solution for stimulating new economic, both in the area and also in its surrounding, which eventually could be expected to reduce poverty in general (Vento, 2017). However, some of the new town developments failed since they are seemingly intended only to revive the local economy temporarily, and they obviously cause social cost and environmental damage in the surroundings (Leitner & Sheppard 1998).

In the case of MTB, the new town has the potential to create economic growth for the surrounding area through the creation of new job opportunities, expanding market reach, creating new growth centres, and others (Hudalah & Firman, 2012; Otsuki *et al.*, 2016; Vento, 2017). However, similar to many other countries, most of the new towns in Indonesia are built only for upper-middle-income groups (Firman, 2004b). Their main aim in providing large-scale housing is apparently not inclusive. One of the reasons is that housing prices are not affordable for the local community, who are mainly considered a lower-middle-class group (Abubakar & Doan, 2017). As a result, this capitalist development makes the new town an exclusive area, where its existence is only enjoyed by the privileged few. Additionally, the development creates pressures on the land: property rights security change, through converting their usage in this area that also has consequences on local communities during the development process as well (Pratomo *et al.*, 2020; Sati & Vangchhia, 2017). During the process of land acquisition, they are threatened without proper compensation (Gong *et al.*, 2018), which eventually only positions them as marginalised communities in the development process (Gaman, 2022; Atdiwaluyo, 2022).

These negative aspects can be seen in MTB, Makassar City. The rapid development of the Makassar city, proven by the economic growth that reached 8.1 percent in 2019 and the existence of Makassar city as the primate city of the Mamminasata Metropolitan area, has encouraged massive urbanisation flows to the peri-urban areas. The new residential developments encourage spatial transformation for the new economic and social activities in the suburbs, one of which is in the MTB area. The MTB development has made the local communities more vulnerable, which can be recognised by the decrease of their livelihood assets and also the worsening of their QoL level, as shown earlier. Such a phenomenon occurs not only in the MTB area but also in other metropolitan areas in Indonesia and some other places worldwide (Pratomo *et al.*, 2020).

It means that the efforts and enthusiasm for realising SDG 11 could face some serious challenges in the context of large-scale developments, especially

in the peri-urban area. More specifically, two targets are relevant to new town development. First is Target 11.3 to strengthening inclusive and sustainable urbanisation, participation capacity, and planning for sustainable settlement management; and second is Target 11.a to support the positive integration between economic, social and environmental conditions among urban, peri-urban and rural areas as part of national and regional development plans. Unfortunately, these two targets have not been realised optimally in Makassar, especially in the case of MTB development. The reality is reflected by the condition of the affected local communities in peri-urban areas, which have suffered from many material and non-material losses during and after the new town's development. Some of them experienced eviction and lost their houses and/or jobs. The changes of livelihood assets and QoL level of the local community before and after development like in MTB can be an indication that the sustainability of the livelihoods of local communities, especially in coastal areas, can be threatened by the penetration of large-scale development.

Inclusive development, which does not only rely on physical and economic aspects of the development but also on social and ecological aspects (Gupta & Vegelin, 2016), cannot automatically be realised by the new town development. In the long term, the impact of this development noticeably could make local communities, especially those living in the coastal area as in MTB, trapped in the level of deprivation in the context of the QoL. The local community has been forced to change their livelihood assets which also has implications for the quality of their life. In addition, the change in the quality of life also seems to be supported by powerlessness, vulnerability, physical weaknesses and isolation. A similar case was also discovered by Chambers (1997). This condition reflects the inability of the communities to enjoy the result of development, which, in parallel, also shows how powerful the flow of capitalism goes with large-scale development to make the development exclusive.

The empirical evidence from this study also shows that the spirit of eradicating poverty which is mandated in SDG 1, seems to face serious challenges in the context of large-scale development. Some local people are forced to live below the poverty line after losing their property assets due to the large-scale development in their area. This can be seen from the fact that in 20 years after the MTB development, 65 percent of the respondents have experienced the decline of QoL to the worst level.

2.7. CONCLUSION

The growth and development of the coastal area, specifically as a process of peri-urbanisation, bring some positive contributions to improving the quality of new urban life for immigrants residing within the area. On the contrary, this development has varied impacts on the locals formerly living in the area. This chapter aims to capture the condition experienced by local communities due to the penetration of large-scale development in the coastal area of Makassar. The development of MTB as a new town encounters various challenges as development progresses from time to time. The supposed contribution to the regional economic growth has been challenged by some critical issues related to the living conditions of the local communities. These challenges can also be attributed to the coastal characteristic of the MTB area, which evidently creates certain dynamics and complexity to its development.

The findings show that the massive development of MTB has increasingly marginalised local communities, which in this case can be indicated as vulnerable groups in the urbanisation process. This indication can be seen from the fact that the MTB development has changed the living conditions of local coastal communities for the worse.

Ideally, development must be able to positively impact all levels of society in an inclusive manner, especially in improving their welfare. However, the development of MTB as a new town shows that some people are excluded from having this advantage which is also in line with some previous findings regarding the impact of the urbanisation process in Indonesia, especially those involving large-scale development in peri-urban areas. This situation can also be considered a challenge to realise the SDGs, specifically Goals 1 and 11 on poverty eradication and inclusive development towards sustainable cities and communities, respectively. Furthermore, these findings also give a better understanding of the importance of paying more attention to the development frameworks that could minimise the possibility for the local communities to be more marginalised, the one that promotes democratic, participative and multi-scalar processes.

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Chapter 3

Living on the Edge:

Comparing the Quality of Life Transformation of Local Communities Induced by the New Town Development in Different Peri-Urban Areas



ABSTRACT

Peri-urban development has both potential and consequences. It has consequences in terms of changes in the condition of livelihood assets and the quality of life (QoL) of local communities, while it has benefits because it generates new urban activities. In theory, these impacts vary in significance for peri-urban with diverse characteristics. Therefore, this research aims to investigate and compare the impact of new town development on local communities in various peri-urban areas. Ample attention is given to two new town development projects: Metro Tanjung Bunga (MTB) in a coastal area and Kota Baru Parahyangan (KBP) in an inland area of Indonesia. There were 150 respondents involved from 13 *kampungs* (enclaves). The research begins with a qualitative descriptive analysis to determine the impact of development and continues with a *t*-test to validate and compare the magnitude of the impact in two peri-urban areas. The findings show that the development of the new town has resulted in a decrease in livelihood assets and community QoL levels. An intriguing finding also demonstrates that the two peri-urban areas have significantly different development impacts: coastal peri-urban communities experienced a more significant decrease in QoL than non-coastal peri-urban communities. This research would enrich the discussions about peri-urban transformation, the effects of the process on local communities and the sustainability of these effects in developing countries.

Keywords: *transformation, livelihood assets, quality of life, peri-urban area, new town development, Indonesia*

3.1. INTRODUCTION

Peri-urban development has rapidly increased throughout the past decades. Principally, peri-urban areas refer to rural areas that develop significantly due to urban expansion (Allen, 2003; Webster, 2002). This phenomenon is marked not only by spatial transformation but also by changes in these areas' economic structure and shifts in people's activities from agriculture to non-agriculture (Rauws & De Roo, 2011; Woltjer, 2014; Bartels *et al.*, 2020). Chakrabarty (2000) and Abubakar and Doan (2017) explain that the lack of planning for several major cities in the long term, particularly in countries of the Global South, prevents these cities from containing the massive growth of population alongside their activities. Besides, peri-urbanisation is also triggered by large-scale investment flows for resource exploitation (Webster & Muller, 2002) and the implementation of government policies to expand economic growth (Zhao, 2013; Silva *et al.*, 2017). Since peri-urban areas are located in the transitional zone between urban and rural areas (Allen, 2003), they have unique and complex characteristics in terms of land use.

Globally, the characteristics of peri-urban areas demonstrate differences between those in developed and developing countries (Woltjer, 2014). Peri-urban areas in developed countries are often linked to issues such as economic competition on a global scale, urban welfare, regionalisation processes and an increasingly urban population coupled with a decline in the rural population, while peri-urban areas in developing countries are more closely related to the urbanisation of the rural population and population growth (Rauws & De Roo, 2011). Many studies about peri-urbanisation in developing countries indicate that urban expansion occurs in coastal, e.g., Guo and Bhat (2004), Dwyer (2015), and Wu *et al.* (2013), and inland areas, e.g., Webster (2004) and Hudalah *et al.* (2010), where local people rely on economic activities based on land resources, such as agriculture and fishery (Octifanny & Hudalah, 2017; Pravitasari *et al.*, 2018). The expansion and manifestation of the development taking place in peri-urban areas could lead to shifting aspects of life for locals. This not only has implications for regional development benefits for these areas but also creates considerable challenges. According to the findings of Wu *et al.* (2013) and Narain and Nischal (2007), the process of peri-urbanisation demon-trates differing impacts on locals living in different areas. Moreover, both coastal and non-coastal areas have different regional characteristics, which would give differing magnitudes of development impacts, even when the drivers are similar (Webster, 2002). As noted by Zhen *et*

al. (2014), these implications encourage us to look at the differing impacts that probably exist from different perspectives: in terms of responses, capability, livelihood, and the shifting lifestyle of locals following the development (Zoomers *et al.*, 2017).

As noted by UN-Habitat (2018), large-scale urban development mostly takes place in peri-urban areas, which found that 74% of these developments occur in such areas. The emergence of new town development as one of the large-scale forms of development in peri-urban areas is expected not only to become an alternative solution to reducing the gap between the city centre and peri-urban areas but also to encourage regional economic growth, providing urban facilities, infrastructure and job opportunities. The International New Town Institute (2011) notes that 60% of new towns are developed in the Global South, mostly in Asia and Africa. Scholars have categorised new towns based on various characteristics. In terms of economic self-containment (Abubakar & Doan, 2010; Golany, 1976; Sujarto, 1995), new towns can be dependent or independent. Typically, differing development focuses lead to different challenges, as found by Webster and Muller (2002) and Guy and Henneberry (2000).

In most cases, locals have experienced some challenges and consequences as a result of new town development (Vanclay, 2017; Zoomers & Otsuki, 2017). It is not uncommon to see large-scale land development performed in the interests of one segment of the population (i.e., the elite) (Winarso *et al.*, 2015). In the initial stage, the development evidently changes land and property rights, which are central assets of local communities (D'Amour *et al.*, 2017; Koirala *et al.*, 2017; Li *et al.*, 2018a; Pratomo *et al.*, 2020). The need for land forces locals to move to other locations (Cernea, 1997; Wilmsen & Webber, 2015) and affects their livelihoods, either temporarily or permanently (Vanclay, 2017). Some researchers argue that large-scale development offering compensation for these assets has not managed to prevent people from becoming poor (Vanclay, 2017; Messerschmidt, 2009; Kusiluka *et al.*, 2011). Along with the loss of assets, which are the sources of locals' livelihoods, most people also experience socio-economic impacts (Cernea, 1997; Wilmsen & Webber, 2015) that can potentially affect the sustainability of their lives.

Fundamentally, sustainability can be linked to or even inseparable from the quality of life (QoL) because it represents the fulfilment and satisfaction of individuals' or a community's human needs. In terms of sustainability, QoL can explain to what extent individuals or a community can maintain and improve their capability to meet their daily needs (Sirgy, 2011). Moreover, QoL can also

serve as the basis for creating and maintaining sustainability through the implementation of development (Turkoglu, 2015). However, this has become a concern, since development generally occurs by exploiting environmental re-sources that could spoil people's QoL and hamper the achievement of development objectives. Moreover, QoL can also reflect the degree of inclusiveness of development (Pouw & Gupta, 2017). Through inclusive planning, the development is expected to guarantee that people would not lose the assets on which their livelihoods are based and to reduce poverty (Scheyvens & Biddolph, 2018).

Countless studies have discussed the consequences of peri-urban development, including large-scale projects such as new towns (Zoomers & otsuke, 2017; Kusiluka *et al.*, 2011; Wang *et al.*, 2010). However, they provide limited evidence on the consequences of this kind of development for peri-urban areas with different characteristics (Wu *et al.*, 2013), which should theoretically entail different responses and impacts (Zoomers & Otsuki, 2017; Borras & Franco, 2013). Scholars, particularly those studying socio-economic development, have only partially focused on the impact of a development on community access to livelihood components—also known as capitals—such as financial capital, natural capital, social capital, human capital, and physical capital. Capital overall is what makes up the QoL component, which reflects human needs (Costanza *et al.*, 2007). The fulfilment and satisfaction of these components express the sustainability of life. Furthermore, only a few studies have attempted to capture the QoL of specific urban areas (Narain & Nischal, 2007) and migrants (Sari & Winarso, 2007). Nonetheless, they have ignored the local community, which is the party most affected by peri-urban development (Zoomers & Otsuki, 2017).

Taking the aforementioned issues as the research gap and the point of departure for the study, this research aims to investigate the extent to which there are differences in the livelihood assets and also the QoL of the local communities living in two different peri-urban new town developments that have different geographic and socio-economic characteristics. It focuses on comparing the consequences of large-scale development in coastal and in inland areas. This research is intended to contribute to ongoing discussions regarding peri-urban transformation and its consequences for local communities and the sustainability of their lives, especially in developing countries. Several steps structure this paper. After this introduction which provides the research background and explains the urgency and contribution of the paper, the next section will provide a discussion of the peri-urban areas development in developing countries. This discussion is important to provide an understanding of new town development as the centre of

activities in these areas and define QoL in social-economic development. Afterwards, the data collection, evaluation, and analysis techniques are discussed in the methods sections in addition to the characteristics of the selected new towns and their communities and sampling techniques. It is followed by a description of the results in **Section 3.4**. In **Section 3.5**, the discussion is provided to reflect on the research findings and relates them to the literature review. This paper ends with conclusions and recommendations for further research in **Section 3.6**.

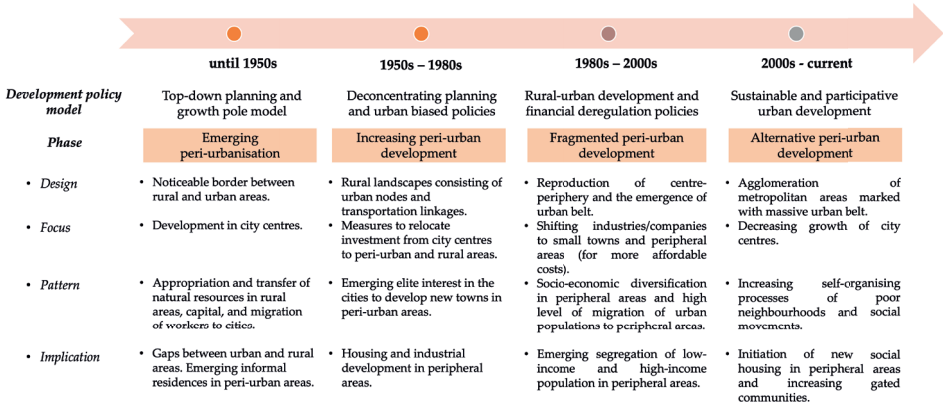
3.2. LITERATURE REVIEW

3.2.1. The evolvement of peri-urban areas in developing countries

In recent decades, several studies have implicitly and explicitly discussed peri-urban-related issues. Peripheral (Cirolia, 2014) and rural areas (McGee, 2009; Adell, 1999) have been conceptualised as transitional zones joining urban and rural areas (Rakod & Lloyd-Jones, 2002). Instead of defining such areas based on administrative boundaries, peri-urban areas are more reliably defined as functional areas that emphasise the connection and interaction between natural resources (Tacoli, 1998). In many cases (Webster, 2002; Woltjer, 2014), peri-urban transformation processes have slowly taken place in terms of physical, economic and social aspects. Physically these areas could be distinguished based on their settlement patterns, land use types, land values, population density, infrastructure supply and other factors (Mbiba & Huchzermeyer, 2002). Thus, several experts see these areas not only as places but also as processes (Narain & Nischal, 2007; Narain, 2009; Brook *et al.*, 2003).

Understanding peri-urban areas as both places and dynamic processes make it possible to look at the development processes that occur in these areas over time (Rauws & De Roo, 2011). This could provide an idea of the characteristics of peri-urban development, especially that which is widely taking place in the Global South. The dichotomy between rural and urban areas was around until the 1950s (Adell, 1999; Rojas-Caldelas *et al.*, 2010). Back then, urban and rural characteristics were clearly seen (Rojas-Caldelas *et al.*, 2010). However, along with globalisation and changes in public policy, the difference between the two started to fade away. In the following period (the 1950s–1980s), rapid urbanisation and the expansion of urban areas to peripheral areas became more noticeable due to housing and industrial development (Rauws & De Roo, 2011). This was stimulated by foreign capital investment and public policy, which contributed to

the development of activity and commercial, transportation and technology innovation centres (Webster, 2002; Rauws & De Roo, 2011; McGee & Robinson, 1995). During the phase of fragmented peri-urban development, characteristics of an urban belt located between urban and rural areas surfaced. In this period, socio-economic society in peri-urban areas was divided between haves and have-nots. To date, peri-urban areas have been growing. Since the 2000s, metropolitan areas drastically increased, in line with city centres' declining development. During this period, massive, luxurious gated housing developments were also apparent (Rauws & De Roo, 2011). In addition, Coy *et al.* (2018) explain that peri-urban development could become unpredictable due to its independent and unique way of progressing. A summary of peri-urban development phases is presented in **Figure 3.1**.



	until 1950s	1950s – 1980s	1980s – 2000s	2000s - current
Development policy model	Top-down planning and growth pole model	Deconcentrating planning and urban biased policies	Rural-urban development and financial deregulation policies	Sustainable and participative urban development
Phase	Emerging peri-urbanisation	Increasing peri-urban development	Fragmented peri-urban development	Alternative peri-urban development
• *Design*	• Noticeable border between rural and urban areas.	• Rural landscapes consisting of urban nodes and transportation linkages.	• Reproduction of centre-periphery and the emergence of urban belt.	• Agglomeration of metropolitan areas marked with massive urban belt.
• *Focus*	• Development in city centres.	• Measures to relocate investment from city centres to peri-urban and rural areas.	• Shifting industries/companies to small towns and peripheral areas (for more affordable costs).	• Decreasing growth of city centres.
• *Pattern*	• Appropriation and transfer of natural resources in rural areas, capital, and migration of workers to cities.	• Emerging elite interest in the cities to develop new towns in peri-urban areas.	• Socio-economic diversification in peripheral areas and high level of migration of urban populations to peripheral areas.	• Increasing self-organising processes of poor neighbourhoods and social movements.
• *Implication*	• Gaps between urban and rural areas. Emerging informal residences in peri-urban areas.	• Housing and industrial development in peripheral areas.	• Emerging segregation of low-income and high-income population in peripheral areas.	• Initiation of new social housing in peripheral areas and increasing gated communities.

Figure 3.1 | Stages of development of peri-urban areas.
Source: Elaborated from Adell (1999); Coy *et al.* (2018); Douglass (1998); Firman (2017); Rauws & De Roo (2011); Rondinelli (1986)

Peri-urbanisation often takes place in specific locations. In some cases, peri-urban development takes place in coastal areas, like in developing countries in eastern Asia. Locations include cities such as Shanghai and Guangzhou in China (Wu *et al.*, 2013; Fan, 2008), Bangkok in Thailand and several urban regions in Malaysia, the Philippines and Indonesia (Webster, 2002). Peri-urbanisation is also apparent in highland areas located further away from coastal areas, such as Swiss areas and urban areas in Athens, Greece (Conedera *et al.*, 2015; Mallnis *et al.*, 2014). Besides, this process is obvious in the agglomeration of urban areas such as Huancayo Metropolitan and mountainous towns in Peru (Haller, 2014) and even in peri-urban areas in arid regions such as Greater Cairo, Egypt (Salem *et al.*, 2020).

In the case of Indonesia, the development of peri-urban areas often takes place in primary towns or agglomerations of growing towns, mostly along the coastal areas whose community members work in fishery. But in some cases, it can also be found in inland areas that are dominated by agricultural activities. This condition is inextricable from the fact that Indonesia, as an archipelagic state, has 70% of its big cities located in coastal areas (Wibowo & Supriatna, 2011) and 33.2% of its land used for agriculture (World Bank, 2022). Another study also discovered that most agricultural land sits in peripheral areas (Pribadi *et al.*, 2018).

The characteristics of people living along the coast and inland have different implications for peri-urban development. Development has not only spatial but also social and economic consequences (Mega, 2016; Pratomo *et al.*, 2021), such as changes in the community's quality of life and livelihoods (Mandere *et al.*, 2010; Pratomo *et al.*, 2022b). The geographical and sociological characteristics of the community can hypothetically be deemed triggers for various development impacts. Geographically, coastal areas are the first to see large-scale foreign investment, making coastal development dynamics more complex than those of inland areas with a much more limited peri-urbanisation process (Webster, 2002; Drechsel *et al.*, 1999). In addition, it is assumed that coastal communities are poorer than inland communities (Crawford & Pollnac, 1999). This is due to differences in perceptions of living standards, ecological conditions and geographic isolation, which causes coastal communities to have a lower level of development than inland communities (Crawford & Pollnac, 1999).

The penetration of physical, social or economic development in peri-urban areas is deemed to have led to both opportunities and problems that accompany modernisation (Hudalah *et al.*, 2007). The problems are triggered by weak development policies, bad governance and poorly planned land use (Legates & Hudalah, 2014). Consequently, issues such as social inequality, a lack of urban infrastructure (Legates & Hudalah, 2014; Abramson, 2006) and environmental problems are surfacing (Simon, 2008).

3.2.2. New town development: Solutions for providing new urban activities in peri-urban areas?

New town development is not a new phenomenon regarding the expansion of urban activities. This kind of development is seen as a form of urban development (Golany, 1976; Cervero, 1995; Lau, 2010; Jim, 2012) and, in some cases, also a form of urban redevelopment (Fong, 1985; Chen *et al.*, 2009; Anwar

& Viqar, 2014). According to its economic self-containment, a new town can be categorised into two types of towns: dependent and independent. The former is primarily intended to back up the town centre (Firman, 2017; Simmons, 1979). This kind of town is developed uniformly to accommodate a large population and many infrastructural services (Cirolia, 2014; Oyedele *et al.*, 2010; Chatterjee & Chatterjee, 2015). It is also planned close to the primary city (Jun, 2012; Rumbach, 2014; Wang *et al.*, 2017), which sees high numbers of commuters (Wang *et al.*, 2010; Rumbach, 2014) and depends on services and facilities in the main city (Chatterjee & Chatterjee, 2015). Meanwhile, the independent town is relatively self-sufficient economically, socially and physically (Gulany, 1976). It allows for mixed-used and integrated space utilisation outside the administrative area of the primary city (Abubakar & Doan, 2017; Insa-Ciriza, 2012), provides extensive job opportunities (Borges & Torres, 2012) and prevents commuter traffic from extending to the main city centre (Lee & Shin, 2012). Practically, in several cases, the independent town also serves an administrative function (Abubakar & Doan, 2017); Sujarto, 1993; Bloom *et al.*, 2021), such as a new national capital city. Putrajaya Malaysia (Omar, 2006), Brasilia (Browder & Godfrey, 1990) and several new African cities—Abuja, Dodoma, Gaborone and Lilongwe (Abubakar & Doan, 2017)—are examples.

Although in its implementation, new town development is often found in urban areas, such as Manhattan (Golany, 1976), Multicentro in Bogota (Thomas & Bregón, 1979), Wujin in Changzhou city (Chen *et al.*, 2015) and Sadra Town in Iran (Ghasrodashti *et al.*, 2017), it looks more promising when it takes place in peri-urban areas. These areas provide extensive and cheap land, have a high investment potential and are supported by abundant natural resources and cheap labour, making this kind of large-scale development very suitable (Woltjer, 2014). Besides, new town development will also open up new growth centres, reducing the economic gap between the city centre and its suburbs. However, some experts have pointed out that new town expansion failed to generate new economic activities, especially for local communities, because of its temporary nature. New town developments have been increasingly popular in developed countries in Europe and North America since the mid-1970s (Güneralp *et al.*, 2020). This trend has also reached countries in the Global South, including Indonesia (Sujarto, 1993).

In Indonesia's case, new town development is no longer a new phenomenon, as it has taken place since independence. Ford (1993) explains that this kind of development began in 1950 with the project Kebayoran Baru and became more massive in the late 1980s. Among practices of town development in Indonesia, the

development of satellite and new independent towns is more common. Kartiwa (2016) found that 40 new towns were developed from 1990 to 2010, with 22 new towns following in the next decade. Of these, 70% were located on the outskirts of the Jakarta Metropolitan Area. Moreover, the Indonesian government currently plans to relocate the national capital city, which will be a new town, to Penajam Paser Utara and Kutai Kartanegara in East Kalimantan. This indicates that there is decentralisation in the development of new metropolitan areas in Indonesia.

New town development in Indonesia has evidently contributed positively to the development of spatial structures, bringing new growth to new areas and reducing the burden on main city centres (Firman, 2004b). Regarding investment, the economic value of land near a new town location increases by more than 100% (Diningrat, 2015). For example, Bumi Serpong Damai (BSD) has managed to stimulate a tertiary economy involving industrialisation (Sari & Winarso, 2007) followed by trade and services, contributing 70% of regional revenues (Apriyanto *et al.*, 2015). Meanwhile, new town development integrated with other activities can provide jobs, leading to higher monthly incomes. This can contribute to the fulfilment of human needs, as seen in BSD (Sari & Winarso, 2007) and Bukit Semarang Baru (Sukarsa & Rudiarto, 2014). Further, public facilities' availability means locals have access to services, minimising the physical and economic gap between peri-urban areas and the main city.

Although new town development in peri-urban areas leads to opportunities for the development of regions, it also has consequences for local people who depend on economic activities that rely on land resources, such as agriculture and fishery (Octifanny & Hudalah, 2017; Pravitasari *et al.*, 2018). At a basic level, this kind of large-scale development evidently has changed land and property rights, which are central assets in local people's lives. The transformation of these rights has caused locals to lose their livelihood assets, which not only impacted their income (Zhen *et al.*, 2014; Saito, 2012; Huu, 2015) but also their living conditions (Craglia *et al.*, 2004; Shameem *et al.*, 2014), environmental quality (Abramson, 2006; Keles, 2012; Kõrreveski, 2011) and even interactions and social life (Sari & Winarso, 2007; Iyer *et al.*, 2012), among other impacts (Bhandari, 2013). All of these potentially have different effects on their QoL. Therefore, as mentioned in **Section 3.1**, this study conducts a detailed investigation of the magnitude of the impact of new town development on the QoL of local communities.

3.2.3. Measuring quality of life in socio-economic development

The concept of quality of life has been defined in different ways. This notion

has expanded in various directions into the fields of environment, development, urbanisation and marketing studies, among many others. Despite these varied perspectives, Sirgy (2011) has succeeded in establishing an understanding of QoL according to six different theoretical perspectives: economic development, personal utility, justice, human development, sustainability and functioning. The first is regarded as being able to explain QoL since it does not only focus on the physical improvement of the areas but also on the improvement of economic and social conditions. The economic aspect is inextricable from the social one, both of which are closely related to establishing each individual's welfare (Warren *et al.*, 2001). Welfare is determined by the extent to which people manage to control or create opportunities to meet their needs through the ownership and utilisation of assets (Anielski, 2007; Mella & Gazzola, 2017).



Figure 3.2 | Components of quality of life.
Sources: Constructed from Atkinson & Bourguignon (2000); Grasso & Canova (2007); Sirgy (2011); Streeten & Burki (1978)

QoL is constructed by a set of components closely related to the standard of living, or each individual's welfare (see **Figure 3.2** for details). From an economic perspective, the components of QoL consist of income, employment and housing. All these components are generally used to assess welfare (Kenny, 2005). Income and employment are evidence of individuals' economic productivity, and

this productivity can be further utilised to meet other needs. Homeownership not only reflects the social status of an individual (Johansson, 2002) but also represents that individual's level of welfare (Tesfazghi *et al.*, 2010). Moreover, these days, buying a house is not a simple matter, as prices are rocketing while housing is among an individual's primary needs. This situation highlights the status of individuals. From another perspective, health and education make up a social aspect of QoL. Human resources are needed to enhance economic productivity and individual interaction (Grasso & Canova, 2007). Likewise, a social perspective represents a connection between individuals and their neighbourhood or other society members. A higher level of interaction with and a higher position and more participation of an individual in society will improve their life quality. Thus, social bonds and political freedom should also be considered as QoL components (Costanza *et al.*, 2007). On the other hand, Keles (2012) asserts that the QoL is closely connected to the presence of resources required to support economic activities. Good environmental quality is also related to people's health, which is fundamental in social activities (Kõrreveski, 2011).

In general terms, QoL can be evaluated through interactions between livelihood assets and human needs (**Figure 3.3**). Livelihood assets, also known as opportunities (Costanza *et al.*, 2007), include natural, social, financial, human and physical capital. Each represents environmental and natural resources conditions, relationships and interactions between people, financial resources, human resources and infrastructure. These assets are a central element in meeting the needs of both individuals and groups. It should be noted that each of the eight-component assets of QoL represents a focal set of human needs. These eight defined components can be turned into several indicators to be used as the basic standard to assess the fulfilment of human needs and satisfaction, representing objective and subjective measurements (Estoque *et al.*, 2019), in much of the literature also known as objective and subjective QoL (Tesfazghi *et al.*, 2010; Berhe *et al.*, 2014; Das, 2008). The former is carried out based on norms or standards in measuring individual needs' fulfilment (Das, 2008; Oldenhuizing *et al.*, 2013). These norms or standards can refer to regulation, government policy or certain studies' results. On the contrary, a subjective QoL relies on individual perceptions and opinions (Santos *et al.*, 2007; Lee, 2008). This approach provides freedom for individuals to assess their satisfaction regarding their needs in life. Although they can provide more information about individual conditions (Olson & Schober, 1993), in some cases the different responses given by each individual make it difficult for researchers to conclude (Sirgy *et al.*, 2006). There-

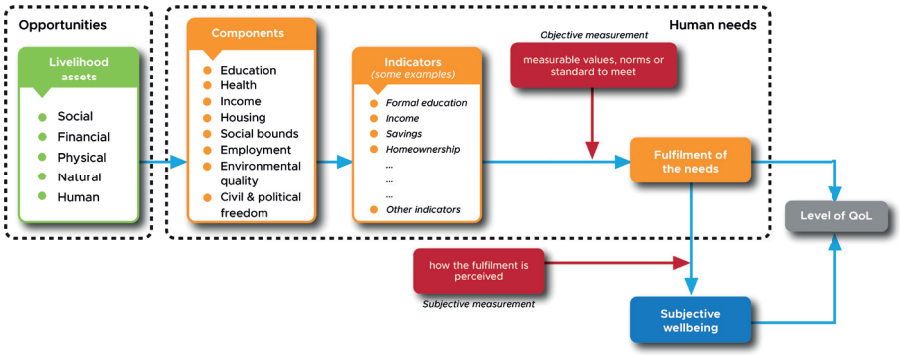


Figure 3.3 | Interaction among livelihood assets and quality of life in the context of socio-economic development.
Source: Structured from Costanza *et al.* (2007); Estoque *et al.* (2019); Olson & Schober (1993); Sirgy (2011).

fore, the combination of objective and subjective measurements helps describe the level of QoL more reliably.

Although scholars have classified QoL positions into well-being, deprivation, dissonance and adaptation (Olson & Schober, 1993; Zapf, 1984), there are limitations in the literature regarding the order of these QoL levels. Evaluating each position's rank is necessary to see the composition of the welfare level of individuals or groups experiencing development impacts. Seik (2000) explains that objective—and not subjective—QoL should be the main consideration when assessing QoL. This idea certainly emerged due to the existence of more reliable measurements to assess human needs. In line with this opinion, Noll (2013) also stresses that subjective QoL is not sufficient for explaining the welfare conditions of an individual and group in a representative way because it is based on perception only. By following these considerations, the overall QoL level sequence is well-being, dissonance, adaptation and deprivation (**Figure 3.4**).

The highest level exists when an individual or group lives in optimal conditions to fulfil and satisfy their human needs. Deprivation, on the other hand, occurs when the individual or a group is in the worst condition and the fulfilment and satisfaction of their human needs are at the lowest level (Seik, 2000). Adaptation and dissonance are considered 'middle' conditions (Olson & Schober, 1993; Seik, 2000), but dissonance is deemed as ranking above adaptation because it is qualified to fulfil needs according to the minimum standard of living, although with a low level of satisfaction. This is also known as the dissatisfaction dilemma (Olson & Schober, 1993). Considering the adaptation, those who are at this level must try to accept and be satisfied with how their needs are fulfilled,

even though this is not followed by the standard of a fulfilling life. Therefore, the level of adaptation is considered pre-prosperous, as is deprivation.

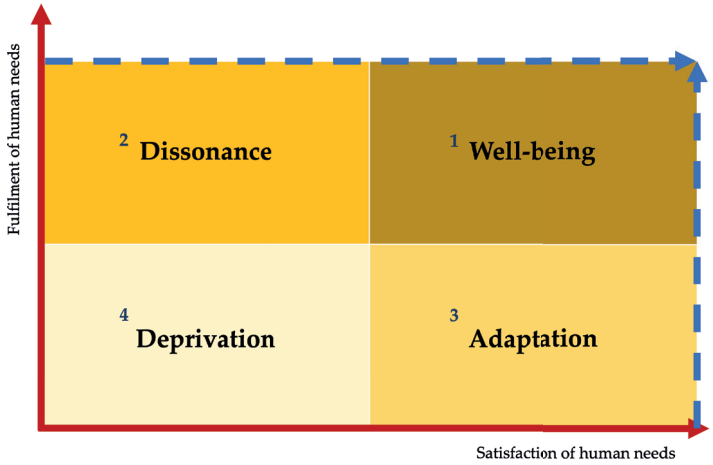


Figure 3.4 | Classification of levels of quality of life.
Source: Constructed from Seik (2000); Noll (2013).

Table 3.1 | Indicators of quality of life.

Education: formal education, access to informal education, educational insurance, access to educational facilities	**Civil and political freedom:** involvement in organisations, active in decision-making
Health: personal disease, health insurance, access to health facilities	**Social bonds:** trust, tolerance, cooperation, access to information
Income: adequate income, savings, access to credit, landownership	**Employment:** type of jobs, knowledge and skills, access to work location
Housing: homeownership, housing condition, comfort, access to the house	**Environmental quality:** access to fresh air, access to clean water

Sources: Elaborated from Berhe *et al.* (2014); Bhandari (2013); Brinkerhoff *et al.* (1997); Costanza *et al.* (2007); DFID (1999); Tesfazghi *et al.* (2010)

3.3. MATERIALS AND METHODS

3.3.1. Research location

This research was conducted in two new town development locations in peri-urban areas in Indonesia: Kota Baru Parahyangan (KBP) and Metro Tanjung Bunga (MTB). The former town was developed by PT [*Perseroan Terbatas*] Belaputera Intiland (Lyman Group) in 1997 with a total designed area of 1,250 ha. KBP is categorised as a self-sufficient town. It provides not only residential space but also social and public infrastructure at the urban scale (Megawati *et al.*, 2014). Meanwhile, MTB—which was planned as a satellite town—was set up on top of land extending to 1,200 ha in 1996 (Surya, 2011). This town was designed as a mixed-use and integrated area to support the Mamimasata Metropolitan area (Surya *et al.*, 2020a). Because of its location in a coastal area, developer PT Gowa Makassar Tourism Development has been acquiring ponds and swamp areas throughout its development, which were the sources of livelihood for fishers and pond farmers in this location.

Since this research is concerned with the consequences of the new town development process for the sustainability of communities, data collection focused on the *kampungs* (enclaves) around the development location. These *kampungs* are dispersed and existed long before the penetration of urban development. Thus, local communities affected by the new town development sought refuge in these *kampungs*, which became the centre of their activities (Tunas & Peresthu, 2010). Based on the interpretation of a 1993 aerial photo and 2017 Pleiades satellite images, which was then confirmed with the result of interviews with key actors, a total of 13 *kampungs* were located, with eight *kampungs* spread across four villages in KBP and five *kampungs* in three subdistricts of MTB (see **Table 3.2**). The distribution of *kampungs* in the research locations is shown in **Figure 3.5**.

3.3.2. Sampling

Data were collected using the purposive sampling method at the household level. This method, also referred to as an expert or judgemental sample (Battaglia, 2008), was selected because we needed detailed and more in-depth information related to this research's object. For this method, researchers' knowledge and capability when determining and exploring information are central. The respondents selected were local communities that initially inhabited or worked at the new town development site. Those individuals who conformed to the criteria

were then randomly selected so that each individual fulfilling the criteria had an equal opportunity to become a respondent. This purposive method—traditionally associated with a small sample (Battaglia, 2008; Acharya *et al.*, 2013)—has a limitation caused by its subjectivity (Henry, 1990), which may trigger a bias in research data, as explained by Barratt & Lenton (2015). To minimise this weakness, we decided to increase the number of respondents involved. Klar and Leeper (2019) argue that the addition of data can sharpen and improve the reliability of research data, whereas Etikan (2016) and Rivera (2019) claim that the minimum number of respondents should be at least 30 if data is to be confidently employed for parametric statistical tests.

A total of 150 questionnaires were designed to be distributed evenly in each *kampung* from October to December 2019. However, in several *kampungs*, we encountered difficulties in collecting data due to security and privacy concerns. As a consequence, we added respondents from other *kampungs* to meet the minimum number of respondents required. The respondents' distribution is presented in **Table 3.2** and **Figure 3.5**.

Generally, prior to the development, the majority of respondents who lived around the KBP location worked in agriculture, as landowners (65%), farmers (30%) and others (5%). With the influence of rural activities being strong, their average income is below the minimum regional income (UMR) (55%). Meanwhile, in different locations, local MTB communities have livelihoods as fishermen (48%), fish-pond farmers (42%) and others (10%). Similar to the welfare

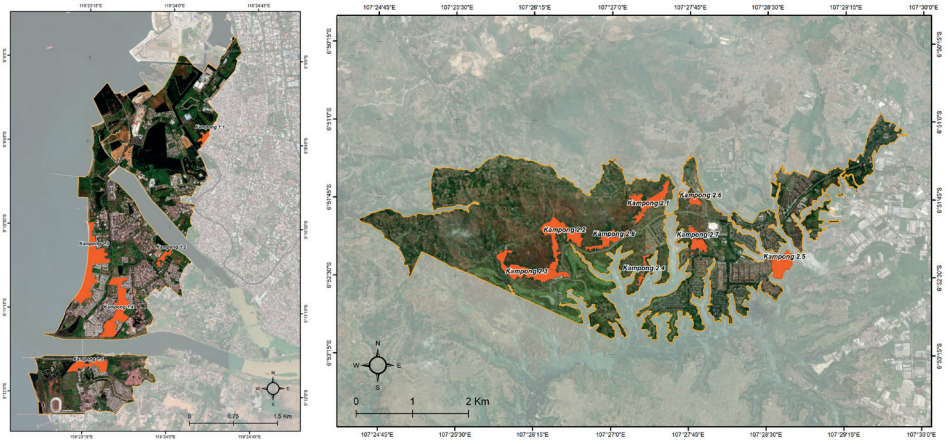


Figure 3.5 | Distribution of *kampungs* in (a) Metro Tanjung Bunga and (b) Kota Baru Parahyangan.

Table 3.2 | Distribution of respondents in MTB and KBP.

Metro Tanjung Bunga		
Kampung	**Location**	**Number of respondents**
Kampung 1.1	RW 1 Kelurahan Bontorannu & RW 4, 6, 7 Kelurahan Maccini Sombala	15
Kampung 1.2	RW 1, 2, and 7 Kelurahan Tanjung Merdeka	16
Kampung 1.3	RW 5 and 6 Kelurahan Tanjung Merdeka	16
Kampung 1.4	RW 4 Kelurahan Tanjung Merdeka	14
Kampung 1.5	RW 10 Kelurahan Barombong	14
	Total	**75**

Kota Baru Parahyangan		
Kampung	**Location**	**Number of respondents**
Kampung 2.1	RW 2 Desa Bojonghaleuang	9
Kampung 2.2	RW 7 Desa Bojonghaleuang	10
Kampung 2.3	RW 3 and 4 Desa Cikande	9
Kampung 2.4	RW 3 and 4 Desa Bojonghaleuang	9
Kampung 2.5	RW 10 Desa Cipeundeuy	9
Kampung 2.6	RW 19 Desa Kertajaya	10
Kampung 2.7	RW 20 Desa Kertajaya	9
Kampung 2.8	RW 5 and 6 Desa Bojonghaleuang	10
	Total	**75**

level of other coastal communities in Indonesia (Rahmad *et al.*, 2017), as many as 60% of respondents have an income below the UMR.

3.3.3. Evaluation of data survey

We evaluated the data survey by performing some statistical procedures to check the data's validity and reliability. Factor analysis was applied to determine the factor structure pertaining to the QoL indicators. This analysis validates research instruments by structuring indicators or research items (Cooper & Schindler, 2006). Following Hair *et al.* (2010) and Ghozali (2008), the observed data should first have a factor loading of more than 0.50 so that it is considered to have strong validity to describe the latent construct (in this case the QoL component).

Table 3.3 | Factor analysis and Cronbach Alpha Test.

No.	QoL indicators	Factor loading
1	**Education (α = 0.772, 0.721)**	
	1. Educational insurance	0.692
	2. Access to informal education	0.668
	3. Access to educational facilities	0.641
	4. Formal education	0.634
2	**Health (α = 0.762, 0.721)**	
	1. Access to health facilities	0.742
	2. Personal disease	0.738
	3. Health insurance	0.713
3	**Income (α = 0.921, 0.834)**	**0.931**
	1. Adequate income	0.931
	2. Savings	0.771
4	**Housing (= 0.962, 0.819)**	
	1. Homeownership	0.907
	2. Housing condition	0.811
	3. Comfort	0.782
5	**Social bonds (α = 0.711, 0.729)**	
	1. Cooperation	0.807
	2. Access to information	0.748
	3. Trust	0.709
6	**Employment (α = 0.732, 0.729)**	
	1. Type of jobs	0.801
	2. Access to work location	0.732
	3. Knowledge to work	0.705
7	**Environmental quality (α = 0.764, 0.726)**	
	1. Access to clean water	0.767
	2. Access to fresh air	0.741
8	**Civil and political freedom (α = 0.771, 0.763)**	
	1. Active in decision-making	0.793
	2. Involvement in organisations	0.711

Note: (α = Cronbach alpha of objective; subjective)

The result from 26 indicators shows that they were loaded into eight components and that as many as four indicators corrupt the factor structure with values below the minimum threshold. They were taken out of the survey, and the most acceptable factor structure was achieved, as presented in **Table 3.3**.

Furthermore, a reliability test was performed by investigating the Cronbach Alpha (α) value to measure the internal consistency of a test or scale (Streiner, 2003). The test was carried out on 22 indicators of objective and subjective QoL. **Table 3.3** shows that most reliability coefficients (α) are over 70%, which means that this data displays an adequate reliability value (Green *et al.*, 1977; Spector, 1992; Vaske, 2008). The highest value coefficients (α), found in income and housing are over 90%, reflecting excellent reliability.

3.3.4. Measuring transformation of livelihood assets and QoL level

The analysis performed in this research began with the measurement of the livelihood asset level and the assessment of local people's level of QoL in two different locations, MTB and KBP, before and after the penetration of development. Following Koenig (2001), after-development conditions represent the phase after land acquisition for the new town development. Through this analysis, we can gain insights into the effects of the new town development on local people's livelihood assets and QoL. As an initial stage, the measurement of livelihoods' assets involved the following steps:

1. Setting indicators of livelihood assets: natural, financial, social, human and physical assets, according to the literature review conducted.
2. Scoring livelihood assets and classifying scores of the assets. The score for each indicator ranges from 1 to 6, where ≤ 3.0 is categorised as bad and > 3.0 is categorised as good.

Furthermore, QoL assessment was carried out by considering both objective and subjective evaluation. The steps that need to be taken to analyse the QoL level are as follows:

1. Determining the indicators used to assess QoL in both an objective and a subjective manner. Eight QoL indicators were used, formed by 22 indicators. These indicators came from five livelihood assets: natural, financial, social, human and physical assets.
2. Classifying the average total value of the objective and the subjective QoL. If both values were in the range of 3.1–6.0, they were considered good. Conversely, if the subjective and objective values were ≤ 3.0, they were considered bad.

3. Determining the level of QoL. The classifications are as follows:
    - If both subjective and objective scores were > 3.0, QoL was classified as well-being;
    - If the subjective score was ≤ 3.0 but the objective score was > 3.0, QoL was classified as dissonance;
    - If the subjective score was > 3.0 but the objective score was ≤ 3.0, QoL was classified as adaptation;
    - If both subjective and objective scores were ≤ 3.0, QoL is classified as deprivation.

3.3.5. Assessing differences in impacts of new town development on local communities in different peri-urban areas

The scoring of the differences in new town development impacts on local people was carried out in two different peri-urban areas with different characteristics: coastal and inland areas. Scoring was performed by using statistic testing to obtain transformation scores of livelihood assets, objective and subjective QoL and overall QoL. This testing began with a normality test for the entire data to determine their distribution. Oktaviani and Notobroto (2014) state that normality testing is conducted to reduce inconsistent statistical decisions. The testing indicated that only the QoL variable was not normally distributed, with a *p*-value < 0.05. However, following the central limit theorem which implies that when the data sample is higher (> 30 or 40), the distribution will approach normal (Mordkoff, n.d.; Ghasemii & Zahediasl, 2012; Piovesana & Senior, 2018), we decided to apply the same difference testing method in the following step.

The difference testing investigates the value of livelihood asset transformation and the QoL level of local communities between two research locations. The method used was the *t*-test, because this testing method is considered useful for identifying significant differences between two variables and can determine the influences of variable behaviour (Kim, 2015). This method is relevant for data with normal distribution. Although the QoL variable was not normally distributed in the previous data distribution, a *t*-test could still be carried out (Kim & Park, 2019)because of the large sample size. This statistic testing was divided into two. First, a dependent paired *t*-test was done to score average differences in paired variables of livelihood asset and QoL before and after the development in each new town location. Second, an independent *t*-test was carried out to score the average of two independent variables of the transformation of livelihood asset and overall QoL before and after the development in MTB and KBP.

3.4. RESULTS

3.4.1. Assessing the condition of livelihood assets

Large-scale development such as new towns in peri-urban areas obviously has an influence on the socio-economic conditions of the locals that have long resided in these areas. These consequences are reflected in their livelihood assets in different dimensions (i.e., social, financial, physical, natural and human). This phenomenon is also encountered by 150 locals in MTB and KBP. **Figure 3.6** shows that prior to the development, average livelihood assets were similar, accounting for a score over 3.0. This number indicates that locals' average livelihood assets were deemed to be good. The average value of physical assets of the locals was still deemed to be the lowest in both MTB and KBP, accounting for 2.78 and 3.34, respectively.

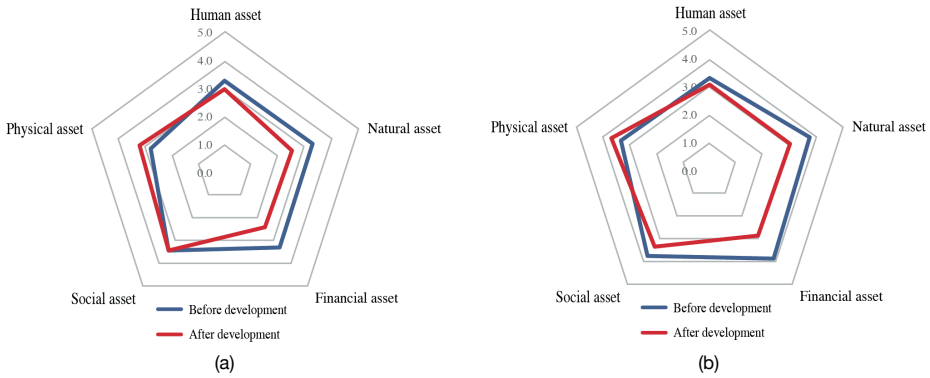


Figure 3.6 | Livelihood assets in (a) Metro Tanjung Bunga and (b) Kota Baru Parahyangan.

However, after the new town developments, the livelihood assets of the locals showed some evident changes, which were primarily triggered by the land acquisition process following the development, resulting in the decreasing value of almost all livelihood assets except the physical ones. Financial and natural assets were significantly affected by development. **Figure 3.6** shows that the average financial asset value experienced a decrease to a score of as little as 0.86 and 0.98 in MTB and KBP, respectively. On the other hand, the average value of the natural asset fell to 0.77 in both locations. This decrease represents the main consequence of the land acquisition, which took the lands of the locals, while the decrease in the financial asset is indicated by the change in jobs, decreasing income and decreasing savings and educational insurance. On the other hand, development in the areas seems to have positively influenced physical assets in

both locations, accounting for an increase of 0.43 in MTB and 0.35 in KBP following development.

3.4.2. Assessing the quality of life of local people

According to **Figure 3.7**, before the development, the average value of the objective QoL was higher than the average based on subjective measurement. However, the average value of both measurements was more than 3.0, representing the basic value of fulfilment and satisfaction of human needs. In both locations, the objective QoL components with the highest value were income, social bonds and employment. In KBP, however, social bonds and civil and political freedom had a subjective QoL value that was higher than the objective one. Meanwhile, after the development, similar to what has taken place for most locals' livelihood assets, the value of both types of QoL decreased, especially the objective QoL. Significant falls are evident in three components: income, employment and environmental conditions, with an average decrease of 0.3 to 1.0 in MTB and KBP. These decreases are more significant than for the other five components, which decreased by less than 0.2 in the same locations. For the subjective QoL, a significant decrease is apparent in employment and environmental conditions in both MTB and KBP, accounting for 0.4 to 0.8, respectively. This result shows that employment and environmental conditions are two components significantly affected by new town development, either subjectively or objectively.

In terms of each component of QoL, **Figure 3.7** indicates that both locations experienced different impacts, either subjectively or objectively. The component value of social bonds given by the respondents in MTB is the highest,

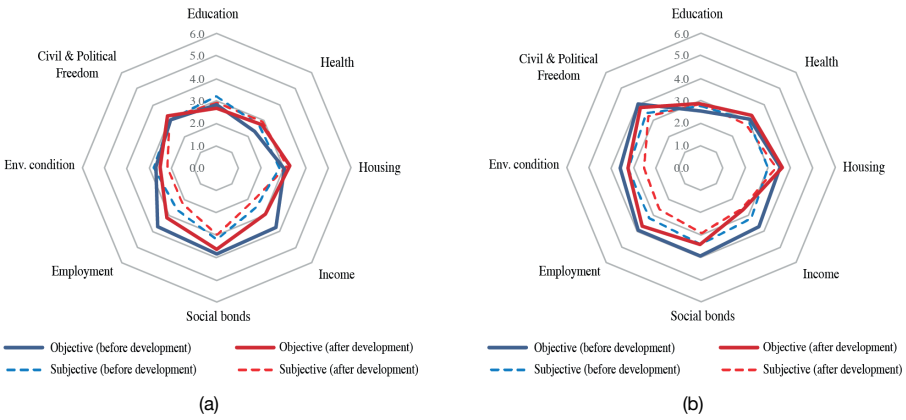


Figure 3.7 | Objective and subjective QoL of local communities in (a) Metro Tanjung Bunga and (b) Kota Baru Parahyangan.

meaning that people have strong interactions with others, influencing their livelihoods. In KBP, respondents assigned the highest value to the civil component and political freedom, meaning people are actively involved in organisational activities. Furthermore, housing and health improved after the development, by 0.1 to 0.4 in the two locations. Furthermore, income and employment have the lowest value in both subjective and objective scopes: 55% of respondents are not satisfied with their income because their salary is lower than the minimum regional income, which further impacts the fulfilment of their daily needs.

The combination of objective and subjective QoL certainly affects the overall QoL level. **Figure 3.8** indicates that the difference between the four levels of QoL of locals in MTB following the new town development is not more than 10%, indicating that the initial condition of the people was diverse because they had their own strategies to fulfil their needs and manage their assets. Unlike in MTB, before the development, the well-being level in KBP was higher than the other three QoL levels. Evidence shows that 39% of respondents experienced well-being, while the other levels were merely at about 18–23%. The results show that more than 54% of the respondents could fulfil their human needs before the development of MTB and KBP.

Meanwhile, after the development, more than 62% of respondents in MTB and KBP experienced decreases in overall QoL level, most dropping to the deprivation level. In KBP, the most frequent decreases were at the well-being (36%) and dissonance levels (82%), whereas in MTB, the lowest QoL level was present for 80% of respondents who were originally at the dissonance level and 85% of respondents at the adaptation level (**Figure 3.8**). All evidence also underlines that adaptation and deprivation dominate the overall QoL level in both research locations due to the development.

3.4.3. Impact of new town development in the different peri-urban areas on quality-of-life transformation

3.4.3.1. Dependent paired *t*-test

A paired *t*-test was performed to statistically determine the significance of the impacts of new town development on locals in the peri-urban areas. This test result represents the major change in locals' livelihood assets and QoL before and after the new town development. **Table 3.4** shows that the average value of livelihood assets, objective and subjective QoL and overall QoL level in both locations show a significant discrepancy before and after the development, where the *p*-value is below 0.05. In addition, this discrepancy indicates a decrease in each

variable's value after the development.

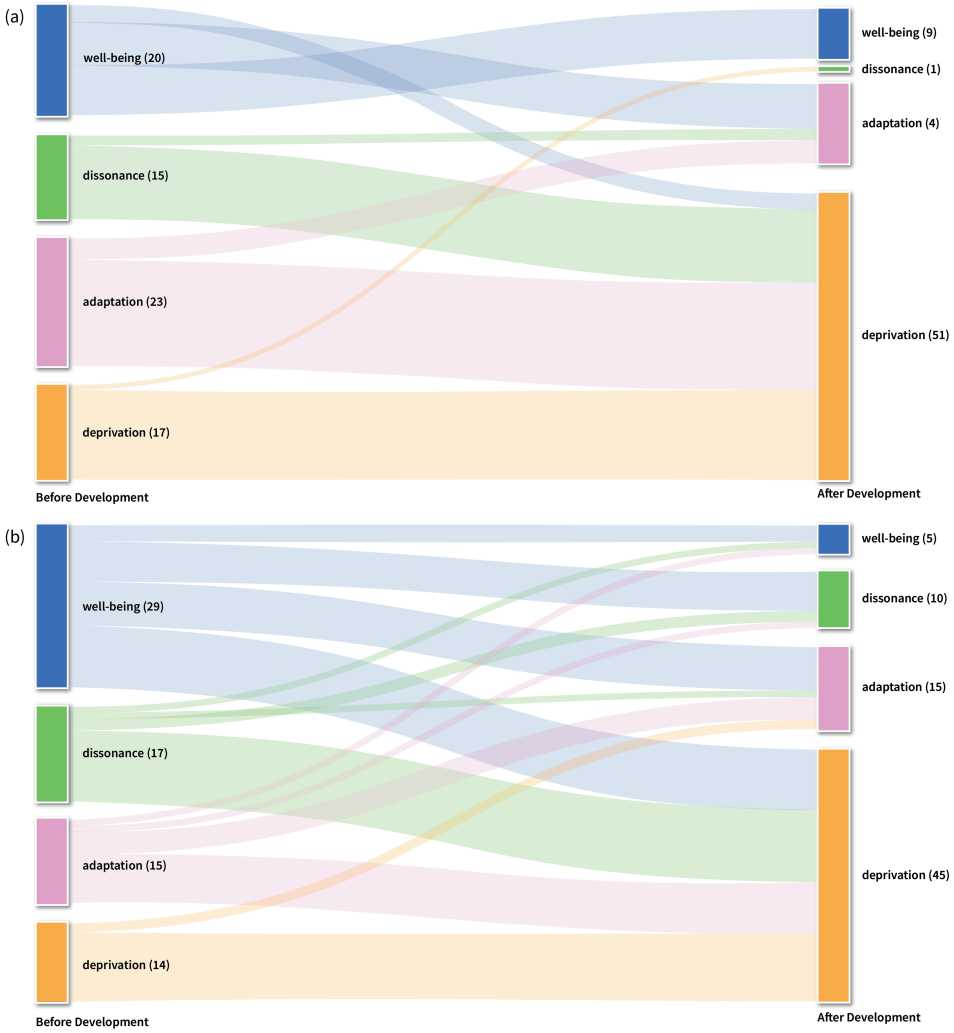


Figure 3.8 | Overall QoL transformation of local communities in (a) Metro Tanjung Bunga and (b) Kota Baru Parahyangan.

Table 3.4 also shows that the most marked decrease is in the overall QoL level variable, with an average decrease of 0.6 in MTB and KBP after the development, followed by the livelihood asset at 0.4 and the objective and subjective QoL of 0.2 and 0.3, respectively. These numbers confirm that new town development has remarkably affected the condition of locals' livelihood assets and QoL.

Table 3.4 | Dependent paired t-test for livelihood assets and QoL level.

Variables	Before development		After development		p-value	Result
	Mean	Std. deviation	Mean	Std. devation		
Livelihood assets						
MTB	2.88	± 0.49	2.45	± 0.38	<0.001*	Significant
KBP	3.06	± 0.58	2.61	± 0.62	<0.001*	Significant
Objective QoL						
MTB	2.83	± 0.44	2.46	± 0.36	<0.001*	Significant
KBP	3.07	± 0.51	2.78	± 0.57	<0.001*	Significant
Subjective QoL						
MTB	3.08	± 0.41	2.72	± 0.38	<0.001*	Significant
KBP	3.21	± 0.56	2.98	± 0.53	<0.001*	Significant
Overall QoL						
MTB	2.51	± 1.11	1.60	± 1.01	<0.001*	Significant
KBP	2.53	± 1.15	2.11	± 1.14	<0.001*	Significant

*p-value <0.05

Table 3.5 | Independent t-test for livelihood assets and QoL level.

Variables	Transformation		p-value	Result
	Mean	Std. deviation		
Livelihood asset				
MTB	-0.43	± 0.26	0.6316	Not significant
KBP	-0.46	± 0.38		
Objective QoL				
MTB	-0.36	± 0.27	0.518	Not significant
KBP	-0.29	± 0.33		
Subjective QoL				
MTB	-0.36	± 0.31	0.002*	Signficant
KBP	-0.23	± 0.20		
Overall QoL				
MTB	-0.91	± 1.04	0.001*	Significant
KBP	-0.43	± 0.74		

*p-value <0.05

3.4.3.2. Independent *t*-test

The characteristics of peri-urban areas differing from the development areas in MTB and KBP certainly leave implications on different levels of impact in new town development. **Table 3.5** shows significant differences between subjective QoL conditions and overall QoL level in MTB and KBP, with a *p*-value < 0.05, while the average value of livelihood assets and objective QoL shows no marked difference in the respondents in both locations. The results of this statistic test show that the subjective QoL decreases significantly to about 0.36 in MTB and 0.23 in KBP. Another significant difference in decreasing values is also apparent in the average value of the overall QoL level, accounting for 0.91 in MTB and 0.43 in KBP for the average decreasing value of the QoL level. This shows that this significant difference in the impacts on the overall QoL level in both peri-urban locations is primarily affected by the subjective QoL.

Visually, the difference in the impact of the new town development taking place in these two peri-urban areas can be seen in **Figure 3.9**. All four plots show the difference in changing conditions before and after new town development in MTB and KBP. In general, livelihood assets and objective and subjective QoL have a relatively shorter boxplot than the overall QoL. This indicates that the change in locals' livelihood assets and an objective and subjective QoL have values that are relatively identical to the change in the overall QoL level.

Furthermore, as shown in **Figure 3.9 (a) and (b)**, although respondents in the two locations reside in several *kampungs*, the median variables of livelihood assets and objective QoL are not significantly different. **Figure 3.9 (c) and (d)** shows a significant difference in the average value of the change in subjective QoL and overall QoL. The boxplots in the two locations are not identical to the median value. At a closer look, the boxplot in KBP is relatively shorter, with shorter upper and lower whiskers than that of MTB. This explains that the varied values representing the conditions of the locals in KBP are more emphasised on certain values: ranging from -1 to 0. In KBP, however, the transformation of overall QoL in MTB has a longer boxplot and longer upper and lower whisker. Data distribution of the respondents tends to be more varied, where 50% is in the range of -2 and 0.

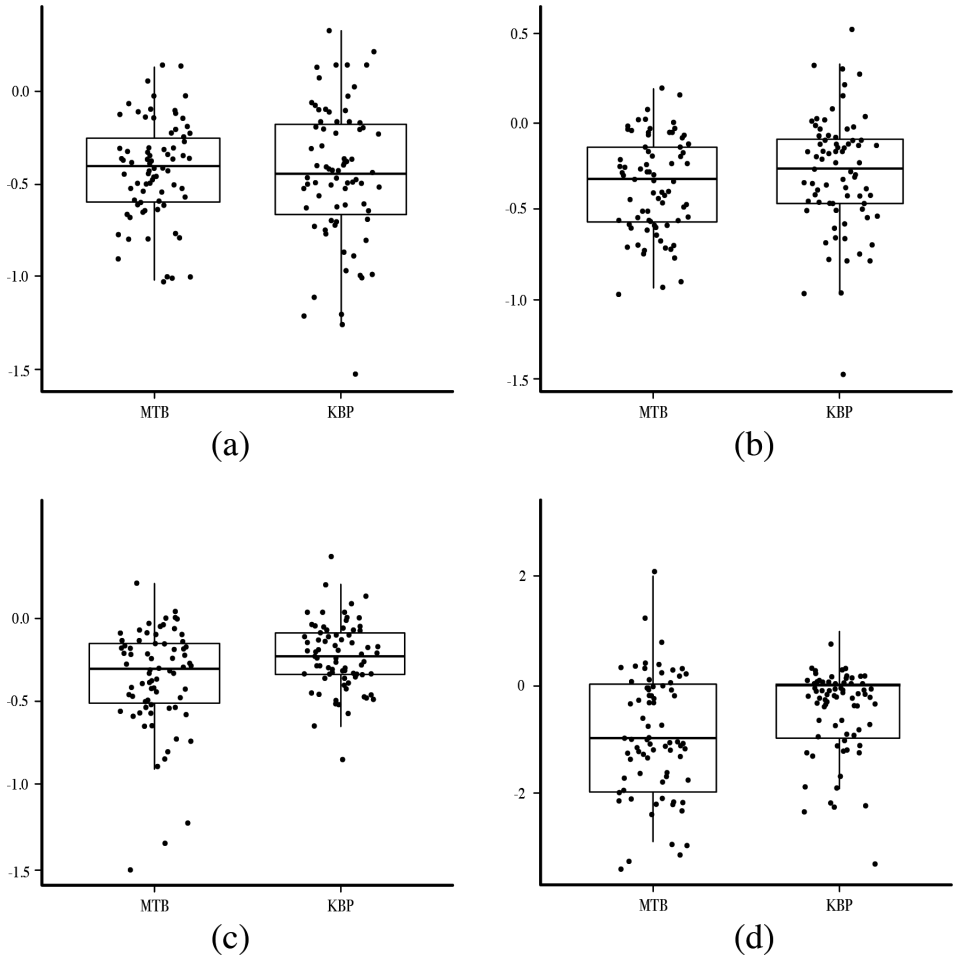


Figure 3.9 | Comparison of multiple boxplots for the transformation of (a) livelihood assets, (b) objective QoL, (c) subjective QoL, and (d) overall QoL in MTP and KBP.

3.5. DISCUSSION

Urban development that widely spreads to peri-urban areas, which also appears to occur in both research locations through the development of new towns, is difficult to predict and rarely induced by a single cause. The transition process in these complex areas directly reflects how self-organisation exists and continues, as observed by previous researchers (Rauws & De Roo, 2011; Coy *et al.*, 2018; Heylighen, 2008). Many studies have also shown that the development of new town developments fundamentally aims to increase economic growth in these areas and for the new middle- to upper-income people who will live in them also their surroundings (Woltjer, 2014; Wang *et al.*, 2010; Thuiller *et al.*, 2005). At the same time, it can also widen the gap between migrants and the local community who originally inhabited the area.

In general, the findings of this study have shown that the new town developments in two different peri-urban areas with different geographical and also socio-economic characteristics have led to different livelihood assets and also the QoL of the local communities as statistically demonstrated by a *t*-test. Furthermore, by combining the assessment of the fulfilment and satisfaction of human needs based on the subjective perception of the local people with the objective assessment based on their actual livelihood level[1] (Costanza *et al.*, 2007), the results of this study would complement previous works on QoL measurement (see e.g., Tesfazghi *et al.*, 2010; Estoque *et al.*, 2019; Berhe *et al.*, 2014).

The findings of this study could also provide strong support for the claim that the development trend is growth-oriented, which impacts the marginalisation of local communities, including those living on and around the development site (Zhen *et al.*, 2014; Pouw & Gupta, 2017; Pratomo *et al.*, 2022b). Before development, local communities in both study areas, as in the majority of other peri-urban areas (Crawford & Pollnac, 1999), relied on extractive livelihood activities using natural resources. This group of people has become one of the most affected because the central aspects of their livelihoods changed when new town development occurred. According to the findings, the development has also led to a dramatic decrease in natural and financial assets. The former is an essential component in the community's QoL and is frequently overlooked by policymakers (Keles, 2012). Furthermore, disruption to the existence of this asset can be directly or indirectly related to future generations' inability to improve their QoL

1 Costanza *et al.* (2008) also refer to these as 'opportunities'.

(Keles, 2012; de Hollander & Staatsen, 2003; Rahman *et al.*, 2011). Meanwhile, a decrease in financial assets in the field is associated with changes in the type of work, a decrease in adequate income and a decrease in local community savings. This is consistent with the opinion of Kusiluka *et al.* (2011), who believe that development activities involving the acquisition and conversion of land belonging to local communities have failed to prevent impoverishment and have even harmed communities in the long run.

Looking back to the QoL, before the development of the new town, the majority of objective QoL conditions of people in MTB on the coast were lower than those living inland in KBP. **Figure 3.6** depicts the trend of narrower lines in each QoL component, particularly environmental conditions, civil and political freedom and housing, for people living in coastal areas versus those living in non-coastal areas. This not only demonstrates that coastal communities have a lower standard of living but also that their living conditions are more vulnerable than those of non-coastal communities. According to Crawford and Pollnac (1999), these coastal communities' powerlessness may be due to environmental conditions or a lack of developed infrastructure.

Furthermore, large-scale development in the two peri-urban areas appears to have had implications for all QoL components. The evidence shows that development not only contributed to a decrease in local communities' income which is consistent with the previous findings in other countries (see e.g. Huu, 2015; Afriyie *et al.*, 2014; Haregeweyn *et al.*, 2015) but also had a severe impact on other components that support their sustainable life. Approximately two-thirds of local communities' overall QoL has decreased, with the majority falling to the worst level. As a result, the "good" condition of the objective and subjective QoL decreased by approximately 60%. In line with the decrease in the combination of these compositions, the "bad" QoL level increased by 76%. Additionally, the findings also indicate that many local communities are still attempting to be satisfied with their QoL, although their human needs are not being met due to the impact of development, as noticed by the adaptation level. This is not surprising, given that the characteristics of peri-urban society are empirically lower than those of urban communities (Crawford & Pollnac, 1999).

Another interesting finding is that although it is obvious that the impact of development decreased the QoL value—whether objective, subjective or a combination of both—the latest results show a significant difference in decline between the two regions under study. The overall decline in QoL of coastal communities due to the new town development is much greater than that of non-coastal com-

munities. This result is influenced by a significant difference in the decrease in subjective QoL values between coastal and non-coastal areas. **Figure 3.9 (c) and (d)** shows how the subjective QoL value of coastal communities varies in a wider range of decline than that of non-coastal communities. These findings confirm that, in addition to being vulnerable, coastal communities have a lower level of adaptation to development when compared to those who live in non-coastal areas. Although some small cases (e.g., Gopalakrishnan *et al.*, 2019; Wijayanti & Pratomo, 2016; Blythe *et al.*, 2014) demonstrate how coastal communities are attempting to adapt to the changes in their lives, several references demonstrate a similar phenomenon in many larger cases. Crawford and Pollnac (1999), for example, discovered that coastal communities in the northern islands of Sumatra and Sulawesi had difficulty adjusting to their new lives due to housing projects. Several cases also support that (see Pratomo *et al.*, 2022b; Cummins & McKenna, 2010; Duxbury & Dickinson, 2007). The main factor causing their low level of adaptation is the character of coastal communities, as they are attached to resources and the coastal environment (Mee, 2012). Another observation by Keles (2012) explains how their lack of skill in job diversification contributes to their inability to adapt to a new situation.

3.6. CONCLUSION

This research looks into how new town development in two different peri-urban areas has led to changes in local communities' livelihood assets and their QoL. In general, this study contends that limited livelihood components should not be used to evaluate development impacts. To obtain a comprehensive picture of the sustainability of the affected parties' lives, each component must be measured. Referring to previous studies' conceptual assessments of QoL, this study operationalises them as a whole by combining assessments of objective and subjective QoL, particularly in the context of socio-economic development.

Furthermore, the evidence suggests that the development of a new town has an impact in the form of a decline of almost all local community livelihood assets. Only physical assets have grown. The assets most affected by development are financial and natural assets, primarily caused by the acquisition and conversion of productive land belonging to local communities. This causes some of them to lose or change their source of livelihood.

The decline in community livelihood assets has contributed to a significant

decrease in the QoL of local communities in peri-urban areas, both coastal and inland. The specific result concludes that the degree of decline in coastal communities is greater than that in non-coastal communities. This also confirms that peri-urban coastal communities are much more vulnerable and less adaptable to development than non-coastal communities.

Despite limitations in explaining the phenomenon because it represents only the situation of the respondents involved, and without being able to generalise the condition of the local communities affected by new urban development in broader cases, this study might still contribute to ongoing debates concerning peri-urbanisation especially related to new town development. The result of this study has provided empirical evidence of the differences in QoL of local communities in different peri-urban areas, particularly in developing countries. This result would, therefore, complement previous studies in this issue (Wu *et al.*, 2013; Zoomers & Otsuki, 2017; Borras & Franco, 2013). Moreover, this study has also shown that the development of new towns has varying degrees of impact on the sustainability of local communities. However, it does not provide any statistical proof of these impacts. Therefore, the future study should offer statistical proof of the causal relationship between new town development and socio-economic aspects of local communities, including their QoL which is supported by a better dataset.

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Chapter 4

Transformation of Local People's Property Rights Induced by New Town Development

(Case Studies in Peri-Urban Areas in Indonesia)



ABSTRACT

New town development as a form of large-scale development is not a new phenomenon, particularly in developing countries. This development mainly takes place in peri-urban areas due to the high pressure caused by the growing population and the lack of facilities and infrastructure in city centres. As an effect, local communities who originally occupied the land often lose their rights over the property their livelihood might have relied on. Property rights can be grouped differently, classified according to different bundles: appropriation, ownership, and formality of rights. This paper investigates to what extent new town development in Indonesia has affected the property rights of local communities, in terms of the transformation of rights and security level. Moreover, it examines to what extent this transformation has been affected by urbanisation pressure. Ample attention is paid to the transformation of various bundles of rights concerning different usage of property, both residential and cultivated land. A total of 252 questionnaires were distributed to three different locations of new towns in Indonesia. A before-after analysis was employed to identify the transformation of the property rights and their security level, followed by multiple linear regression analysis to observe the influence of the urbanisation pressure to the security level. The research reveals that the transformation of property rights of local residents mainly concerns the appropriation rights. The analysis also indicates that there is a tendency that the security level decreases. Statistically, this appears to be affected by urbanisation pressure variables: type of land, land use, and occupation. With this study, we offer on the one hand a conceptual framework for assessing property rights, while on the other hand, we provide empirical evidence regarding the effects of new town development on property rights transformation and its security level.

Keywords: *large-scale land development, new town, transformation, property rights, security level, local community, urbanisation pressure, Indonesia*

4.1. INTRODUCTION

The growing population and the lack of space in cities have become continual challenges faced by urban planners. The United Nations (UN) (2018) recorded that the global population living in urban areas accounts for 55% and is projected to increase up to 68% by 2050. This condition has served as a challenge for people living in city centres in terms of providing their needs for housing, infrastructure, transportation, and so forth (Gong *et al.*, 2014; Zeng *et al.*, 2017). As a consequence, urban sprawl occurs, particularly in peri-urban areas (Wei *et al.*, 2017; Pravitasari *et al.*, 2018).

Some of these ever-increasing pressures in peri-urban areas involve large-scale land development (Firman 2000; Diningrat, 2014). The emergence of new towns in peri-urban areas can be seen as an example of this large-scale land development (Insa-Ciriza, 2012). In Indonesia, new town development has been regarded as a solution to resolve urban problems, extending the availability of housing and infrastructure, and reducing disparity in peri-urban areas (Sujarto, 1993; Firman & Dharmapatni, 1994; Sujarto, 2003). Moreover, this form of large-scale development is also believed to be able to increase land values in peri-urban areas and improve the provision of infrastructure and urban facilities (Firman, 2004b, Zoomers & Otsuke, 2017). Many scholars discovered that new towns and other large-scale developments cause negative socioeconomic effects (Väth *et al.*, 2019; Lai *et al.*, 2014; Adam, 2014a), negative effects on biodiversity (Huang *et al.*, 2018; Jiang *et al.*, 2012), environmental effects (He *et al.*, 2014; Jiang *et al.*, 2013; Zhao *et al.*, 2010), as well as the negative impact on urban health (Capolongo *et al.*, 2020). This may seriously harm the life of the local communities living in the development area. Those people are expropriated from their properties and the property rights over that land (Firman, 2000; Nolte & Voget-Kleschin, 2014; Phuc, 2015; Kleemann & Thiele, 2015; De *et al.*, 2018; Tambang *et al.*, 2016). In many cases, local communities face losses because they heavily rely on those lands to support their livelihoods, while fair compensation for the loss of their property rights over the land cannot be properly secured due to legal uncertainty or unambiguity of the rights (Nolte & Voget-Kleschin, 2014; Firman, 2009). This phenomenon can be widely found in developing countries (Sikor *et al.*, 2017; Adam, 2014b; Zhu, 2002), including Indonesia (Firman, 2000; Firman, 2004b).

Property rights, in simple terms, can be defined as a bundle of rights embedded in a property (Bazelon, 1963; Snare, 1972; Becker, 1977; Schlager & Ostrom, 1992). Regarding land development, property rights should be fully understood

as being not only the right to possess the land but also the right to appropriate it (Schlager & Ostrom, 1992). Apart from that, it is essential to understand the formality degree of the rights embedded in the property, since it could play a crucial role in ensuring the legality of the transaction or the exchange process of the rights and its related values (Farfan, 2004; Zhu & Simarmata, 2015). By assessing all these rights, a complete understanding of the security level of property rights can be achieved. This is important because, as argued by many scholars, secure property rights are considered as a central determinant of livelihoods for local people and also for economic development in general (Asoni, 2008; Besley & Ghatak, 2009; Durnev *et al.*, 2009; Galiani & Schargrodsky, 2010).

To date, studies concerning property rights over land tend to be focused partially on one specific topic, i.e., ownership (De *et al.*, 2018; Feder & Feeny, 1991; Feder & Onchan, 1987), appropriation (Adam, 2014a; Sikor *et al.*, 2017), as well as the formality of rights (Farfan, 2004; Zhu & Simarmata, 2015; Navarro & Turnbull, 2014). This paper aims to develop a framework to investigate the different categories of property rights bundles in an integrated way to assess the level of property right security. This framework is then applied to observe how local communities' property rights and the associated security level have been transformed due to large-scale land development and to assess to what extent urbanisation pressure influences these transformations. Ample attention is paid to the development of new towns and the change of various bundles of rights over both residential and cultivated land and properties. The aim of the paper is, on the one hand, to provide a framework to assess property rights, and on the other hand, to provide evidence regarding the transformation of local communities' property rights and useful insight on how urbanisation leads to changes in security levels.

Following the introductory section, **Section 4.4.1**, this paper is organised into seven parts. To set the context of this paper, **Section 4.4.2** discusses trends in large-scale land development, including new town development. **Section 4.4.3** provides a discussion of the literature on property rights. Also, in this section, a framework for assessing property rights is developed, including the related security level. **Section 4.4.4** presents our research approach and data collection methods. **Section 4.4.5** describes the findings of our study, while a discussion of these can be found in **Section 4.4.6**. Conclusions are given in **Section 4.4.7**.

4.2. LARGE-SCALE LAND DEVELOPMENT

4.2.1. The evolvement of peri-urban areas in developing countries

Development growth is commonly used as a benchmark to determine whether an urban area is successful or productive (McGee & Robinson, 1995). Urban development is inseparable from the provision of land (van der Krabben & Jacobs, 2013). Land development refers to transforming a form and/or function of land for the continuity of activity (Healey & Barrett, 1990). Some scholars believe that the greater the needs of land to perform activities, the more intensive the execution of the spatial transformation will be (Firman, 2004b; Winarso *et al.*, 2015; Gong *et al.*, 2018).

Along with the increase of population growth and urban activities, land development is often carried out in a large-scale form. Some scholars have characterised this development as a massive area of development with more varied land uses (Insa-Ciriza, 2012; Eichler & Kaplan, 1967). Evidently, this development also requires high investments (Nolte & Voget-Kleschin, 2014), provided either by the public sector or private developer (Firman, 2000; Winarso & Firman, 2002). A depiction of large-scale land development is illustrated in **Figure 4.1**. Although these developments are also discovered in urban areas, they appear to be more prominently developed in peri-urban areas, also known as peri-urbanisation (Legates & Hudalah, 2014; Webster, 2002). The main reason for this emerging phenomenon is the broader availability of land in urban outskirts at lower prices (Winarso & Firman, 2002).

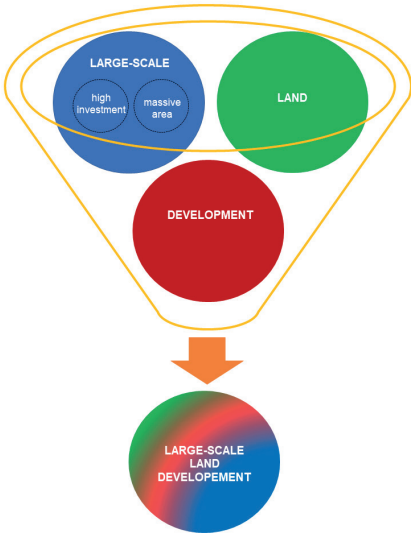


Figure 4.1 | Large-scale land development.

Peri-urbanisation involves a penetration process from the city centre to the transition area of rural and urban use (Webster, 2002). This has become an important discussion topic in Global South countries (Winarso *et al.*, 2015). Most of the main cities in the Global South that were built in colonial times were not designed for the long purpose. Thus, nowadays, these cities cannot accommodate urban activities and population growth (Nies-

sen, 1999). Furthermore, this phenomenon is characterised by the change of economic structure and community activities from agriculture to nonagriculture, as well as an increase in land prices in the area (Bartels *et al.*, 2020; Woltjer, 2014; Rauws & de Roo, 2011). In addition, the unique and dynamic characteristics of peri-urban areas trigger spatial complexities.

The vast large-scale land development in peri-urban areas is inseparable from pressure coming from urban areas. As argued by Li *et al.* (2018b), this urbanisation pressure is triggered by geographical, locational, and socioeconomic aspects. The geographical aspect emphasises the type of land and land uses which determine the direction of the expansion of the city Tong *et al.*, 2019. The locational aspect is closely related to accessibility (Wu & Yeh, 1997; Liu *et al.*, 2011; Verburg *et al.*, 2004). Lastly, the socioeconomic aspect relates to land price, occupation, and welfare. The urban expansions usually prefer greenfield locations, assuming both lower land prices and lower servicing costs (Tong *et al.*. 2019). In another case, urban pressure seems to be influenced by political decisions (da Silva *et al.*, 2018; Vento, 2017). The spatial development policy in the peri-urbanisation area—as an outcome of the decision—is believed to be the right decision for urban regeneration due to depressed main cities and their suburban areas (Vento, 2017). However, other studies have revealed that the development actually enlarges social and economic disparities between residents in the development and surrounding areas (Evans, 2005; Hall & Hubbard, 1996).

4.2.2. New Towns as a Large-Scale Land Development

Large-scale land development can be categorised into five forms: large-scale infrastructure (Mok *et al.*, 2015; Zoomers *et al.*, 2017), industrial estates (Huang & Yang, 1996; Cartier, 2002; L. Zhang *et al.*, 2018), large-scale agricultural investment (Deininger & Binswanger, 1995; Zaehringer *et al.*, 2018), large-scale residential (Ott *et al.*, 2012; Guan & Yang, 2015; Al-Shihri, 2016), and new towns (Firman, 2004b; Wang *et al.*, 2017; Dieleman, 2011). The development of new towns is considered to be the most dynamic type of development (Insa-Ciriza, 2012), usually involving a substantial amount of land (Eichler & Kaplan, 1967; Griffin, 1974; Gakenheimer, 1976).

In the modern era, the idea of a new town initially goes back to late-nineteenth-century Europe (Adam, 2014a), while the concept became more common since the beginning of the twentieth century in the U.S. (Insa-Ciriza, 2012), then followed by Global South countries along with the upcoming of colonialism (International New Town Institute, 2011). In the post-colonialism era, the new town

grew for several reasons, such as natural resource exploitation (Sujarto, 1993), housing provision (Ott *et al.*, 2012), and improvement of urban facilities (Firman, 2004b; Guan & Yang, 2015). In the case of Indonesia, the new town in the post-independence period emerged as an effort to provide new housing outside the core of Jakarta City (Karyoedi, 1993). Since the early 1990s, many new towns were developed, primarily concentrated within the Jakarta Metropolitan Area as a result of the increasing population growth and scarcity of lands in the city centre (Firman, 2004b). The rapid new town development was also inseparable from the "Repelita IV (Five-Year Development Plan of Indonesia)" policy, which provides an opportunity for private developers to develop new town housing areas (Karyoedi, 1993). Nowadays, this development trend is widely spread in Indonesia.

The success and direction of new town development cannot be separated from the process, including the roles of stakeholders involved. Since this development requires a high investment, the function of private developers in the development process becomes more crucial. Roles of the developers relate to land acquisition, construction, finance, and management of the developed areas (Dieleman, 2011). As a consequence of their dominant position, development relies on economic profits. Meanwhile, the involvement of national and local governments is limited. The national government plays an important role in developing regulation related to large-scale development, whereas the local governments are involved in providing building permissions, monitoring the land use, economic development, and environmental issues of the new town areas (Dieleman, 2011). Similar to other countries (Blakely & Snyder, 2017; Borsdorf *et al.*, 2007; Kuppinger, 2004), new towns in Indonesia are built for upper-middle-income groups (Firman, 2004b). This flow of 'capitalist' investments has resulted in new towns becoming rather exclusive. Consequently, local communities are merely positioned as a marginalised object of the development (Gong *et al.*, 2018). The people who owned the land are threatened by impacts of the development, primarily transformation of rights over the land.

4.3. PROPERTY RIGHTS OVER LAND

Property rights represent the bundle of rights which describe the relationship between rights holders, either individuals or groups, and their properties (Commons, 1968). The rights should be understood as the various rights which can be used and allocated to a piece of property (Bazelon, 1963; Becker, 1977; Schlager & Ostrom, 1992; Reeve, 1986). Payne (1997) described property rights as an ownership-based relationship between a party and their property. The ownership is defined as varied rights and obligations derived from the laws conferred to the owner of a property to relate with other parties (Demsetz & Alchian, 1973). Rodgers (2009) pointed out that formality of rights is inseparable from a property where this right is understood as the right to hold power to enforce property according to rules and policies. With this right, the security of the property will be further stimulated, so is the value of investment (de Soto, 2000; Lanjouw & Levy, 2002).

4.3.1. Different Categories of Property Rights Bundles Over Land

In terms of land development, the property is often used and owned by different parties. These various arrangements might be based on varying degrees of the formality of these rights, possibly affecting the transaction process of the rights. In developing countries, for example, many farmers rent their cultivated lands, which means they only hold rights of appropriation on the lands under the ownership of that land by other parties, while the transaction between the owner and the renter/user of the land is based on an informal agreement. In this paper, we distinguish within the property rights bundle ownership, appropriation, and formality of rights. The detailed descriptions of those property rights are provided below, and the summary can be seen in **Figure 4.2**.

- *Ownership*

Ownership is the right to own a property conferred by a claim or title (Payne, 1997; Demsetz, 1967). Concerning the ownership category of property rights, a property can be distinguished based on the different claimants or holders of the right. There are at least four types of the claimant of these rights, including private, state, community, and no one, or hence, everyone (Feder & Feeny, 1991; Burger & Gochfeld, 1998; Payne, 2004). A *private* individual as a claimant of the right can either be a person or a corporate organisation. The person who holds this right should be able to receive the benefits from the land in unlimited time, and she/he can individually decide to restrict other people from utilising

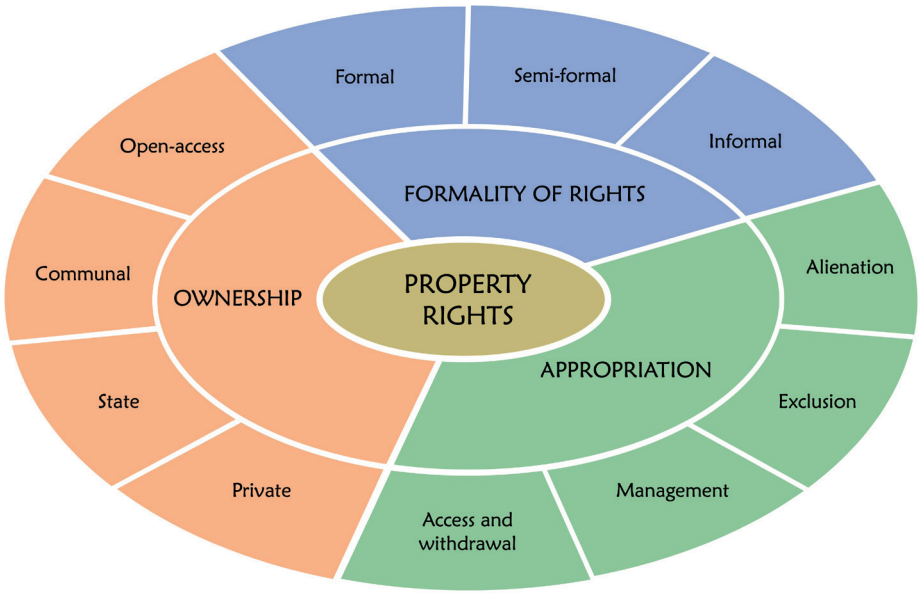


Figure 4.2 | Conceptual framework of property rights in land development.
Sources: modified from Kleeman & Thiele (2015); De *et al.* (2018); Snare (1972); Becker (1977); Besley & Ghatak (2009)

the property. In his book, de Soto (2000) claims that this type of ownership is the success key to maximise the benefits from a property.

With the *state* as the claimant of the ownership right, a specific state institution or branch of government holds the title over the property. Although the state can be considered as the representative of the public, we can make a distinction between state ownership and public ownership. In the former, the state can exclusively utilise or access the property through its specific institution/branch of government and exclude other individuals from using it, while the latter is available to the entire public for use (Reeve, 1986). We refer to the latter as *open-access property* in which everyone has a right to claim the use of the property since no one has the title of its ownership. We also distinguish the open-access property from the *communal property*, which we define as a property jointly owned by a limited group of individuals or a community. This group or community is entitled to exclude other individuals from using the property under some kind of rules or statutes (Rudiarto, 2015). The group can also make their own decision on who among the members of their group can use the property and how can they use it (Schlager & Ostrom, 1992).

In Indonesia, according to the Basic Agrarian Law (BAL or Law No. 5/1960), which is the central legislation governing land rights in the country, pri-

vate property rights over land are widely recognised. Still, the state has the right to control all land for the benefit of the people (Pemerintah Republik Indonesia, 1960). This right to "control" means that the state may impose a rule to regulate and implement a certain utilisation or reservation of land including those that are owned by private individuals and also to regulate legal relations between individuals and legal acts concerning their lands.

The BAL also recognises communal property based on customary law (the land is referred to as *tanah ulayat*) that already exists since even before the creation of the Indonesian state.[1] However, the BAL does not explicitly address the system to regulate this customary land, though the law stipulates that the exercise of the right should not be in conflict with national interests or other regulations set out in the law.

Regarding the land as an open-access property, it is not specifically mentioned or regulated in the law. However, it may exist in case the land is not claimed by anyone, and everyone can access and utilise the land. Given the fact that, at the moment, a systematic land registration is still ongoing in Indonesia and roughly only one-third of all lands in the country have been registered (Rudiarto, 2015), many land parcels remain without a title of ownership which then can be considered as open-access property. Based on the control right of the state over all land in Indonesia, the government may impose a presumption that those unregistered lands are considered as public land until proven otherwise. Moreover, since the state controls of such land have to be exercised for the benefit of the people, the state may allow anybody to access and utilise it (Mitchell *et al.*, 2008; Thorburn, 2004).

- *Appropriation*

The notion of appropriation can be equally understood as the term user rights and collective-choice rights, which were introduced by Schlager and Ostrom (Schlager & Ostrom, 1992). This right can be defined as a right to use and allocate the property. According to Schlager and Ostrom, in this sense, property rights over land can be divided into four categories: alienation, exclusion, management, and access-withdrawal (Schlager & Ostrom, 1992). The right to alienate the land or *alienation* right is defined as the right to manage, use, sell, or to let or execute these simultaneously. The right holders are entitled to receive benefits, to transform, to cultivate, or to convey the property for freedom's sake to use

1 Indonesia proclaimed its independence on August 17, 1945 and has become a sovereign state since then.

the property according to their needs. The *exclusion* right is the right to access a particular property. It also includes the right to choose with whom and how the transaction of the property takes place. The *management* right can be defined as the right to manage and to change the natural resources by performing maintenance. A person with management right is authorised to decide how, when, and where harvesting will take place and how the property structure can be changed. The final category concerns the *access and withdrawal* rights. These rights are regarded as the lowest ones in which the rights are held only to take what the property can offer.

In Indonesia, according to the BAL, there are several types of rights related to different appropriation levels that someone can possess over land. These rights include *hak milik* (freeholds right), *hak guna usaha* (exploitation right), *hak guna bangunan* (development or building right), *hak pakai* (use right), *hak sewa* (rent or lease right), *hak membuka lahan* (land clearance right), and *hak memungut hasil hutan* (right to collect forest products).[2] The first four aforementioned rights are called primary rights since they are directly given by the state (with an exception of the use right which can also be given by a private entity who has a freehold right), and they can be sold, mortgaged, and inherited by a legal heir (Pemerintah Republik Indonesia, 1960).

Among those four rights, *hak milik* (freehold right) can be considered as the strongest right since the holders of this right can basically use the land for any purpose based on their needs and interest in unlimited terms of time. However, the law also mentions that all land has a social function, which means that the use of land must not be in conflict with the rights of others and the public interest. Given its definition, *hak milik* can be associated with the *alienation* right in the Schlager–Ostrom framework of property rights.

The other three primary rights do not have a permanent quality, and they serve as kind of commercial lease rights but for different purposes. *Hak guna usaha* (exploitation right) can only be used for economic activities including agricultural, fisheries, and animal husbandry. *Hak guna bangunan* (right to build) is somebody's right to build and own buildings on land that is not her/his own. While for *hak pakai* (use right), the holder of this right can use and/or collect products from the land. Although these rights can be transferred (Pemerintah

2 The law also mentioned that, apart from these seven rights, it also recognised other land-related rights such as *hak gadai* (pawn right), *hak usaha bagi hasil* (profit-sharing right), *hak sewa tanah pertanian* (agricultural land leases right), and *hak menumpang* (lodging right), which are regulated in other law or regulation.

Republik Indonesia, 1996; Menteri Agraria dan Tata Ruang, 2017), individuals holding these rights face limitations to the use of land, implying that the owners should fulfil the permits to use of land. Based on the classification by Schlager & Ostrom (1992), those three rights are categorised into exclusion.

The other three rights mentioned in BAL, namely, *hak sewa* (lease rights), *hak membuka lahan* (land clearance right), and *hak memungut hasil hutan* (right to collect forest product), cannot be transferred to other people. For *hak sewa*, the holder of this right can use and manage the land by paying a fee to the owner of the land for a certain period of time (Pemerintah Republik Indonesia, 1960). This right can, therefore, be associated with the management right in the Schlager–Ostrom framework of property rights. Moreover, *hak membuka tanah* and *hak memungut hasil hutan* apply to take and catch resources from the land or productive forest (Pemerintah Republik Indonesia, 1999); it is classified into access and withdrawal. In addition, related to Indonesia as a maritime nation, hak pemeliharaan dan penangkapan ikan is essential to protect fishermen's fishery rights in the exclusive economic zone (ZEE) of Indonesia ocean (Pemerintah Republik Indonesia, 1984).

- *Formality of Rights*

The formality of rights is embedded in certain parties based on institutional perspective (Farfan, 2004; Lanjouw & Levy, 2002; Roth & Smith, 1995). This right guarantees the property value and security of property transaction (Besley & Ghatak, 2009). There are three categories of this formality: formal, semi-formal, and informal. When someone possesses a formal right over land, she/he has a right to empower and control the property based on rules and institutional provisions (Snare, 1972). In Indonesia, a formal right is authorised by the Ministry of Land and Spatial Planning/National Land Agency (ATR/BPN) or Land Deed Officials through a formal certificate. Regarding semi-formal rights, the holder of this right has an authority to control her/his property, but it is not fully supported by legal power (Hoffman, 1992). Practically, in Indonesia, the right is derived from a letter of agreement such as *girik*, *rincik*, *letter C*, *patok D*, or *SPPT* (Notification of Tax due) (Zhu & Simarmata, 2015). The last one, informal right, is defined as a right to control over property (Snare, 1972), through customary law, *adat istiadat* (Aredo, 2003), a letter issued by village headmen (Li, 2002), or even an oral agreement (Winayanti & Lang, 2004). The properties embedded with these semi-formal and informal rights are also classified as unregistered (Hoffman, 1992; Leaf, 1993).

4.3.2. Security Level of Property Rights

Property rights security is increasingly gaining attention in the international literature (Alchian & Demsetz, 1972; Lawson-Remer, 2014; UN-Habitat, 2015). Determining the property rights security level relies on hierarchy in each of the categories of rights. The security level is defined by 1) appropriation rights, 2) ownership rights, and 3) the formality of rights. Appropriation rights determine the security level since they have a direct effect on the freedom to use the property to gain optimal benefits (Schlager & Ostrom, 1992). Based on Schlager and Ostrom's framework of property rights for appropriation, we distinguish five security levels concerning appropriation. Alienation has the highest level of security since property users can use and cultivate the property non-restrictively. It allows the users full non-material and material benefits from the property. After that, we distinguish 'exclusion,' 'management,' 'access and withdrawal,' and 'absence of appropriation rights.' Exclusion and management rights refer to agreements on where the cultivation of the property should comply with. Access and withdrawal rights only give their holders access to the direct benefits from the existing property, without any capacity to transfer or transform the form of the property.

Regarding ownership, the security level cannot be ordered since each right holder is entitled to manage her/his property independently (Feder & Feeny, 1991). This implies that the holders have similar roles to access the property, to obtain profits, and to deal with the economic risks. Similarly, in Indonesia, BAL does not make any distinction in terms of security whether the land is owned privately, by organisations, corporately, or under the control of the state, which means that any legal entity has an equal position when they own a piece of land. Therefore, the hierarchy of each category in this right can only be distinguished by whether someone owns the land, with the former possessing a higher security level than the latter.

Considering the formality of rights, a formal right provides the highest level of security, because the holder of this right is strongly protected by formal regulation and the legality of this right secures her/him from being usurped by other parties. Besides, the existence of a formal right could reduce insecurity, giving no space for buyers playing around with the land price (Payne, 2004). Informal rights have the lowest level of security due to less legality, which could hamper the holder from any transaction, and it could result in low investment value (Aredo, 2003). Moreover, property with informal rights cannot be used as collateral in renting and subletting (Zhu & Simarmata, 2015). Regarding the semi-formal

right, its security can be considered to be in between formal and informal rights.

4.4. METHODOLOGY

4.4.1. Research Location

4.4.1.1. Selection of Case Studies

This research was conducted using a case study of new town development in Indonesia (see **Figure 4.3**). It aimed to assess the real condition of property rights transformation of the local communities as a result of the development. Research locations were chosen by considering the characteristics of peri-urban areas where this large-scale land development dominantly takes place. We selected both inland and coastal locations, with different types of economic activities of local people, which is manifest in a different mode of land uses and difference with respect to the bundle of rights (Webster, 2002) (**Table 4.1**). In our case studies, we also took account of the long duration of development, i.e., up to 25 years, to fully understand the impact of the development process, i.e., land acquisition. As mentioned by Winarso and Firman (2002), large-scale developments often include a gradual land acquisition process. This potentially affects the transformation of local people's property rights in the development locations.

The basic characteristics of the three locations are shown in **Table 4.1**.

4.4.1.2. The Characteristics of Land Use in Our Case Studies

Land development is marked by the spatial transformations in the new town development area (as presented in **Table 4.2**). Before the development, the majority of the lands in KHI (Kota Harapan Indah) and KBP (Kota Baru Parahyangan) were used for agricultural activity, accounting for 70% and 73% of total land use respectively. MTB (Metro Tanjung Bunga) is situated on the west coast of Makassar city; before the development, 40% of the total area was used as fishponds. People's livelihoods in KHI (Bureau Statistics of Bekasi Regency, 2002) and KBP (Bureau Statistics of West Bandung Regency, 1996) are farming; fishing and aquaculture in MTB (Bureau Statistics of Makassar City, 1996; Surya, 2011).

New town development has transformed the land use to a more urbanised form. Up until 2016, the developed area in KHI expanded by 125%, including residential and supporting facilities. In 2007, the increase of the developed areas accounted for 187% in KBP, and it increased to tenfold, or 329.06 ha, in MTB. At

the same time, agricultural and aquaculture lands for fishery have decreased by about 44% in KHI and 65% in MTB. Although the existence of paddy fields tended to represent a huge proportion in KBP, the ownership of the fields had been conveyed to a KBP developer, and the local people only used the lands temporarily.

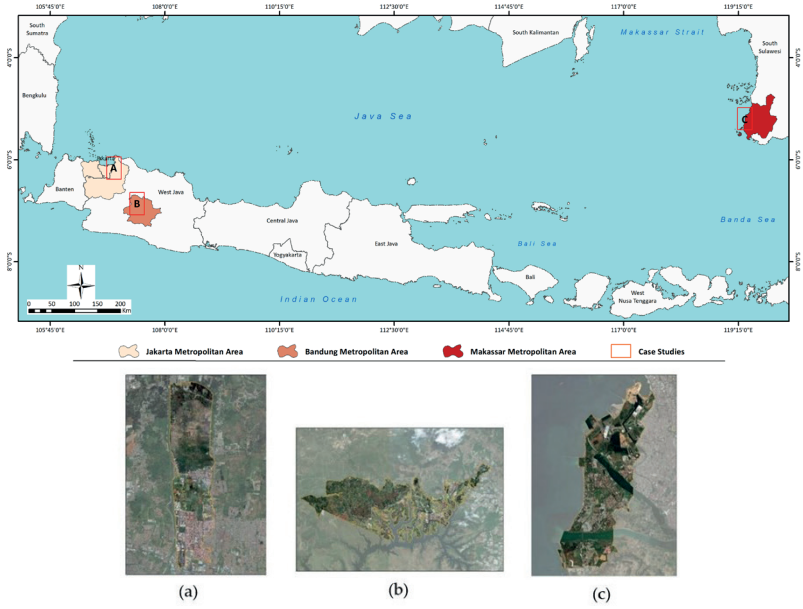


Figure 4.3 | Locations of three case study areas: (a) Kota Harapan Indah (KHI), (b) Kota Baru Parahyangan (KBP), and (c) Metro Tanjung Bunga (MTB).
Source: Pleiades Satellite Imagery (2017)

4.4.2. Sampling

We employed a purposive sampling method to acquire the entire data. This method is designed to capture information from respondents with some specific criteria involving the people evicted from their land and properties by new town development. Note that, by using this method, the article's findings cannot be generalised beyond the sample. A total of 252 respondents (**Table 4.3**) were obtained from three locations of research, following two-stage data collection. First, interviews were conducted with key respondents: local government, the village head, and the head of community groups (*Rukun Warga*) to collect information regarding which people's lands were acquired due to the development. Second, we distributed questionnaires door to door to local people based on the information from the key respondents to obtain information related to property rights. We realise that this method, similar to other non-probability samplings, is associated with a small number of samples, leaning to data biases. In order to

Table 4.1 | Different characteristics of the three locations. *Sources:* [a]Bureau Statistics of Bekasi City (2002); [b]Bureau Statistics of Bekasi Regency (2002); [c]Diningrat (2014); [d]Bureau Statistics of West Bandung Regency (1996); [e]Megawati et al. (2014); [f]Bureau Statistics of Makassar City (1996); [g]Surya (2011)

Nu.	New Town	Metropolitan Area	Geographical Location	Livelihood	Year of Development	Area (ha)	Developer
1	Kota Harapan Indah	Jakarta Metropolitan Area	Low land	Farmer and nonfarmer[ab]	2003[c]	1400[c]	PT. Hasanah Damai Putra
2	Kota Baru Parahyangan	Bandung Metropolitan Area	High land	Farmer[d]	1997[e]	1250[e]	PT. Belaputera Intiland
3	Metro Tanjung Bunga	Mammimasata Metropolitan Area	Coastal area (Jeneberang Delta)	Fisherman and fish farmer[f]	1997[g]	1200[g]	PT. Gowa Makassar Tourism Development

Table 4.2 | Spatial transformation in KHI, KBP, and MTB.

Land Use	KHI		KBP		MTB	
	Before Development 2002 (ha)	During Development 2016 (ha)	Before Development 1996 (ha)	During Development 2017 (ha)	Before Development 1996 (ha)	During Development 2017 (ha)
Water Body	0.66	37.44	0.05	0.76	272.29	151.19
Developed Area	256.02	576.00	77.70	223.25	27.91	356.97
Paddy Field	985.21	547.47	922.99	771.22	157.68	69.56
Under-development area	60.54	60.23	7.99	30.55	150.85	352.84
Mixed Vegetation	97.57	174.88	47.46	202.42	97.90	61.86
Fishpond/swamp	0.00	3.99	0.00	0.00	472.89	164.19
Shrubs	0.00	0.00	79.01	15.72	20.48	43.49
Forest	0.00	0.00	114.80	6.08	0.00	0.00
Total Area	1400	1400	1250	1250	1200	1200

minimise this limitation, the number of respondents was expanded, akin to what some other scholars have done (Rivera, 2019; Etikan, 2016; Berk, 1983). Furthermore, the data obtained should also be normally distributed as a prerequisite for parametric statistic (Mekonnen *et al.*, 2018; Devore & Berk, 2007).

Table 4.3 | The number of respondents.

Nu.	Location	Number of Respondents
1	Kota Harapan Indah	80
2	Kota Baru Parahyangan	95
3	Metro Tanjung Bunga	77
	Total	252

4.4.3. Assessing Transformation and Security Level of Property Rights

To find out property rights transformation for the local communities that have been affected by the new town development, the three types of rights (respectively, appropriation rights, ownership rights, and formality of rights) were analysed. We considered the rights over, respectively, residential and cultivated lands. The former is acknowledged as a basic need of the local residents (Chambers & Conway, 1992), whereas the latter is strongly related to the property on which economic activities are performed (Costanza & Daly, 2007).

Comparative data analysis took place by using the initial characteristics of property rights and their current conditions during the development. This step was expected to show a change in each category of rights. Furthermore, we assessed the transformation of the property rights security level (**Table 4.4**) using a *before–after analysis method*. The following are the steps for this analysis:

1. Identification of the characteristics of the property rights under prior and current development to find out whether a transformation of the rights has taken place.

Table 4.4 | The security level for each bundle of rights.

Appropriation	Level	Ownership	Level	Formality of Rights	Level
Alienation	4	Private	1	Formal	3
Exclusion	3	State	1	Semi-formal	2
Management	2	Communal	1	Informal	1
Access and withdrawal	1	Open-access	1	No right	0
No right	0	No right	0		

2. Calculation of the number of changes that took place in each bundle of rights to determine which bundle mostly experienced transformation.
3. Determination of the security level. Each bundle had several categories and different hierarchies of security levels. However, each category has the same score (see **Section 4.4**). The hierarchy of each category of the bundle of rights is as follows:
4. Assessment of the security level of each type of property right under current and prior development.
5. Calculation of the overall transformation of security level (appropriation, ownership, and formality of rights) using the following formula.

$$\Delta S = S' - S \quad (1)$$

$$\Delta S = [W_1A' + W_2O' + W_3F'] - [W_1A + W_2O + W_3F] \quad (2)$$

Notes:

ΔS	=	transformation of property rights;
S'	=	security level of property rights in current development;
S	=	security level of property rights in prior development;
$W_{1,2,3}$	=	weight per property right (in this research, we assumed that weight of each right is similar = 1)
A'	=	security level of appropriation in current development;
A	=	security level of appropriation in prior development;
O'	=	security level of ownership in current development;
O	=	security level of ownership in prior development;
F'	=	security level of formality of rights in current development;
F	=	security level of formality of rights in prior development.

6. Classification of the changes in security levels of combined rights (ownership, appropriation, and formality). The change of security level shows the magnitude of changes in the security level of property rights. Besides the magnitude, the change also considers the direction of the transformation, i.e., increased (more than 0), no change (0), or decreased (less than 0) (**Figure 4.4**).

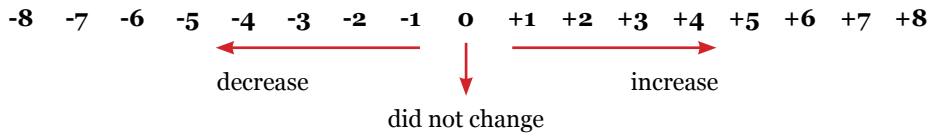


Figure 4.4 | Classification of security level transformation of property rights.

4.4.4. Assessing the Influence of Urbanisation on the Security Level of Property Rights

In order to investigate the influence of urbanisation on property rights, a

statistical test was performed. By referring to the discussion in **Section 2.1**, we considered geographical and socioeconomic aspects to analyse the effects of urbanisation since they impose a direct impact on local people in the development area. These two aspects were categorised into six independent variables: type of lands (X_1), land use (X_2), land price (X_3), occupation (X_4), income (X_5), and welfare (X_6). We used dummy data for X_1, X_2, X_4, and X_6. The dependent variable (Y) is the change of security level of combined rights (see **Section 4.3**).

As a first step, the data set was examined by using the Kolmogorov–Smirnov test to check the data's distribution. The result reveals that Asymp. Sig is 0.0693, which means they were normally distributed (Asymp. Sig. > 0.05). Further, a multiple linear regression (MLR) was employed to help us in modelling the relationship between the dependent and six independent variables as well as to determine which independent variables in particular influence significantly the dependent variable. Initially, we developed hypotheses on this test, as follows:

H_0: Urbanisation pressure has a significant influence on the security level of property rights.

H_1: Urbanisation pressure does not have a significant influence on the security level of property rights.

Data requirements for this statistical analysis are shown in **Table 4.5**.

Table 4.5 | Data requirements.
Sources: [a]Tong *et al.* (2019); [b]Colsaet *et al.* (2018); [c]D'Amour *et al.* (2017); [d]Agegnehu *et al.* (2016)

Variables	Parameters	
Name	**Name**	**Data**
Dependent variables (Y)		
Transformation of the security level of combined rights	Range of security level transformation	Interval (security level of property rights, starting from 8 until -8)
Independent variables		
Types of lands (X_1)[a]	Inland Coastal	1 = inland 0 = coastal
Land use (X_2)[a]	Cultivated Noncultivated	1 = cultivated 0 = noncultivated
Land price (X_3)[ab]	Land price (m^2)	ratio
Occupation (X_4)[abc]	Agricultural Nonagricultural	1 = agriculture (farmers, fisherman and fish farmers) 0 = nonagriculture
Income (X_5)[ab]	Salary (month)	ratio
Welfare (X_6)[d]	Income under poverty line	1 = poor 0 = not poor

These hypotheses were developed by considering a common phenomenon in peri-urban regions that high urbanisation pressure significantly triggers a process of land acquisition (Wu & Yeh, 1997; Indonesian Bureau of Statistics, 2018). This acquisition might lead to the change or even loss of local residents' property rights.

4.5. FINDINGS

This section describes the transformation of the local residents' property rights due to the new town development in the three study cases. In addition, his section also provides the results of multiple linear regression (MLR) that analyses the influence of urbanisation on the local people's security level of property rights over land.

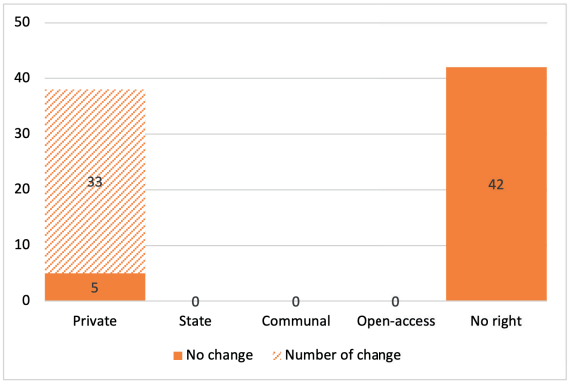
4.5.1. Transformation of Property Rights

- Kota Harapan Indah (KHI), Bekasi

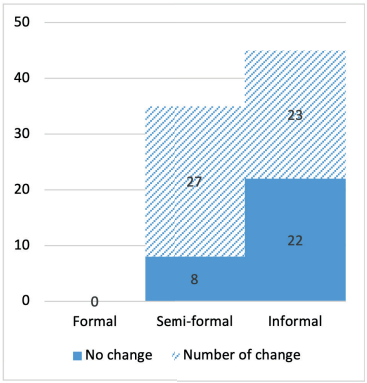
Eighty respondents in KHI participated in the survey; 58% of them belong to the lowest income category. Before the development of the new town, 80 rights were attached to the land for residential use and 80 rights to cultivated lands. For the cultivated land, in terms of ownership right, most of the respondents have 'no ownership' (53%), while in terms of appropriation rights and formality of the rights, they were dominated by 'management' (53%), and 'informal' right (56%), respectively, (**Figure 4.5**). With regard to residential land, in terms of ownership right, 96% of the respondents held private ownership for their residential lands, and in terms of appropriation right and formality of the rights, they were, respectively, dominated by 'alienation' (96%) and 'semi-formal' (89%) (**Figure 4.6**). It means that the respondents have more freedom over their residential land compared to their cultivated land, since almost all of them hold the private and alienation right for their residential lands.

After the development of the new town, we found that most of the rights over cultivated land were transformed. In terms of *ownership rights*, almost 90% of the 'private rights' were changed, while in terms of *appropriation rights* and *formality of the rights*, the biggest transformation occurred for 'alienation' and 'semi-formal' (**Figure 4.5**). A similar trend of transformation for the three categories of property rights also took place on the residential lands (**Figure 4.6**).

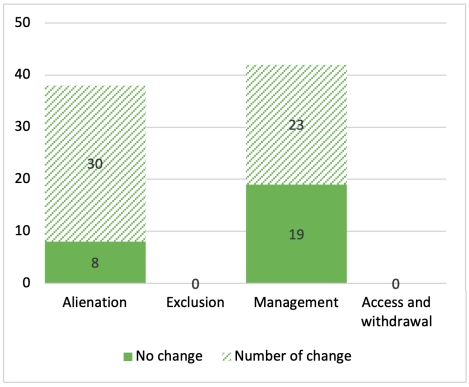
The transformation of the security level of rights after the new town de-



(a) Ownership



(c) Formality



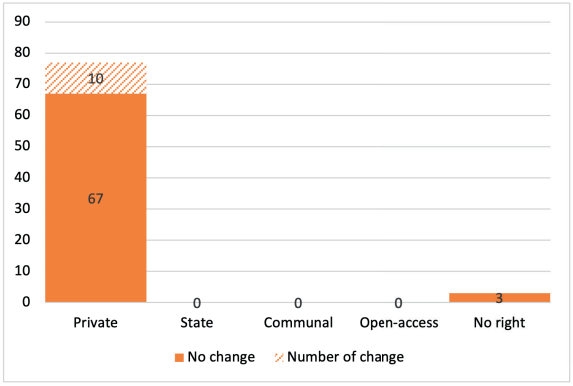
(b) Appropriation

Figure 4.5 | The number of property rights transformation on cultivated lands in KHI.

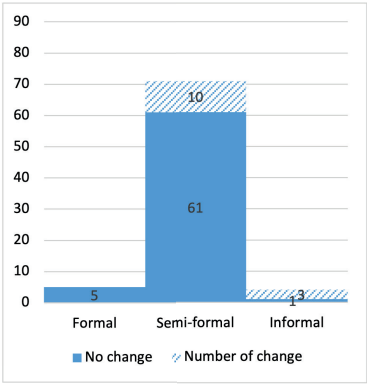
velopment was more substantial on the cultivated land. As shown in **Figure 4.7 (a)**, almost 70% of respondents with cultivated land experienced a decrease in the level of the security of their property rights with the largest decrease of 3 levels. There was no increase in property rights security level for cultivated land after the new town development. For residential land, as shown in **Figure 4.7 (b)**, 77% of the respondents experienced a neutral change (the change score = 0) in their property rights security level. Interestingly, 6% of the respondents experienced a slight increase in their property rights security level.

- Kota Baru Parahyangan (KBP), West Bandung Regency

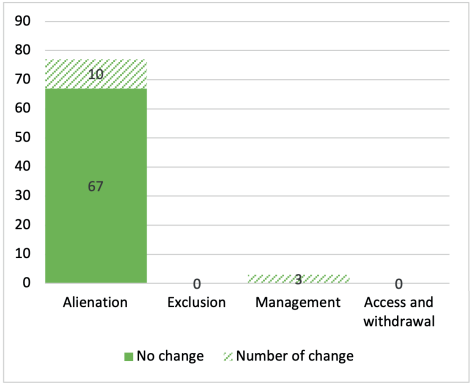
In KBP, 95 respondents with residential land and 77 respondents with cultivated lands were involved. Before the new town development, the cultivated land was dominated by rice fields and cornfields. In terms of the *ownership right*, most of the respondents with cultivated land held a 'private ownership' (61%), while in terms of the *appropriation right* and the *formality of the rights*, most



(a) Ownership

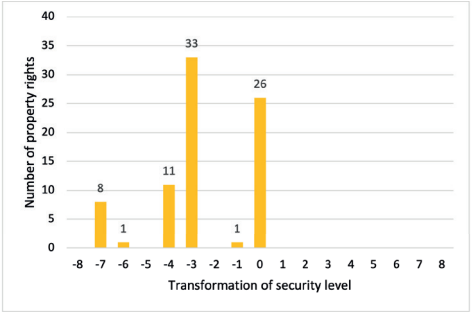


(c) Formality

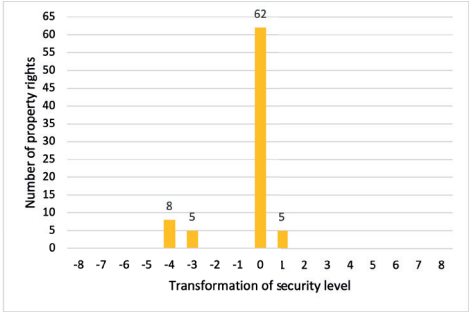


(b) Appropriation

Figure 4.6 | The number of property rights transformation on residential lands in KHI.



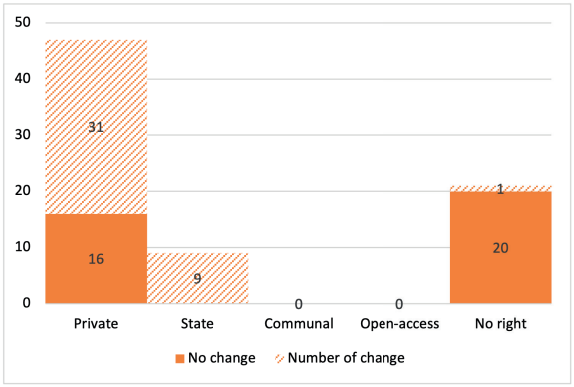
(a)



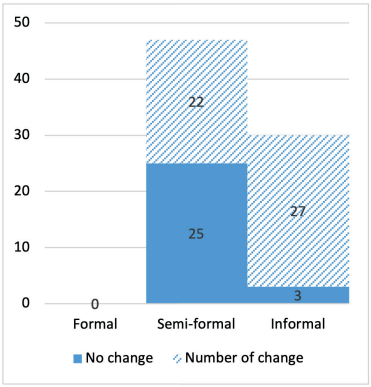
(b)

Figure 4.7 | Transformation of the security level of property rights in KHI (a) cultivated and (b) residential lands.

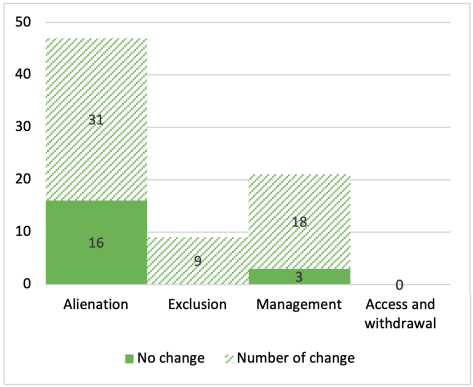
of them held an 'alienation' and 'semi-formal' right, respectively (**Figure 4.8**). A similar situation was also found for residential land (**Figure 4.9**).



(a) Ownership



(c) Formality



(b) Appropriation

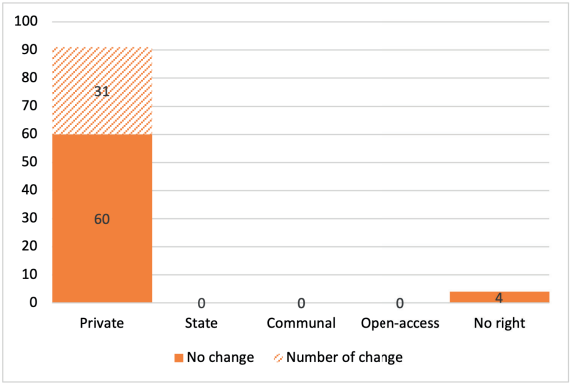
Figure 4.8 | The number of property rights transformation on cultivated lands in KBP.

After the new town development, more than 50% of the property rights for the cultivated land have transformed in terms of all three categories of property rights, while no more than 40% of the property rights for the residential land have changed in terms of all the three categories.

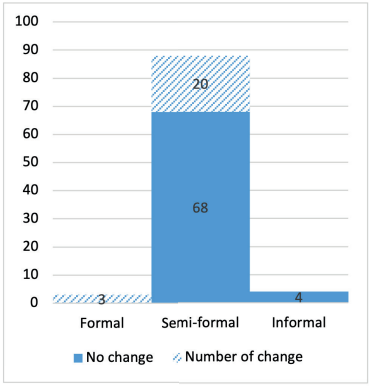
As shown in **Figure 4.10 (a)**, with the transformation of the property rights for cultivated land, 57% of the respondents experienced a decrease in their property rights security level with the highest decline of 7 levels. However, a small number of respondents (4%) experienced an increase in the security of their property rights for cultivated land with a rise up to 3 levels. Meanwhile, for the residential land, most of the respondents experienced a neutral change in the security level of their property rights, and none of them experienced an increase of security level (**Figure 4.10 (b)**).

- Metro Tanjung Bunga (MTB), Makassar

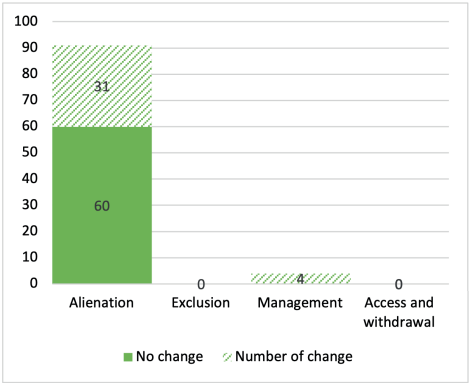
  In MTB, 69 respondents reported that they had cultivated lands and 77



(a) Ownership

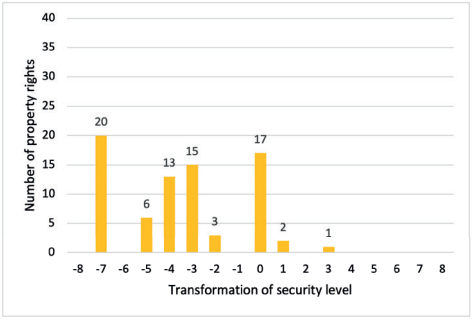


(c) Formality

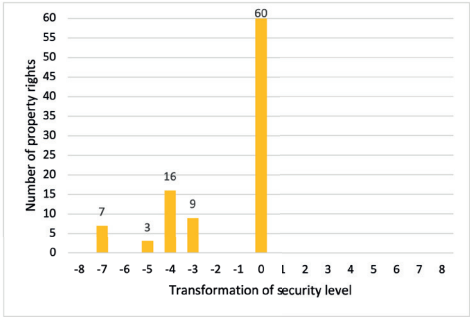


(b) Appropriation

Figure 4.9 | The number of property rights transformation on residential lands in KBP.



(a)

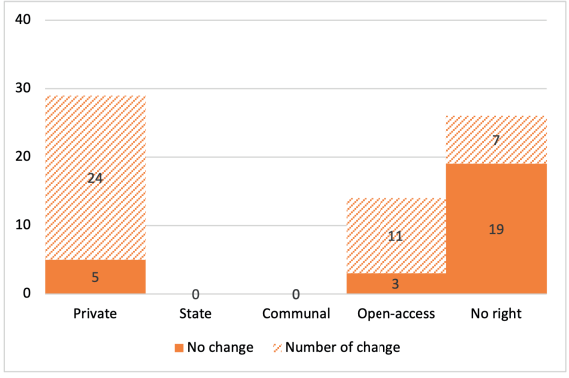


(b)

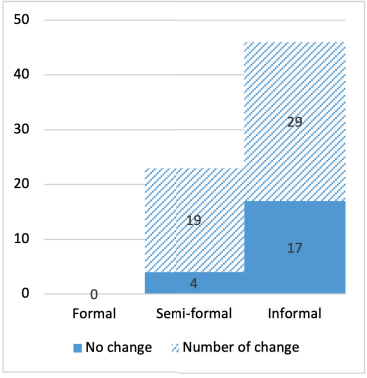
Figure 4.10 | Transformation of the security level of property rights in KBP (a) cultivated and (b) residential lands.

respondents had residential lands before the development of the new town. The majority of the residents were fishermen or fishpond farmers. In terms of *ownership rights*, 42% of the respondents with cultivated land said that they had 'private ownership' rights before new town development which, was the dominant type of rights in this category (**Figure 4.11**). Meanwhile, in terms of *appropriation rights* and *formality of the rights*, most of the respondents with cultivated land reported that they had 'alienation' (42%) and 'informal' rights (67%), respectively, before the development. After the development of MTB, 61% of the *ownership rights* over the cultivated lands have transformed, while 84% and 70% of the *appropriation* and *formality of the rights* have transformed, respectively.

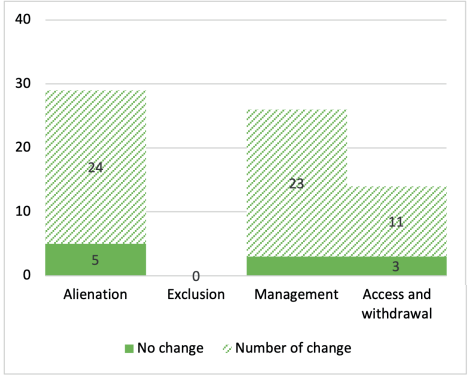
Concerning the residential land, the majority of the respondents (58%) reported that they had a 'private' right for the *ownership* category before the development of MTB (**Figure 4.12**). During this time, in terms of *appropriation* and *formality of the rights*, most of the respondents held the 'alienation' right (58%)



(a) Ownership



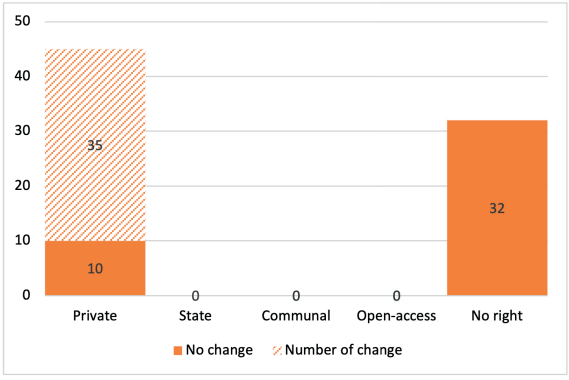
(c) Formality



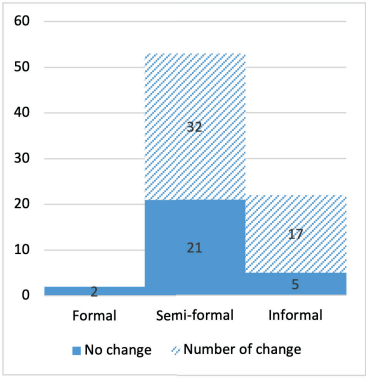
(b) Appropriation

Figure 4.11 | The number of property rights transformation on cultivated lands in MTB.

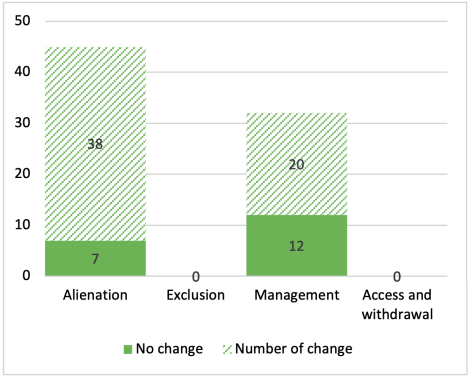
and 'semi-formal' right (69%), respectively. After the development of MTB, 45% of the *ownership rights* have transformed, while 75% of *appropriation rights* and 64% of *formality of the rights* have also changed.



(a) Ownership

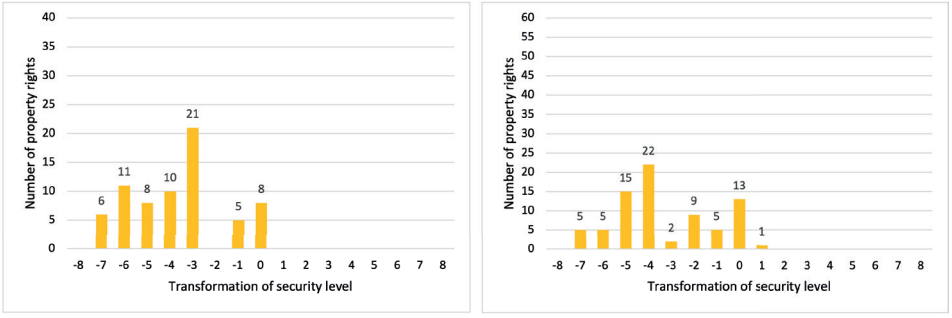


(c) Formality



(b) Appropriation

Figure 4.12 | The number of property rights transformation on residential lands in MTB.



(a) (b)

Figure 4.13 | Transformation of the security level of property rights in MTB (a) cultivated and (b) residential lands.

Figure 4.13 (a) and (b) demonstrate how the security of property rights for cultivated and residential land has respectively transformed after the development of MTB. It can be seen that most of the rights that have been transformed for both the cultivated and residential land have a decreased level of security. The highest level of decrease for the cultivated land was 3 level, while for the residential land it was 4 level.

4.5.2. Nexus Between Urbanisation Pressure and Security Level of Property Rights

The population growth and increase of public facilities add to higher pressure from the existing city to peri-urban areas. Consequently, the land acquisition that affected the property rights of the residents in our three cases cannot be separated from the urbanisation process. We presume that different aspects of this process, leading to a transformation of the property rights regime, may cause different effects on the security level of property rights. To facilitate the testing of our hypothesis, a multiple linear regression (MLR) was employed by involving the level of property rights security transformation as a dependent variable and the independent variables representing urbanisation aspects, namely type of land, land use, land price, occupation, income, and welfare (see **Section 4.4**).

In the first step of MLR analysis, we examined the correlation among dependent and independent variables and performance of the regression model. According to **Table 4.6**, the R-squared value shows 0.732. This indicates that 73.2% of the transformation of the security level is explained by all variables related to urbanisation. In addition, the standard error of the estimate (SEE) is lower than the standard deviation of dependent variables (2.295 < 2.417), which implies that this MLR model has an excellent performance in predicting the independent variables.

Further, we looked into the coefficients of regression, consisting of β coefficient and significance value. This coefficient explains how and to what extent the urbanisation pressures as independent variables have given an impact on the transformation of security level as the dependent variable. In this sense, the significance of the independent variable is considered when the *p*-value is less than 0.050. The regression model results are summarised in **Table 4.7**, with the coefficients for each variable.

Table 4.7 shows that three out of six of the urbanisation pressure variables have a significant impact on the transformation of security level of property rights, namely, inland (type of lands), cultivated (land use), and agricultural

variable (occupation). Agriculture (X_4) has the highest significance with p 0.035 < 0.050, while the type of lands (X_1) has the lowest one. Moreover, by referring to the β coefficient, we see that cultivated (X_2) and agricultural occupation (X_4) have a positive correlation to the transformation, indicating that an increase of the number of cultivated lands and farmers led to a higher value of the transformation of security level: 0.634 points and 0.083 points, respectively. In contrast, inland (type of land) shows an inverse correlation (-1.181) to the change of security level, indicating that the increase in the number of properties in the inland area decreases the security level of property rights concerning the amount of that value.

Table 4.6 | Model summary.

Model Summary			
R	**R-Square**	**Adjusted R-Square**	**Std. Error of the Estimate**
0.854	0.732	0.727	2.295

Table 4.7 | Coefficients of regression.

Variables	**Unstandardised Coefficients**		***t***	**Sig. (*p*)**
	β	**Std. Error**		
(Constant)	**-2.438**	0.463	-5.271	0.000
Inland (X_1)	-1.181	0.273	-4.321	0.000
Cultivated (X_2)	0.634	0.240	2.637	0.029
Land price (X_3)	-9.101×10^{-8}	0.000	-0.205	0.838
Agriculture (X_4)	0.083	0.226	0.366	0.035
Income (X_5)	-7.020×10^{-7}	0.000	-0.793	0.428
Poor (X_6)	-0.551	0.297	-1.855	0.064

4.6. DISCUSSION

4.6.1. Transformation of Property Rights Due to New Town Development

In terms of land development, property rights cannot only be understood as a single bundle of rights, but they are also attached to several sets of rights at once, which relates to several parties. Therefore, we have proposed here that the assessment of these rights should be performed by taking into consideration the three bundles of rights, namely, ownership, appropriation, and formality of rights. This is reflected in the conceptual framework constructed in **Section 4.3**. This new framework also seems workable and helpful for assessing the property rights transformation regarding new town development, because the framework is capable of comprehensively covering and identifying the characteristics of the property rights in the three locations of study. We considered this as an improvement to current frameworks which only focus on ownership (Adam, 2014a), appropriation (Sikor *et al.*, 2017), and formality (Zhu & Simarmata, 2015) separately. We then applied this specifically to the case of Indonesia. We found that the characteristics of property rights in Indonesia seem to be well represented in our model. Yet, there was one category in ownership that could not be identified in the three locations of study: communal ownership (because this tenure system was not in use in the three research locations). Although communal ownership is acknowledged as one of the categories of ownership in Indonesia, in situations where the properties are usually utilised for public facilities such as *waqf* for religious activities (Rudiarto, 2015) or it can even turn to *ulayat* land or *adat* land (Thontowi, 2016), private ownership is predominant. Private ownership has been promoted by the government with the intention to bring welfare to the people (Pemerintah Republik Indonesia, 1945).

The characteristics of peri-urban areas as locations that provide large and fertile land have formed a dependence on the people's socioeconomic structure towards natural resources (Douglas, 2006; Mandere *et al.*, 2010). The expansion of urban activities in peri-urban areas, often combined with vast land development, has turned into complicated problems in terms of the continuity of the people's livelihoods. There is much evidence suggesting that, although the locals living in urban outskirts have heavily relied on the availability of lands, their rights to properties are in jeopardy. This issue is apparent in the ownership and utilisation of the properties that are insecure (Feder & Onchan, 1987; Nizalov *et al.*, 2016; Zhou *et al.*, 2018) as well as in the formality of rights (Schlager & Ostrom, 1992; Bureau Statistics of West Bandung Regency, 1996), while the degree

of formality plays a central role in providing guarantees for investment values in the transaction of land (Gakenheimer, 1976). Besides the poor economic conditions of local communities, the insecurity of this formality is often overlooked by residents living in peri-urban areas. They are more concerned with maximising the use of land (Etikan, 2016; Colsaet *et al.*, 2018) rather than holding the lands for economic investment (L. Zhang *et al.*, 2018).

Unsurprisingly, this condition was also found in the three locations of study: KHI, KBP, and MTB. The initial condition of the rights to the properties held by individuals shows a rather low formality degree. More than 90% of the total property rights were in the category of unregistered rights. In Indonesia, the legality of semi-formal rights stems from the legacy of dualism in the post-colonial land system with different labels in several locations (Hoffman, 1992). *Girik* and *Rincik* letters can be widely found, where the former is quite common in Java (Leaf, 1993), and *Rincik* is mainly found in Makassar and nearby areas (Nirwana *et al.*, 2017). The characteristics of the property rights mostly found in peri-urban areas reflect poor economic conditions of the locals regarding land registration (Lawson-Remer, 2014). Moreover, we also found that, despite similar formality levels between rights over cultivated and residential land, they are different in characteristics in terms of ownership and appropriation. Concerning cultivated lands, the private and alienation right categories are not dominant in ownership right and utilisation. This phenomenon indicates that residents lack full rights to land, such as user rights. As a consequence, they did not get any compensation when their lands were acquired. According to Indonesian Law (Badan Pertahanan Nasional, 1998), the compensation given is only restricted to the right of ownership that involves private right, which is mostly associated with alienation right. For residential land, private ownership and alienation rights are dominant. Right holders hold the right to manage their properties in line with their expectation and intention without any interference from other parties. Therefore, these rights give a significant advantage in terms of the guarantee of economic values in land transactions (Samsura *et al.*, 2010) and the sustainability of their livelihoods (Agegnehu *et al.*, 2016; Bhandari, 2013).

Along with land acquisition for new town development, the transformation of property rights in the majority of cases led to a change of rights security. Notably, changes in appropriation rights occurred, indicating changes concerning the livelihood of the holders of the rights. Similar changes in livelihood conditions were found in other studies in Global South countries (Wu & Yeh, 1997; Bureau Statistics of Bekasi Regency, 2002; Douglas, 2006; Mandere *et al.*, 2010).

Additional findings also underline that the rights on cultivated land are easily exposed to the effects of new town development, resulting in substantial decreases in the security level, compared to the changes in security levels for property rights concerning residential use. We assume that this is triggered by lower land prices (Lawson-Remer, 2014), 'easier' land acquisition (Nizalov *et al.*, 2016), as well as lower servicing costs (Legates & Hudalah, 2014). Moving to residential land, we noted that, in total, 172 properties have been acquired, but only in 37% of these cases, this led to a decrease of security level.

4.6.2. Effects of Urbanisation on the Change of Property Rights Security

The dynamics of the growing population and the development of activities in the existing city have stimulated the expansion of urban activities to peri-urban areas. This major expansion may have been caused by urbanisation pressure consisting of geographical, economic, and social aspects (Li *et al.*, 2018b; Tong *et al.*, 2019; Wu & Yeh, 1997; Liu *et al.*, 2011; Verburg *et al.*, 2004; Colsaet *et al.*, 2018). This research aimed to verify to what extent urbanisation pressure variables have impacted the security level of the residents' property rights over land. The results of our statistical analysis indicate that three out of six variables related to urbanisation pressure tested show a significant influence on the change in the security level. They are land use, occupation, and type of lands (**Table 4.7**).

Land use seems to be the most significant variable influencing the change of security level. Statistically, it also reveals a positive correlation to the change of security level. The more cultivated lands, the stronger the possibility there will be of a change of the security level. The trend of change of rights in cultivated and residential land in the three locations are 65% and 35%, respectively. The 30% gap indicates the high penetration of large-scale land development which converts productive cultivated lands in peri-urban areas (Adam, 2014a; Puc, 2015), most of which are owned by local residents (Phuc, 2015; Winarso *et al.*, 2015).

Occupations related to agriculture, e.g., farmer, fisherman, and fishpond farmers, also gives a positive correlation with the change of security level. Referring to **Section 4.5.2**, 75% of rights held by farmers, fisherman, or fishpond farmers experienced a substantial decrease in their security level. This finding also asserts that activities in peri-urban areas which heavily rely on agricultural activities (Douglas, 2006; Mandere *et al.*, 2010; Nizalov *et al.*, 2016) are prone to changes in the security level compared to nonagricultural activities. Farmers tend to easily release their land due to low crop productivity and income (Colsaet *et al.*, 2018). Moreover, in the three locations observed, more than 50% of the

locals were holding rights over land where there is a greater chance for a security level change to take place (Adam, 2014a). This led to the significant influence of occupation on the change in security level. In addition, local residents in peri-urban areas tend not to fully understand the benefits of a high security level of their property rights. As long as property rights can provide economic benefits, security levels tend to be ignored (de Soto, 2000; Bellemare, 2015).

On the contrary, although 'inland area'—an area that is experiencing the most considerable pressure of the development (Bartels *et al.*, 2020)—gives significant influence to the change of security level, this "type of land" shows an inverse correlation to the change. This result proves that not all of the variables which link to the triggering of massive land development (Winarso & Firman, 2002) have a direct correlation to the transformation of property rights security. Statistically, properties located in inland areas reduce the possibility to change property rights security, whereas the ones in coastal areas receive a more significant change of security level. This is caused by the different livelihoods of local residents: the residents in MTB lose their rights at once as a result of the new town development, since access to the sea is blocked, or the ponds have been taken.

4

4.7. CONCLUSION

This paper has addressed two interrelated issues: the impact of large-scale land development on the transformation of property rights and their security level, and the influence of urbanisation pressures on the change of security level of local communities' property rights over land. We began with developing an alternative framework to assess the characteristics of property rights, particularly in terms of land development. This framework could comprehensively describe the rights embedded in certain land or other properties by considering three bundles of rights: appropriation, ownership, and formality of right.

We applied this framework to investigate the influence of large-scale urban development on the local communities' security of property rights over land. The empirical evidence indicates that the degree of formality of property rights in peri-urban areas tends to be rather low in the period prior to new town development, particularly with regard to property rights over cultivated lands. The results of our study also support findings of previous studies emphasising that poor economic conditions and lack of understanding about property rights security

hamper the process of legalisation of formal rights. Along with major large-scale land development, the acquisition of the properties of the locals has caused a significant change in their rights. Rights over cultivated land seem more vulnerable to transformation because of lower market value and lower servicing costs. Furthermore, security levels over property rights were affected by several aspects of urbanisation processes, particularly 'land use,' 'occupation,' and 'type of lands.'

In sum, the research results implicitly show that property rights and their security level have a strong relationship with the livelihood of selected local communities in our three research locations. This leads to additional research questions; for instance, what the impact is of the transformation of property rights and related security levels on the quality of the local residents' life.

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Chapter 5

Confronting Inequality:

Linking the Impacts of Large-Scale Land Development to the Quality of Life of Local Communities in Peri-urban Area



ABSTRACT

The process of peri-urbanisation has, in many cases, involved large-scale developments. While these developments are expected to regenerate the regional economy, they pose significant challenges to local communities. These challenges include displacement, changes in property rights security, and a decrease in spatial quality, which may directly or indirectly affect the community's quality of life, resulting in unsustainable lives. Since a holistic assessment that looks at the link between these challenges is lacking, this research aims to explore the extent to which the impact of a large-scale development such as a new town contributes to changes in the quality of life of communities who lived or worked in the area before the development started. The research focuses on local communities in the *kampungs* (enclaves) around two new town development areas in Indonesia. A total of 3,444 households were surveyed to provide an overview of the spatial quality of the areas, with 150 primary respondents involved to examine the relationship between large-scale development and a community's quality of life. PLS-SEM was applied to statistically test this relationship. The findings show that three of the seven variables tested display a highly significant relationship with changes in the community's quality of life, including a decreasing security of property rights, socio-economic conditions, and types of displacement. Interestingly, other findings show that the geographical setting acts as a moderator variable that affects the motivation for displacement, environmental quality, and physical quality variables to influence the changes in quality of life.

Keywords: *displacement, large-scale land development, local community, property rights, quality of life*

5

5.1. INTRODUCTION

Generally, peri-urbanisation refers to the transformation process in which rural areas become more urban, often occurring gradually in terms of character, physical appearance, and economy (Webster, 2002). In the Global South countries, this phenomenon tends to occur on a large scale (Hudalah *et al.*, 2007; Webster *et al.*, 2014; Winarso *et al.*, 2015; Woltjer, 2014). One form of large-scale land development that has emerged in peri-urban areas in recent decades is new town development (Insa-Ciriza, 2012; Lai *et al.*, 2014; Pratomo *et al.*, 2022a; Song *et al.*, 2020).

The progressive development of new towns is expected to not only create new regional economic development centres but also lead to an improvement in the quality of urban life and an innovative urban transition (Song *et al.*, 2020). Although the penetration of capitalism through large-scale land developments like new towns provides a stimulus for widespread growth in suburban areas, several findings indicate that it has also led to increasing sustainability challenges, especially for local communities (e.g., Adam, 2014; Kleemann & Thiele, 2015; Pratomo *et al.*, 2022a; Yengoh & Armah, 2016) and created inequality among them (Bartels *et al.*, 2020; Zhao, 2012). Some main impacts of this kind of development include displacement (Gellert & Lynch, 2003; Robinson, 2013; Terminski, 2013), changes in proerty rights (Clover & Eriksen, 2009; Pratomo *et al.*, 2020; Tong *et al.*, 2018), and spatial quality (Kombian, 2011; Woltjer, 2014), which could lead to other derivative effects on the community's quality of life (QoL). The communities that experience one or more of the main impacts of development can be further referred to as affected people by development.

Quality of life (QoL) is a multidimensional and complex term and concept that describes the living conditions of people, both individually and in groups (McCrea *et al.*, 2006; Petrovič & Murgaš, 2020). Using a holistic approach, QoL not only reflects the overall sustainability of people's lives (Martinez *et al.*, 2021) but also shows how to achieve that sustainability (Petrovič & Murgaš, 2020). Holistic here means that sustainability cannot be assessed by only considering one or a few indicators related to community livelihood assets but requires comprehensive understanding by including subjective and objective indicators (Berhe *et al.*, 2014; Costanza *et al.*, 2007; Martinez *et al.*, 2021; Martinez-Martin *et al.*, 2012) further explained that utilising this comprehensive perspective in assessing QoL can provide a more in-depth understanding as they are interrelated.

Differences in regional characteristics due to different settings, including

geographical ones, have also been shown to influence the degree of development impacts (Black & School, 2021; Démurger *et al.*, 2002; Webster, 2002), which could be seen from the change in the QoLs of the people who live there. Specifically, Yuan *et al.* (2021) note that the geographical settings of coastal and inland areas differently impact the respective local communities due to the distinct demographic, social and economic structures and spatial patters of the areas.

Given the rapid pace of peri-urbanisation in the Global South, this study focuses specifically on Indonesia, one of the fastest urbanising nations in the region. Indonesia's extensive archipelagic geography and socio-economic diversity make it an ideal case for examining the varying impacts of large-scale developments on local communities. The country's peri-urban areas have witnessed significant transformations driven by new town developments and other forms of large-scale projects (Hudalah *et al.*, 2007; Winarso *et al.*, 2015). However, these developments often exacerbate socio-economic inequalities, environmental degradation, and challenges to community livelihoods (Hudalah *et al.*, 2007; Pratomo *et al.*, 2021, 2023). By focusing on Indonesia, this stidy aims to contribute not only to the broader discourse on peri-urbanisation but also to the development of tailored strategies that address the unique challenges faced by communities in rapidly transitioning regions of the Global South.

Until now, research of the implications of large-scale development, including those associated with the process of peri-urbanisation, mostly discusses the influence of the main challenges of development on one or several components of QoL separately. For example, Korala *et al.*, (2017) and Kaida and Miah (2015) explain that displacement as a consequence of large-scale development has serious implications for social conditions, including psychological ones. Patel *et al.* (2015) and Nikuze *et al.* (2019) outline other consequences of large-scale development, including landlessness, homelessness, unemployment, food insecurity, decreased access to education, increased morbidity, and even mortality. In other cases, it changes the security of property rights, which leads to land conflicts (Higgits *et al.*, 2018; Zoomers & Otsuki, 2017), loss of homeownership (Pratomo *et al.*, 2022a), job changes (Otsuki *et al.*, 2017; Zoomers & Otsuki, 2017), and economic insecurity (de Soto, 2000; Lai *et al.*, 2014; Porio & Crisol, 2004). Another study by Al-Shihri (2016) underlines the impact of development on spatial quality.

All these findings have not been able to portray comprehensively how large-scale development affects the sustainability of local communities in terms of their QoLs. Different livelihood assets or components can generate different benefits

(Deng *et al.*, 2020; DFID, 1999; Li *et al.*, 2019; Natarajan *et al.*, 2022). Therefore, this study aims to examine how the main impacts of large-scale development in different geographical peri-urban areas affect the QoL of local communities. By adopting a holistic perspective on quality of life (QoL) and considering the geographical nuances of coastal and inland peri-urban settings, this study provides a comprehensive analysis of how large-scale development impacts the sustainability of local communities. The research not only bridges the existing knowledge gap in understanding the multifaceted consequences of peri-urbanisation but also advances the discourse on sustainable urban transitions by integrating diverse livelihood assets and geographical contexts. Ultimately, this article contributes to the field by proposing an innovative framework for assessing QoL in peri-urban areas, offering valuable insights for policymakers and urban planners aiming to balance development and community well-being.

The remainder of this paper is structured as follows. **Section 5.2** provides a theoretical background on the characteristics of peri-urbanisation, the main challenges arising in the process of peri-urbanisation, and their relationship with quality of life. The methods used, including the choice of research location and how data was obtained, are explained in **Section 5.3**. The findings of the study are presented and discussed in **Section 5.4**. The paper then concludes in **Section 5.5** and offers possibilities for further research.

5.2. PERI-URBANISATION AND SUSTAINABILITY

5.2.1. Characteristics of peri-urbanisation in countries in the Global South

In contemporary understandings, 'peri-urban' is used to describe urban outskirts that absorb the excess urban population and offer opportunities to form a new urban morphology (size and shape) consisting of both rural and urban characteristics (Cobbinah *et al.*, 2015). In some literature, peri-urban areas are also known as *desakota* (Woltjer, 2014). These areas typically stretch from 10 to 25 km (Cobbinah & Amoako, 2012) to 100 km from the city centre (Mardiansjah *et al.*, 2021; McGee, 2005; Webster & Muller, 2009). Peri-urban areas usually grow into urban functions, not only ecologically but also socio-economically (Simon *et al.*, 2004).

Evidently, peri-urban areas in the Global North and South countries have distinct characteristics. Woltjer (2014) explains that differences can be seen in population size, economic conditions, and land-use changes. In addition, Sahana

et al. (2023) underline differences in the intensity and maximum growth period of peri-urban areas. **Table 5.1** summarises the differences in development between these two regions in detail.

Table 5.1 | Characteristics of peri-urban development.

Region	Characteristics
Global North	• Planned peri-urban area growth related to social welfare and a better way of life. • Maximum peri-urban growth occurred between 1970 and 2000. The spatial expansion of peri-urban areas continues but at a slower rate compared to developing countries. • A relatively larger area of the peri-urban zone and a smaller population size. • Increasing urban population and decreasing rural population. • International economic competition. • Regionalisation processes in broader urban areas.
Global South	• Faster and irregular growth in suburban areas coinciding with economic development and social change. • Most peri-urban growth occurred after the 2000s. • Illegal land enroachment, high-density peri-urban development with inadequate infrastructure and services. • Natural population increase and urbanisation from villages to cities. • Decreasing population in city centres. • A mix of agricultural and non-agricultural activities. • Shift towards urban life and the spread of urban sub-centres.

Sources: Elaborated from Woltjer (2014); Sahana *et al. (*2023)

In Indonesia, the development of peri-urban areas in the form of new towns has intensified since the early 1990s and is mainly concentrated in the Jakarta metropolitan area due to increasing population growth and land scarcity in the primary city (Firman, 2004; Pratomo *et al.*, 2022a). The penetration of this large-scale development became more massive and has spread to other Indonesian metropolitan areas, on Java, the most populous island in the country, as well as outside Java. This development expansion is intended to strengthen the economic base and improve living conditions (Koen, 2015; Song *et al.*, 2020). Unfortunately, in some cases, the development has had negative implications, both direct and indirect, for local communities. These are also often the marginalised parties in development (Terminski, 2013), especially regarding their living conditions, social interactions, and environmental quality. This is not surprising, as Qadeer (1974) emphasised that new town development is not intended for local communities, ultimately reflecting inequitable development.

5.2.2. Main challenges of the peri-urbanisation Process

Development on urban outskirts is known to be twice as high as that in urban areas, which reaches 1.4%–2.5% annually (United Nations, 2012). Peri-urbanisation certainly has varied consequences, depending on the conditions in each area (Simon, 2008). In many cases, the development process leads to several significant challenges, namely displacement (Gellert & Lynch, 2003; Robinson, 2013; Terminski, 2013), changes in property rights (Chigbu, 2021; Pratomo *et al.*, 2020), and changes in spatial quality (Kombian, 2011; Woltjer, 2014), each of which can be associated with the pillars of sustainable development: social, economic, and environmental (see **Figure 5.1**).

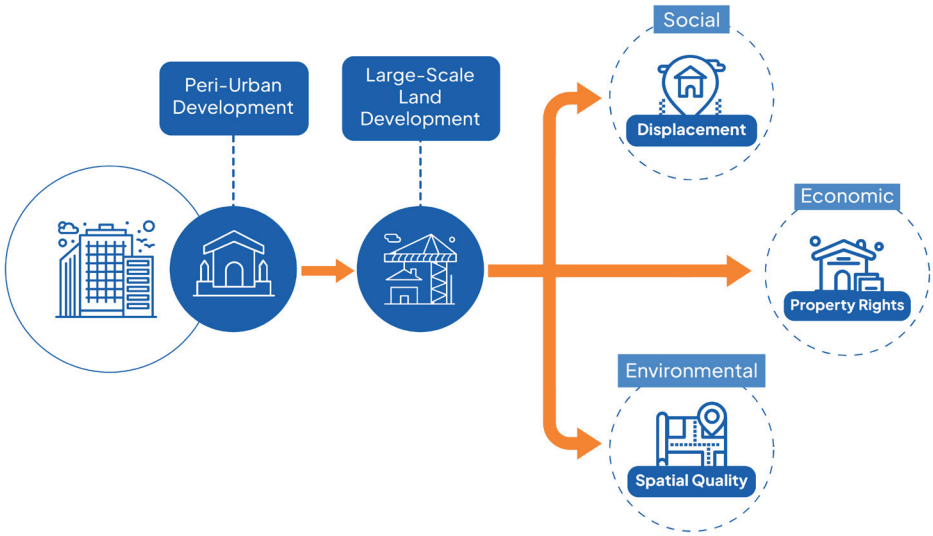


Figure 5.1 | The three main challenges of large-scale land development led by peri-urbanisation. *Sources:* Chigbu (2021); Gellert & Lynch (2003); Kombian (2011); Pratomo *et al.* (2020); Robinson (2013); Terminski (2013); Woltjer (2014)

Displacement can be understood as a condition where forced movement occurs simultaneously, encompassing both natural and social elements (Gellert & Lynch, 2003). This development challenge, in some practices, is also often associated with a social impact. Gellert and Lynch (2003) and Stanley (2004) categorise the typology of displacement into two categories: primary and secondary. Both are indicated to have varying impacts on communities, as discovered in Maharashtra, India (Carstens, 2001). A similar story is also found in the opening of new gold mining in Cotui, Dominican Republic (Gellert & Lynch, 2003) and the project of large-scale residential development in urban outskirts (Dieleman, 2011; Pratomo *et al.*, 2022b; Surya *et al.*, 2020b). Primary displacement can be

referred to as direct displacement, while secondary displacement is often considered as an indirect impact of development. Gellert & Lynch (2003) explain that primary displacement is not only related to how communities relocate due to development but also includes the influx of newcomers driven by increased labour demand in the development area. This condition can then lead to socio-economic and environmental changes, which are categorised as secondary displacement. The secondary displacement tends to be more difficult to predict and measure (Crisp *et al.*, 2012) because it is also influenced by the interaction of other factors such as politics and socio-natural (Gellert & Lynch, 2003). The displacement may take place not only in the development area, but also in the surrounding areas affected by the development. Moreover, this type of displacement can even occur without physical relocation and livelihood changes. The secondary displacement is also often seen as a process of gentrification (Atkinson, 2003).

Regarding its motivation, displacement can be categorised into three types: moving out of one's residence, a change in jobs, or a combination of both. The change in jobs generally occurs among low-income communities who have experienced displacement and lost their primary livelihood due to a lack of skills (Linder, 1994; Turner, 2010; Verme & Schuettler, 2021) and the loss of land, especially in the agricultural sector (Fiala, 2015). This displacement can be temporary or permanent if it occurs over a relatively long period (Feldman, 2003). More significant consequences are often discovered in those who lose their home and job simultaneously. They may receive only temporary jobs and shelter, which means higher levels of vulnerability in the long term, leading to even greater impoverishment (Shaw & Saharan, 2019).

Empirically, the displacement process as an implication of development tends to take a specific spatial form. According to Wang *et al.* (2020), this form can be dispersed or clustered, with the latter occurring most often (Liu *et al.*, 2017; Oakley & Burchfield, 2009). Some other studies explain that displaced groups prefer to move across short distances due to strong social bonds, mutual dependence, and limited knowledge of new environments (Bolt & van Kempen, 2010; Kleit & Galvez, 2011; Popkin *et al.*, 2004). In the case of dispersed patterns, Kauppi *et al.* (2023) state that this is in response to the opportunity to obtain more benefits, such as more resources and a better environment, despite sacrificing social bonds or other unfavourable conditions.

Another main challenge of large-scale development, which also has economic implications, is property rights. Its refers to a set of rights that describe the relationship between the rights holder, whether individual or group and their

property. Moreover, property rights are also seen as an incentive for resource use, consisting of the right to use an asset in any way desired by the owner and to exclude others from using the same asset (Alston & Mueller, 2008). This bundle of rights play an important role in ensuring economic sustainability, especially in peri-urban areas.

Property rights consist of different rights to use an asset (Alston & Mueller, 2008) and are essential to ensure economic sustainability. The rights should be seen as a bundle of rights, encompassing ownership, appropriation, and formality of rights (Pratomo *et al.*, 2020). The highest level of property rights security is achieved when an individual owns a property and/or has the unrestricted ability to utilize it, along with strong formal legal recognition.

Reflecting on economic theory, de Soto (2000) explains the centrality of property rights security in enhancing community economies. Insecurity of property rights can limit landowners' access to credit and investment, which could impede their capital formation and economic growth. Pratomo *et al.* (2020) and Galiani and Schargrodsky (2010) clarify that property rights have different security levels, which relate to certainty in land and property transactions, that can increase their economic value. In agricultural land, property rights can also develop farmland rental markets, significantly increase net agricultural income (Abab *et al.*, 2023) and guarantee credit access and an active land market to support investment as a long-term effect of the security of property rights (Bizoza & Opio-Omoding, 2021). Some scholars (e.g., de Soto, 2000; Oliver, 2011) have stated that, in a few cases, enhancing the security of property rights can open up opportunities for individuals to sell their properties, resulting in them losing their sovereignty. Holding rights over lands and properties without strengthening access to capital for the community is believed to increase the latter's vulnerability in the development process (Gauster & Isakon, 2008).

At the same time, large-scale development in peri-urban areas puts pressure on spatial quality (Woltjer, 2014), which is also known as urban environmental quality. As explained by Kombian (2011), spatial quality reflects the environmental quality at the neighbourhood or even regional scale because it consists of various parameters that directly affect the environment (Faisal & Shaker, 2017; Fang *et al.*, 2021; Mahmoud & Gan, 2018). Van Kamp *et al.* (2003) explain that spatial quality integrates physical, environmental, and socio-economic quality.

The physical and environmental parameters of spatial quality can be assessed through green space (Faisal & Shaker, 2017; Kazemzadeh-Zow *et al.*, 2018), infrastructure (Carrilho & Trindade, 2022), the built environment (Ghosh

et al., 2022; Zheng *et al.*, 2021), and temperature (Kazemzadeh-Zow *et al.*, 2018). Socio-economics can be represented by population density, per capita income, median home value, and the percentage of college graduates (Faisal & Shaker, 2017). By combining those parameters, spatial quality can be effective and holistically captured to observe the impact of a new town development in a peri-urban area.

Communities in the development area and surroundings do not necessarily have to experience all three main challenges to be classified as affected people. If they experience one or more of these challenges, they can already be considered affected. This is because development influences people's lives in economic, social, and environmental aspects, either directly or indirectly. As an example, if an individual undergoes changes in social relationships and a decline in environmental conditions due to development but does not experience relocation or job displacement, they are still catogorised as affected people, as they have undergone displacement. Another example is when an individual initially owns agricultural land or fish ponds, but the land is later acquired by a developer. However before any development takes place, the individual continues to cultivate the land but as a tenant leasing it from the developer (Pratomo *et al.*, 2020).

5.2.3. Linking the main impacts of large-scale land development in peri-urban area to communities' quality of life

Quality of Life (QoL) has been the focus of many studies, yet there is no single definition of it (Das, 2008). However, it is closely related to human existence and has been studied across various disciplines: economic, social, psychological, medical, and natural (e.g., Karimi & Brazier, 2016; Nutakor *et al.*, 2023; Patra *et al.*, 2015; Puertas *et al.*, 2020; Sajid *et al.*, 2008). QoL is often defined in different ways, depending on the field of study (Theofilou, 2013). In the context of development, QoL represents the fulfilment and satisfaction of individuals' or a community's human needs, which have several components, such as health, education, income, housing, social bonds, employment, environmental conditions, and civil and political freedoms (Costanza *et al.*, 2007; Grasso & Canova, 2007; Pratomo *et al.*, 2022a). Therefore, QoL should be used as a benchmark to assess the sustainability of a community (Agyeman & Evans, 2003, 2004). In this context, sustainability is related to how local communities can maintain their livelihoods by both fulfilling and satisfying their human needs.

As a comprehensive way of assessing the sustainability and inclusiveness of a development, QoL does not seem to be well connected with the main chal-

lenges of large-scale development, namely displacement, changes in property rights, and a decrease in spatial quality. Most existing research only explains the relationship between each main challenge and selected components or assets of a community's livelihood (e.g., Boadi *et al.*, 2023; Chigbu, 2021; He *et al.*, 2022; Shaw & Saharan, 2019; Shekhar *et al.*, 2019). In fact, QoL is formed by various components that are closely linked to displacement, change in security of property rights, change in spatial quality, and, potentially, changes to those components as a result of development may have implications for changes in the QoL of the community (see **Figure 5.2**).

Some studies indicate that displacement has different derivative implications for one or several components of QoL. Displacement itself can be identified into three types: based on type, motivation, and form. The occurrence of displacement, whether one type or several types simultaneously, has been proven to significantly impact social and environmental conditions in Colombo, Sri Lanka (Herath *et al.*, 2017). Displacement has evidently also affected landownership, occupational status, income and expenditure, housing conditions, utilities, and social networks in Bangladesh (Shah Mahmood & Islam, 2019) and impacted social integration, socio-economic status, and community resources in China (Cao *et al.*, 2012).

Rights to land and property are another essential dimension of QoL. He *et al.* (2022) demonstrate that changes in property rights affected the lives of farmers and their families on the outskirts of Chinese cities. de Moura and da Silveira Bueno (2013) show that property rights ownership positively affected individual income levels and employment in Brazil. Other research has found that security in property rights positively implicates access to credit, income, and home investment (see Carter & Olinto, 2003; Field, 2007; van Gelder, 2007).

Moreover, uncontrolled development in peri-urban areas has created a complex organic spatial structure (Kombe, 2005). Rapoport (1970) explains that as part of the environment, the spatial quality of each place can be very diverse. It is due to how various elements, such as buildings, nature, and socio-economic interactions, are composed and come together on different scales (Heinrichs *et al.*, 2012). As found by Faka *et al.* (2023) for Athens, Greece, there is a close relationship between development and spatial quality in terms of the natural, built, and socio-economic environment, housing conditions, access to public services and infrastructure (medical service, school, and sports facilities), and cultural and recreational facilities, which have different consequences for the sustainability of life in the Global North.

The changes in QoL components caused by the main impacts of large-scale land development indicate that QoL conditions are significantly influenced by development. It is reflected in how these component changes represent the fulfilment of human needs and satisfaction in fulfilling those needs, both at the individual and community levels (Constanza *et al.*, 2007; Pratomo *et al.*, 2022a). The link between the main impacts of large-scale land development and community sustainability is visualised in **Figure 5.2**.

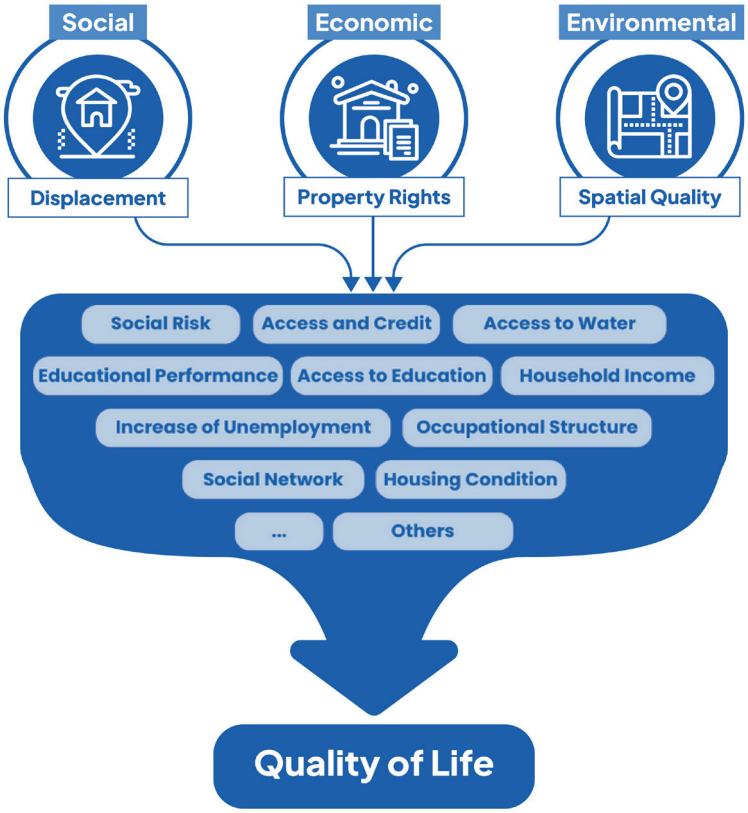


Figure 5.2 | The main impacts of large-scale land development on the quality of life.
Sources: Carter & Olinto (2003); Faka *et al.* (2023); Field (2007); Payne (2001); Shah Mahmood & Islam (2019); van Gelder (2007).

5.3. DATA AND METHODOLOGY

5.3.1. Research location and sampling

This study focuses on peri-urban villages around two new towns in Indonesia: Kota Baru Parahyangan (KBP), strategically situated in the Bandung Metropolitan Area and Metro Tanjung Bunga (MTB), locaed in the Jeneberang Delta. The geographical characteristics of these two cities are different, with KBP representing a non-coastal area and MTB a coastal area. Both developments were initiated in 1997 as part of the large-scale developments that have been vigorously pursued in Indonesia for approximately the last two decades. The MTB area covers 1200 ha while KBP has an area of 1250 ha.

The communities living in the settlement enclaves (*kampungs*) surrounding and inside these new towns were selected as respondents. The total area of the *kampungs* in KBP is 37.83 ha, consisting of eight *kampungs* spread across four villages: Bojonghaleuang, Cikande, Cipeundeuy, and Kertajaya. Meanwhile, the *kampungs* in MTB cover an area of 25.28 ha and consist of five *kampungs* spread across three sub-districts: Tanjung Merdeka, Maccini Sombala, and Barombong.

In general, the information used to specifically assess spatial quality involved household data available in the *kampungs* in both locations. The total number of households involved was 3,444. The data were then aggregated by the smallest administrative unit (RT[1]). Meanwhile, for information regarding displacement, property rights, and QoL, this study questioned 150 respondents affected by the new town development. These affected communities refer to individuals that are impacted by the main challenges of development, either one or more. The information captures their condition before the development and their current condition when the survey was conducted in 2022. Data were collected using purposive sampling at the household level. The respondents were selected using specific criteria: 1) being an adult (over 20 years old); 2) living and/or working in the new town development location before the development period; and 3) experiencing one or more major impacts of large0scale development: changes in property rights level, displacement, or change in spatial quality. The distribution of each *kampung*, along with the 150 selected respondents, can be found in **Figure 5.3** and **Table 5.2**.

1 *Rukun Tetangga.*

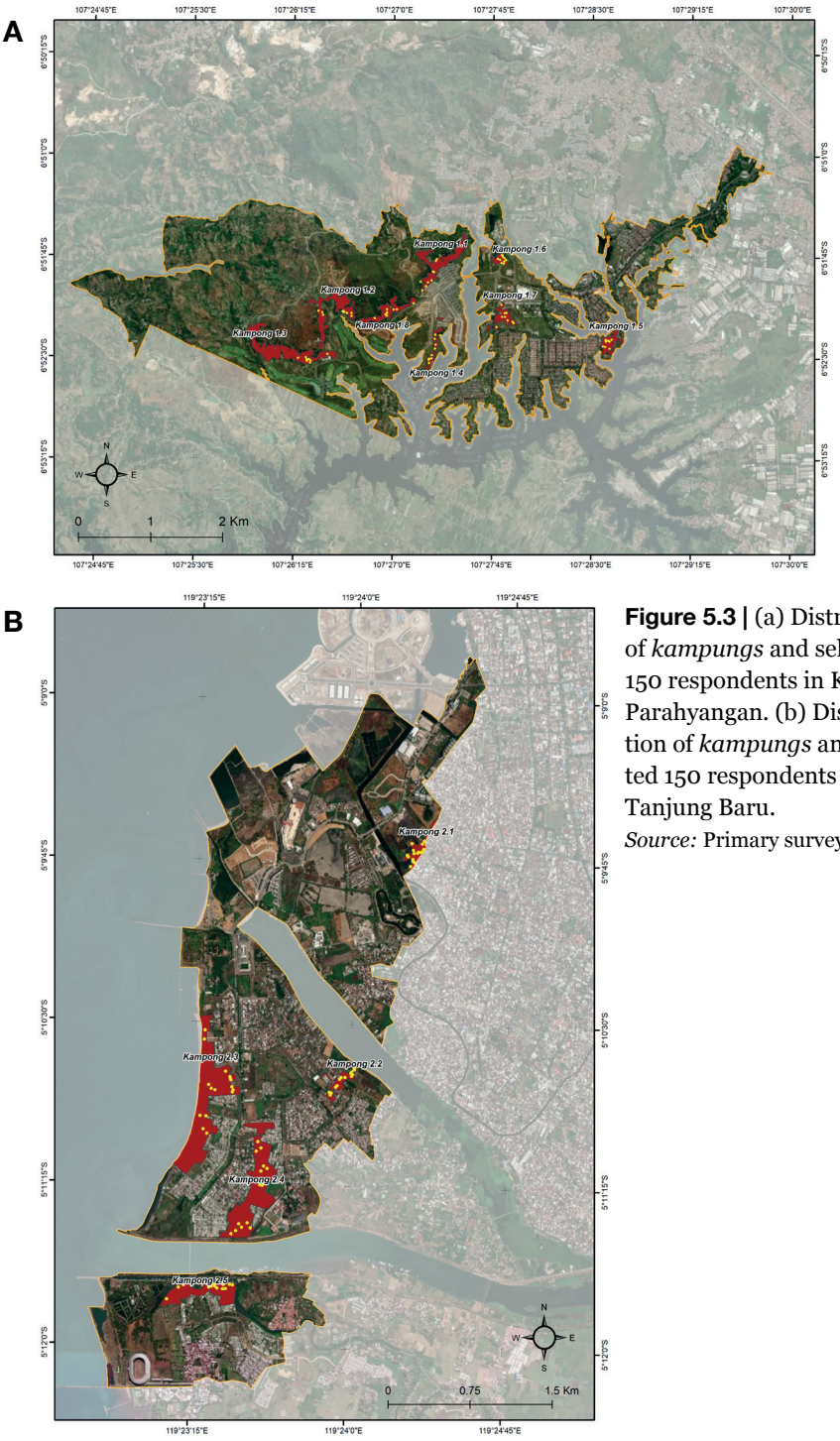


Figure 5.3 | (a) Distribution of *kampungs* and selected 150 respondents in Kota Baru Parahyangan. (b) Distribution of *kampungs* and selected 150 respondents in Metro Tanjung Baru.
Source: Primary survey (2020).

Table 5.2 | Distribution of respondents.

Area	Geographical Location	Area (Ha)	Kampung	Location	Number of Respondents
Metro Tanjung Bunga (75 respondents)	Coastal area	25.28 ha	Kampung 1.1	RW[a] 1 Kelurahan Bontoranmu, RW 4, 6, 7 Kelurahan Maccini Sombala	15
			Kampung 1.2	RW 1, 2 dan 7 Kelurahan Tanjung Merdeka	16
			Kampung 1.3	RW 5 dan 6 Kelurahan Tanjung Merdeka	16
			Kampung 1.4	RW 4 Kelurahan Tanjung Merdeka	14
			Kampung 1.5	RW 10 Kelurahan Barombong	14
Kota Baru Parahyangan (75 respondents)	Inland (non-coastal area)	37.83 ha	Kampung 2.1	RW 2 Desa Bojonghaleuang	9
			Kampung 2.2	RW 7 Desa Bojonghaleuang	10
			Kampung 2.3	RW 3 dan 4 Desa Cikande	9
			Kampung 2.4	RW 3 dan 4 Desa Bojonghaleuang	9
			Kampung 2.5	RW 10 Desa Cipeundeuy	9
			Kampung 2.6	RW 19 Desa Kertajaya	10
			Kampung 2.7	RW 20 Desa Kertajaya	9
			Kampung 2.8	RW 5 dan 6 Desa Bojonghaleuang	10
		Total			150

a Rukun Warga.

The 150 respondents involve were randomly selected and had different socio-economic characteristics, as summarised in **Table 5.3**.

Table 5.3 | Respondents' characteristics.

Characteristic	KBP	%	MTB	%
Gender				
Male	53	70.67%	70	93.33%
Female	22	29.33%	5	6.67%
Length of stay				
> 30 years	8	10.00%	24	31.67%
20 - 30 years	51	68.33%	40	53.33%
5 - 19 years	16	21.67%	11	15.00%
< 5 years	0	0.00%	0	0.00%
Education				
No or incomplete primary school	19	25.33%	24	32.00%
Primary school	18	24.00%	17	22.67%
Elementary and middle school	36	48.00%	34	45.33%
University/college degree and higher	2	2.67%	0	0.00%
Employment				
Employed	53	70.67%	50	66.67%
Unemployed (e.g., currently not working)	22	29.33%	25	33.33%
Income				
Low income (below UMR[a])	72	96.67%	68	91.30%
Above UMR income	3	3.33%	7	8.70%

a Upah minimum regional.

5

5.3.2. Assessing the Main Impact of Large-Scale Land Development

The impact of large-scale land development on QoL was assessed using a quantitative analysis with different methods. The data were collected from the Statistics Indonesia website and primary survey results. The impacts of the large-scale development are divided into spatial quality, displacement, and property rights change. The spatial quality represents environmental conditions (Fang *et al.*, 2021; Mahmoud & Gan, 2018), which were assessed through the area's socio-economic, physical, and environmental aspects. Population density, poverty level, informal economy (Mortoja & Yigitcanlar, 2022) education (Carrilho & Trindade, 2022), and median household income (Winarso *et al.*, 2015) are considered to represent the socioeconomic conditions of an area. Meanwhile, the physical aspect is assessed through informal settlements (building structure)

(Mortoja & Yigitcanlar, 2022) and infrastructure availability (Carrilho & Trindade, 2022; Mortoja & Yigitcanlar, 2022). Environmental aspects are evaluated through built-up areas/impervious surfaces (Ghosh *et al.*, 2022; Lo, 2007), and land temperature (Kazemzadeh-Zow *et al.*, 2018). These variables are considered capable of depicting the physical and environmental conditions of an area.

The evaluation of the displacement variable was divided into three parts, consisting of the assessment of the type (Gellert & Lynch, 2003), motivation (Gellert & Lynch, 2003; Turner, 2010; Verme & Schuettler, 2021), and form or pattern of the displacement (Wang *et al.*, 2020). These variables were chosen because they are most commonly seen in any displacement process, making them considered representative of depicting displacement itself. The analysis technique used for the first two assessments was descriptive statistics, while the latter was investigated based on the average distance of respondents' homes using ArcGIS 10.4 mapping software. The displacement pattern was then calculated by considering the number of respondents in each settlement group and the average house distance between respondents. A higher number of respondents in each group with a shorter distance between homes indicates stronger community bonds.

The property rights change was evaluated through the Ratio of Security Level Change. This security change is seen as a primary component in determining the livelihoods of local communities. By following the formulation by Pratomo *et al.* (2020), it is possible to identify not only the magnitude of changes in the level of security of property rights due to the development of new towns but also to identify the direction of the transformation, i.e., increased (more than 0), no change (0), or decreased (less than 0) All variables, data collection techniques, and analysis techniques involved in this research are summarised in **Appendix A**.

At a further stage, the measurement of QoL was first performed using objective and subjective approaches following the formula that was previously operated by Pratomo *et al.* (2022). This assessment considered all components of QoL. The total average value of both QoL measurements was then classified. If both values were in the range of 3.1–6.0, it was considered good. Conversely, if both the subjective and objective scored under 3.1, it was considered poor.

Furthermore, PLS-SEM[2] was employed to find the relationship between seven independent variables and one moderating variable, as summarised in **Ta-**

2 *Partial least squares structural equation modeling*.

ble 5.4. These variables were selected because they are considered to represent the impact of large-scale development, while the location variable, as a geographical setting, is used as a moderator (M). In several previous studies (e.g., Carrilho & Trindade, 2022; Pacione, 2003), this variable might influence the intensity of the impact of development.

The selection of PLS-SEM medthod was based on several considerations, as explained by Zhu *et al.* (2019), where PLS-SEM is less dependent on the assumption of normal distribution, thereby demonstrating higher estimation accuracy. PLS-SEM itself is a multivariate statistical analysis technique that simultaneously analyses multiple variables (Hair *et al.*, 2017), and is used to examine the structural relationships between variables and latent constructs. Moreover, PLS-SEM can be used to estimate parameters using random samples from a population (Sheng & Zhang, 2022). It is also employed to assess structural models and allows for the estimation of relationships between latent variables while accounting for measurement errors (Subhaktiyasa, 2024). More specifically, PLS-SEM is particularly effective for estimating complex models of hypotheses and exhibits versatility across various contexts (Khmeleva *et al.*, 2022; Sarstedt *et al.*, 2022). In addition, Hair *et al.*, 2019 argue that PLS-SEM is suitable for analyses involving small sample sizes with numerous variables and offers superior model robustness, enhancing the ability to ascertain the significance of relationships among variables compared to alternative methodologies. To date, numerous studies have utilised PLS-SEM in QoL research (e.g., Boadi *et al.*, 2023; Prayitno *et al.*, 2022; Prayitno *et al.*, 2023; Santana & Maués, 2022).

The widespread adoption of PLS-SEM in such research is also attributed to its ability to handle data that are not normally distributed and to model complex conceptual frameworks effectively.

Moreover, this research proposes the following hypotheses:

Ho. All independent variables significantly influence changes in QoL

H1. All independent variables do not have a significant influence on changes in QoL

The performed PLS-SEM in this research was a single-item construct, in which each construct is measured by single indicator (Hair *et al.*, 2022; Sarstedt & Wilczynski, 2009) argued that single-item constructs can yield satisfactory results when the model is specific and clearly defined. Moreover, single-item constructs offer greater flexibility, especially when adjustments are needed during the research process. In PLS-SEM, the use of single-item constructs eliminates

Table 5.4 | Variable description.

Variables	Code	Description
Type of displacement	X1	Typology of displacement based on spatioal and temporal characteristics (coded in nominal: not displaced = 1, primary displacement = 2, secondary displacement = 3)
Motivation of displacement	X2	Typology of displacement based on motivation (coded in nominal: not displaced = 1, change in job = 2, move of residence = 3, change in job & move of residence = 4)
Form of displacement	X3	Form of displacement created after the development (coded in ratio: 0-1)
Environmental quality	X4	Level of environment quality due to development (coded in ordinal: low = 1, moderate = 2, high = 3)
Physical quality	X5	Level of physical quality due to development (coded in ordinal: low = 1, moderate = 2, high = 3)
Socio-economic quality	X6	Level of socio-economic conditions due to development (coded in ordinal: low = 1, moderate = 2, high = 3)
Change in property rights security level	X7	Change in the security level of property rights (coded in the interval: no change = 0, decrease < 0, increase > 0)
Location	M	Geographical condition (coded in binary: coastal = 1, non-coastal = 0)
Change in QoL	Y	QoL level change (coded in interval: no change = 0, decrease < 0, increase > 0)

the need for outer model evaluation (Latan & Ghozali, 2012), as each variable directly represents its indicator, thus bypassing further validity and reliability testing.

Moreover, this research incorporated a moderating variable to further explore how different geographical settings in peri-urban areas influence the causal relationship between the main impacts of large-scale development and the QoL of local communities. As noted by Hair *et al.* (2022), a moderating variable can significantly influence the strength and direction of the relationship between independent and dependent variables.

5.4. RESULTS AND DISCUSSION: THE IMPACT OF LARGE-SCALE LAND DEVELOPMENT LED BY PERI-URBANIZATION

5.4.1. Displacement

In both research locations, primary and secondary displacement were identified in each of the 75 respondents, with a mere 7.3% of participants reporting no experience of displacement (**Figure 5.4**). The reasons for non-displacement included feeling too settled, uncertainty about relocation destinations, and physical constraints preventing movement. This reluctance is tied to the duration of residence. In both locations, the majority have lived in the same place for 20 to 30 years, with some residing there for over 30 years (**Table 5.3**). This situation has cultivated a deep bond between community members and their homes, rooted in cultural, emotional, and identity factors (Perez Murcia, 2019).

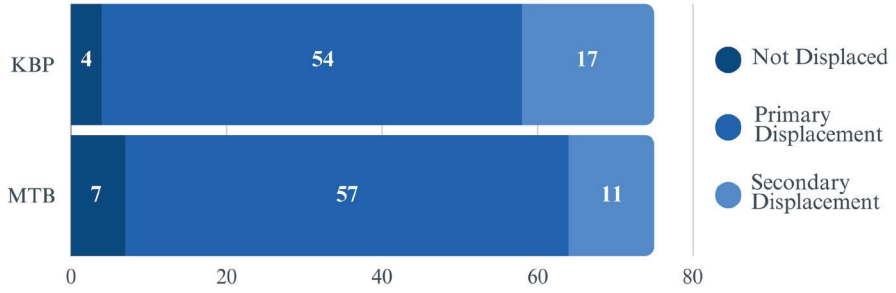


Figure 5.4 | Type of displacement.

As presented in **Figure 5.4**, the predominant experience of displaced individuals was primary displacement, which affected over 74% of respondents, with 15 respondents also experiencing secondary displacement. Based on the data, more respondents in KBP were displaced than in MTB. Most of the community was displaced primarily due to changes in employment, accompanied by the relocation of their homes (**Figure 5.5**). Jiang *et al.* (2018) explain that residents who move due to losing their jobs and homes simultaneously become more vulnerable because of cumulative impacts. This condition occurs in several cities in China (e.g., on the outskirts of Shanghai), where farmers lose their land, their primary source of livelihood, and their homes simultaneously, which they experience as an injustice (Chen, 2003). A similar condition was found by Mao and Wang (2006) in China and Narayanan (2017) in Malaysia.

In instances where job changes prompted relocation, the development altered the employment landscape in both MTB and KPB. Communities formerly engaged in agriculture (including farmers and farm labourers) and fishing (including fishermen, pond farmers, and fish traders) transitioned to the trade sector and other informal economies. Remarkably, 31% of all respondents lost their jobs due to these shifts (**Table 5.5**). The development projects depleted the primary resources of peri-urban communities, whether agricultural land, fish ponds, or access to the sea, compelling a shift to alternative means of subsistence, often within the informal sector. This phenomenon resembles the findings of Chen *et al.* (2008) in China. A critical challenge arising from this transition is the issue of skills. Not everyone has successfully secured new jobs or established businesses, primarily due to a lack of necessary skills (Randell, 2016). The shift in the job structure has consequently reduced household income among local communities (Ayuni *et al.*, 2022; Pratomo *et al.*, 2021). If this trajectory continues, such developments are likely to exacerbate poverty levels (Cernea, 2003; Choi, 2015).

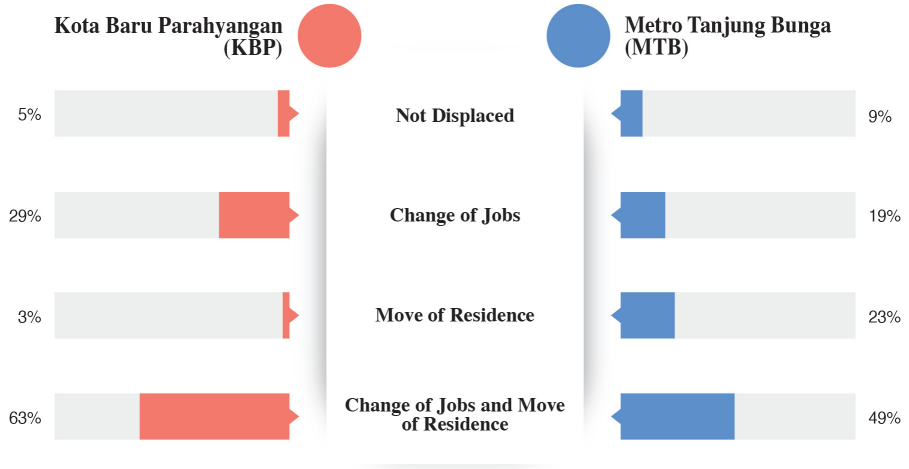


Figure 5.5 | Motivation for displacement.

This condition also indicates that displacement does not improve social and economic conditions because the development did not adequately consider the initial activities and conditions of the local community. At the same time, displacement appears to show a tendency towards a particular pattern. A clustering pattern was observed in KBP and MTB. The clustering index represents this pattern. This index, which can also be referenced in **Supplementary Table A**, is derived from the number of respondents in each settlement group, compared

with the average distance of each location or point. A higher number of respondents in each group with a shorter distance between homes indicates stronger community bonds. The observed mean distance between all respondents at both locations was less than 50 m, specifically 43 m and 39 m at KBP and MTB, respectively. Based on this neighbourhood analysis, groups of respondent clusters were formed, with 20 groups and 16 groups, as shown in **Table 5.7.**

Table 5.5 | Change in local community jobs.

	Before development		After development	
Profession	**Number of respondents**	**Percentage**	**Number of respondents**	**Percentage**
Fishermen	36	24%	19	12.67%
Pond farmers	15	10%	8	5.33%
Fish traders	5	3.33%	1	0.67%
Farms and farm labourers	82	54.67%	17	11.33%
Office/civil	2	1.33%	3	2%
Traders	8	5.33%	23	15.33%
Others/construction labourers/informal	2	1.33%	32	21.33%
Unemployed	0	0%	47	31.33%

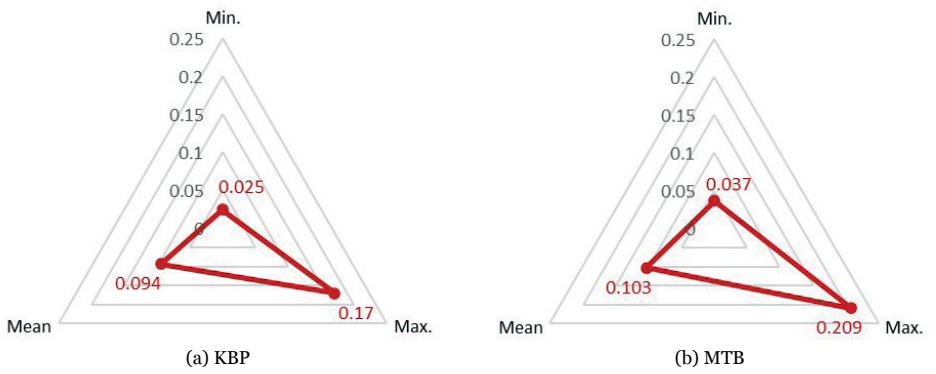
The findings also reveal that MTB had fewer clusters than KBP, suggesting that clusters in MTB were generally larger. This observation was corroborated by data showing greater average distances, minimum and maximum, among respondents within a cluster in MTB. This pattern highlights the pronounced tendency of coastal communities to live in close-knit groups (Ekawati *et al.*, 2022; Gopalakrishnan *et al.*, 2020). Coastal communities' inclination towards clustering reflects the strength of social bonds developed over the years, deeply in-

Table 5.6 | Information on formed clusters.

No.	**Information**	**Kota Baru Parahyangan**	**Metro Tanjung Bunga**
1	Number of formed clusters	20	16
2	Average minimum distance among respondents within clusters (m)	29.44	49.264
3	Average maximum distance among respondents within clusters (m)	131.43	194.8
4	Number of most prominent cluster group members	10	16

fluenced by their socio-economic pursuits, as argued by Ali *et al.* (2023). This phenomenon underlines the interplay between the socio-economic activities of coastal communities and their strong communal ties.

Unsurprisingly, the strength of the clusters formed in both locations also reinforces the social character of the community. As depicted in **Figure 5.6**, the cluster bond strength value is deemed a cluster index in MTB and is higher than in KBP. This value is obtained by connecting the number of respondents per cluster with the distance between respondents within each cluster.



(a) KBP (b) MTB

Figure 5.6 | Strength of cluster (a) KBP; (b) MTB.

5.4.2. Property Rights

A survey of 75 respondents in each new town location showed that respondents in both KBP and MTB experienced a decrease in the security of property rights from before the development to the present, and those in KBP had a higher reduction in security value compared to those in MTB (**Figure 5.7**). This condition is similar to what Pratomo *et al.* (2020) observed, which explains that the inland peri-urban development-affected community experienced a greater decline in property security than those in the coastal area.

Specifically, KBP experienced a less pronounced reduction in property rights security than MTB, with maximum decreases of -8 and -7, respectively. Conversely, when it comes to increases in security, KBP saw a greater improvement, with increases of 3 compared to MTB's 2. Overall, the security of property rights in both locations varied, with KBP and MTB averaging -1.9 and -0.76, respectively. This disparity can be attributed to informal rights (see Pratomo *et al.*, 2020), as discussed by Yang and He (2021). Ansoms *et al.* (2014) further note that informal property rights are frequently ignored and not compensated, exacerbating these differences.

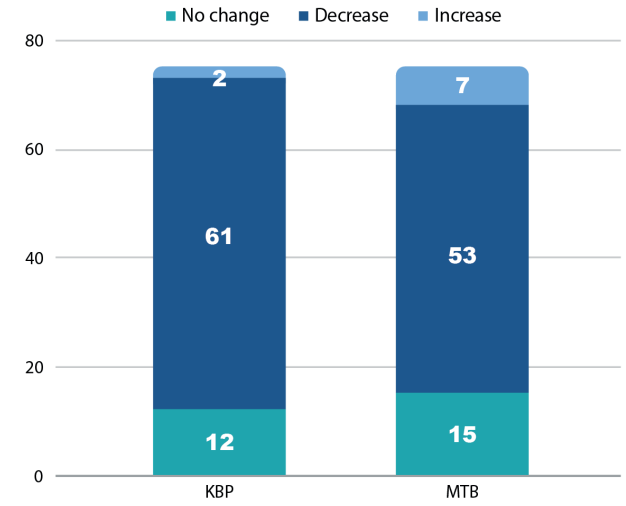


Figure 5.7 | Security transformation in KBP and MTB.

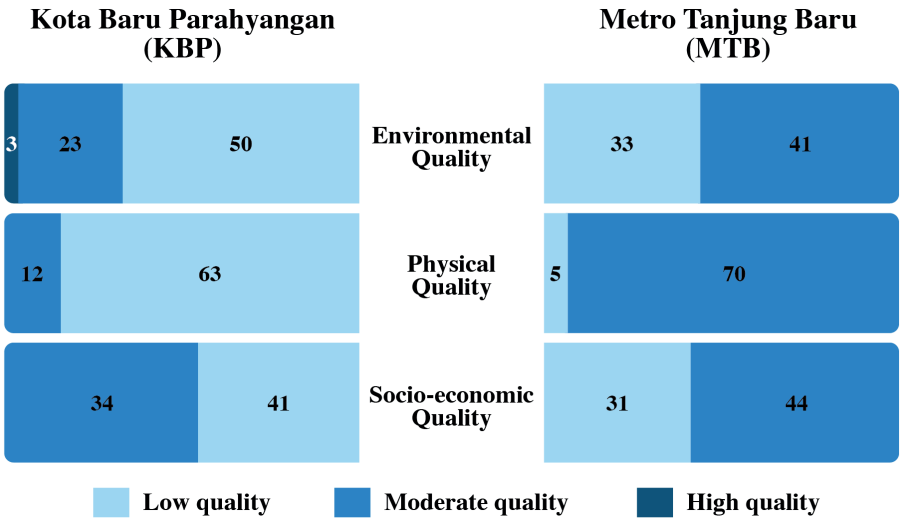


Figure 5.8 | Spatial quality.

5.4.3. Spatial Quality

Overall, KBP has a lower spatial quality than MTB (**Figure 5.8**). KBP's poorer environmental conditions could be attributed to its densely built-up area (**Figure 5.9 (a)**). This situation contrasts with findings from other research (e.g., Chan, 2012; Creel, 2003; Hallegatte *et al.*, 2013; Magarotto *et al.*, 2016; Neumann *et al.*, 2015), which typically shows coastal areas being denser than inland areas because of their desirability, coupled with the escalation in development and construction activities along coastlines (Creel, 2003; Neumann *et al.*, 2015). Regarding green vegetation, KBP exhibits a better quality than MTB (**Fig-**

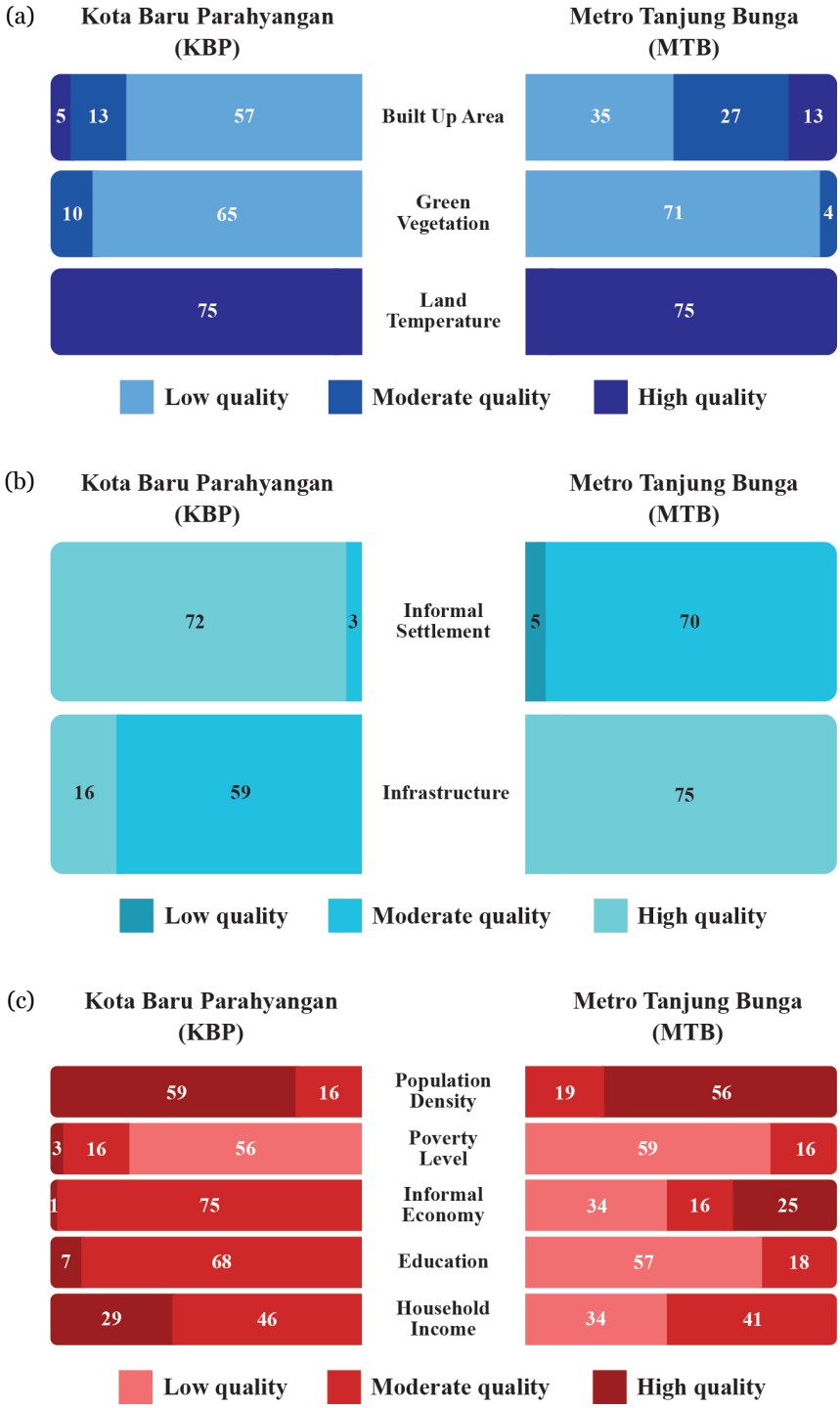


Figure 5.9 | (a) Environmental status; (b) Physical quality; (c) Socio-economic quality.

ure 5.9 (a)). This difference may be attributed to extensive land-use changes in MTB (Surya *et al.*, 2020b) and its development practices, including reclamation activities that harm the mangrove ecosystems (Annas & Rusnaedy, 2019). Furthermore, the planning of these areas contributes to this disparity, with KBP designated to include a larger proportion of green spaces at 55%, compared to 20% in MTB. Despite these differences in built-up density and green vegetation, land temperature studies indicate that both areas maintain a high level of comfort.

This research also measured the physical quality (building structures) and the availability of basic infrastructure, because these represent the condition and quality of the physical environment, which may affect the community's QoL (Soyinka & Siu, 2017). **Figure 5.9 (b)** shows that MTB has a lower physical quality than KBP. On the one hand, the informal settlements in MTB are more numerous than in KBP. Putri *et al.* (2021) explain that informal settlements are primarily built in coastal areas. Landownership, local laws and regulations, environmental quality, and population increases influence the presence of informal settlements. On the other hand, looking at the availability of infrastructure, MTB is in a far better condition than KBP. It is inseparable from the involvement of the Makassar City Government, which has built clean water and wastewater management facilities in Makassar (Annas & Rusnaedy, 2019).

Moreover, the socioeconomic aspect shows that MTB has better conditions than KBP in terms of population density, poverty level, and education. In contrast, for the informal economy and household income, KBP shows better conditions (**Figure 5.9 (c)**). Creel (2003) found that socio-economic conditions in coastal areas are generally better than in non-coastal areas due to several factors, such as large economic benefits–including better transportation networks and the development of industry and urban areas–which improve living standards of coastal communities.

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5.4.4. Change in Quality of Life

The change in QoL depicted in this study refers to the change in QoL from before the new town development until after the development. The level of change is then explained through the change ratio. The higher the value, the greater the change towards either improvement (positive) or deterioration (negative). The change in QoL in both research locations is mostly a decrease (**Figure 5.10**), although there are still respondents with unchanged or improved QoL.

Of the two research locations, KBP shows a greater decline than MTB. It is evident from the absence of respondents in KBP experiencing an increase in

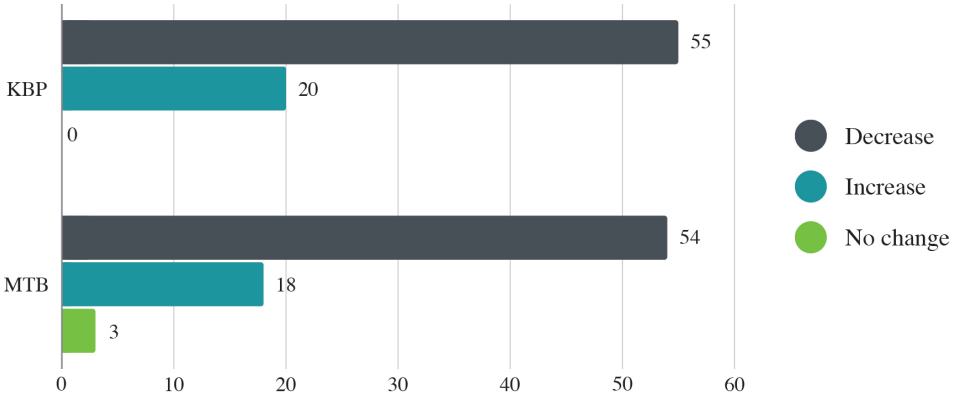

Figure 5.10 | Change in QoL.

QoL, with 73% of all respondents experiencing a decrease in QoL and another 27% feeling no change in QoL. Meanwhile, in MTB, 4% of respondents (three people) experienced an increase in QoL after the development. In detail, KBP and MTB do not show significant differences between the decrease and increase. Still, KBP shows a better condition, with 20 individuals reporting an improvement in their QoL after the development. This situation indicates that MTB has a better QoL condition compared to KBP. This situation is similar to the results of several other studies (e.g., Barbier & Enchelmeyer, 2014; Bose, 2016; Touza *et al.*, 2021), showing that coastal areas have become more vulnerable due to urbanisation and development processes but could potentially improve their lives faster because they have greater opportunities to find promising ways of life.

5.4.5. Examining the linkages of the main impacts of large-scale land development in peri-urban areas to communities' QoL

In statistical modelling using PLS-SEM, the causal relationship between independent and dependent variables is examined by looking at the p-value coefficient values (< 0.05) based on the standard error obtained through the bootstrapping process. Evidently, not all variables significantly affect the change in QoL (**Figure 5.11**). Out of eight independent variables tested, only three have a significant effect: Type of Displacement (p-value = 0.015), Socio-Economic Quality (p-value = 0.008), and Property Rights Security Level (p-value = 0.001).

In the bootstrapping results, as shown in **Figure 5.11** and **Table 5.7**, the statistical model is evaluated through the path coefficient and R-squared value (Busu & Nedelcu, 2017). The R-squared value showed that about 16.7% of the variability in QoL is explained by the model's variability. Although this coeffi-

cient-of-determination value is low, it does not necessarily represent a model's validity or effectiveness (Shalizi, 2015). In some research, low R-squared values are even acceptable (Ozili, 2023; Sirgy, 2011), meaning that many other variables potentially influence it in many directions.

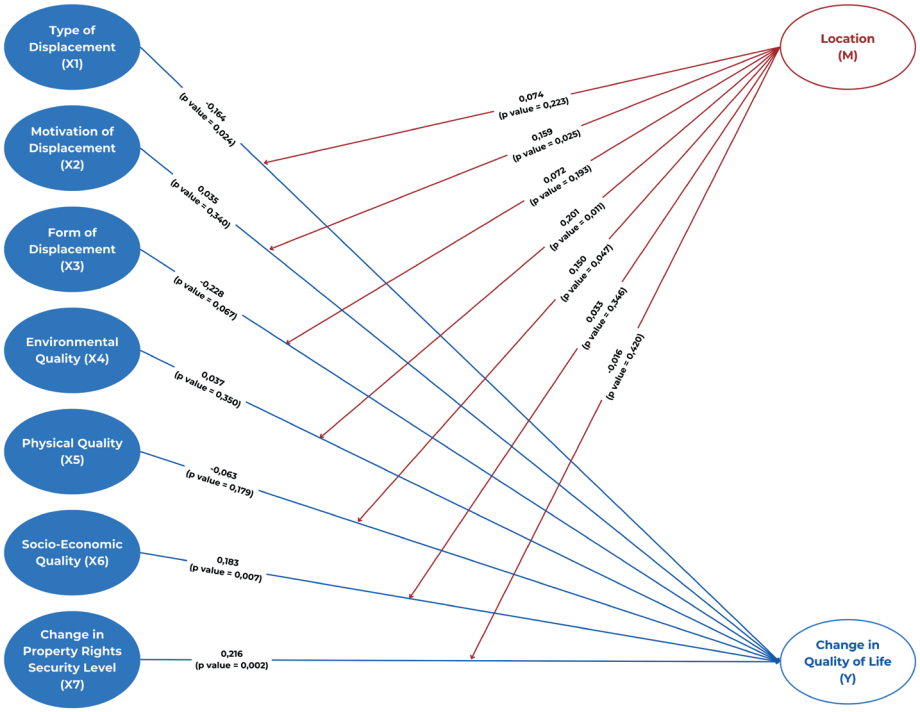

Figure 5.11 | Relationship between main impacts of large-scale development and quality of life changes through the PLS-SEM model.

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The overall VIF[3] values show a value of 1.00, indicating that each variable does not have multicollinearity with a threshold value of 3.00 (Sarstedt *et al.*, 2022). As shown in **Table 5.7**, the most dominant variable affecting the change in QoL is Property Rights Security Level (X7), with the highest path coefficient value of 0.216, followed by the variable Socio-Economic Quality (X6) and the Type of Displacement (X1), with values of 0.183 and -0.164, respectively. The (+) and (-) signs indicate the direction of the relationship between the independent and dependent variables tested in the model.

The most significant factor affecting QoL is the security level of proper-

3 *Variance inflation factor.*

Table 5.7 | Research hypothesis results after a bootstrap was performed.

Path	Path coefficient	P -values	VIF	R -squared
Type of displacement (X1) → QoL changes (Y)	-0.164	0.024	1.000	0.167
Motivation of displacement (X2) → QoL changes (Y)	0.035	0.340	1.000	
Form of displacement (X3) → QoL changes (Y)	-0.118	0.067	1.000	
Environmental quality (X4) → QoL changes (Y)	0.037	0.350	1.000	
Physical quality (X5) → QoL changes (Y)	-0.063	0.179	1.000	
Socio-economic quality (X6) → QoL changes (Y)	0.183	0.007	1.000	
Property rights security level (X7) → QoL changes (Y)	0.216	0.002	1.000	

ty rights: higher security correlates with substantial improvements in QoL. This concept aligns with de Soto's (2000) argument that secured property rights are crucial for landownership security, stimulating greater investment, which in turn promotes economic growth and reduces poverty. Safitri (2009) notes that secure property rights ensure reliable access to and management and utilisation of land, encouraging landowners to invest more effort and resources into their land, thereby potentially increasing their income. Schlager and Ostrom (1992) emphasised that effective spatial management relies on the recognition of existing property rights. Ownership rights are essential to ensuring equitable resource access and sustainable use. When local communities lose access or control over these resources, it can disrupt livelihoods, create social instability, and ultimately diminish quality of life. This dynamic is believed to influence QoL positively.

Additionally, socio-economic conditions are statistically significant in influencing QoL changes: improvements in socio-economic factors are associated with QoL improvements and vice versa. In this research, socio-economic quality is evaluated based on population density, poverty levels, the informal economy, education, and median household income. Davidescu *et al.* (2022) highlight that a greater proportion of individuals with higher education levels can elevate QoL, linking higher education to better regulatory understanding and the ability to make more substantial investments (Glaeser & Shapiro, 2003).

In contrast, the type of displacement has a negative impact on QoL. Specifically, secondary displacement has a more detrimental effect on QoL than either no displacement or primary displacement. Secondary displacement often represents unanticipated or difficult-to-predict impacts (Gellert & Lynch, 2003), with

insufficient attention for its potential effects, leaving communities vulnerable. Terminski (2013) shows that secondary displacement impacts numerous aspects of life, including culture, social relations, politics, and housing. Changes in social relations may lead to loneliness or sadness, cultural shifts may occur due to developmental changes affecting community comfort, political changes might result in disempowerment, and housing issues often relate to price increases, which particularly burden low-income families affected by development.

The next step involved moderating variables in this statistical test to see how the location (M) as a representative of the geographical setting affected the interaction between all independent variables involved in QoL changes. Overall, referring to **Figure 5.11** and **Table 5.8**, the location variable significantly moderated the influence of three independent variables, namely Motivation of Displacement (X_2), Environmental Quality (X_4), and Physical Quality (X_5), on QoL changes. The impact showed a positive direction, which means that the moderating variable positively influenced the relationship between the three independent variables and the dependent variable. Furthermore, the location variable (M) empirically showed the strongest impact on the relation between Environmental Quality (X_4) and changes in QoL (Y), with a coefficient value of 0.201. It clarifies that different geographical settings can increase the intensity of the main impacts of large-scale land development on QoL changes, especially those related to environmental quality (Pacione, 2003). In addition, other sources indicate that different geographical settings also affect differences in the physical quality of the area, which is directly proportionate to improving QoL (Carrilho & Trindade, 2022).

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Table 5.8 | The role of location variables in the relationship between the main impacts of large-scale land development and QoL changes.

Path	Path coefficient	P-values
M*X1 → QoL (Y)	0.074	0.223
M*X2 → QoL (Y)	0.159	0.025
M*X3 → QoL (Y)	0.072	0.193
M*X4 → QoL (Y)	0.201	0.011
M*X5 → QoL (Y)	0.150	0.047
M*X6 → QoL (Y)	0.033	0.346
M*X7 → QoL (Y)	-0.016	0.420

5.5. CONCLUSION

This research attempted to investigate to what extent the main impacts of large-scale land development can influence changes in the QoL of local communities. By comparing an inland (KBP) and a coastal (MTB) setting, this study revealed that while such developments aim to stimulate regional growth, they often compromise local well-being, especially when communities are excluded from planning processes.

The findings contribute to refining theories of peri-urbanisation and sustainability in several ways. First, they reinforce the idea that peri-urbanisation in the Global South is not just a spatial expansion but a socially uneven and often exclusionary process (Bartels *et al.*, 2020; Woltjer, 2014). The observed decline in QoL, particularly in KBP, highlights the inequalities embedded in such developments.

Second, the study highlights the critical role of secondary displacement, which, although when overlooked, significantly reduces QoL by disrupting livelihoods and weakening social cohesion. This supports Gellert and Lynch (2003) typology while urging more attention to indirect, less visible forms of displacement in peri-urban planning.

Third, it confirms that property rights security is essential but not sufficient for improving community resilience. As de Soto (2000) argues, legal ownership can foster investment, but without access to capital or institutional protection, even formal rights may fail to safeguard livelihoods. This calls for more nuanced understanding of tenure security—one that incorporates both legal status and functional access.

Moreover, the research affirms that spatial quality—as defined by Kombian (2011)—is not merely a physical planning concern but is closely tied to socio-economic and environmental dimensions. The differences between the two sites demonstrate that geographical context matters: coastal communities like MTB may be more vulnerable but also better positions to maintain QoL due to stronger social bonds and institutional support.

These contributions should be considered alongside the study's limitations,. The focus on new town developments in this study excludes other project types that may generate different impacts. Likewise, the analysis was limited to peri-urban areas; urban core or rural contexts may produce distinct dynamics. The cross-sectional design also limited understanding of how communities adapt

over time. Future research should employ a longitudinal or mixed-methods approach to investigate long-term trajectories and explore under-researched dimensions of QoL, such as psychological well-being or cultural identity.

In conclusion, this study demonstrates that large-scale land development in peri-urban areas has a complex and context-dependent impact on communities. It deepens theoretical understandings of peri-urban change by emphasising the interplay between displacement, land rights, spatial quality, and geography. Future work should build on these insights by developing more inclusive, place-based frameworks that centre local voices in the pursuit of just and sustainable urban transitions.

CRediT authorship contribution statement

Rahmat Aris Pratomo: Writing - original draft, visualization, methodology, investigation, funding acquisition, formal analysis, data curation, conceptualization. **Ary A. Samsura:** Writing - review & editing, validation, supervision, conceptualization. **Erwin van der Krabben:** Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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5

Chapter 6

Conclusion



6. CONCLUSION

New town development often presents challenges for local communities (e.g., Vanclay, 2017; Zoomers & Otsuki, 2017). In the early stages, large-scale development, specifically in peri-urban areas, frequently leads to significant changes in property rights, which constitute the primary assets of these communities. The strong reliance of peri-urban communities on land-based extractive activities means that large-scale developments, such as new towns, can jeopardise these communities' socio-economic conditions and, in turn, the sustainability of their livelihoods. This sustainability is closely linked to quality of life (QoL), which reflects the fulfilment of basic needs within a community. As land serves as the main source of livelihoods, losing access to it can diminish the community's ability to meet essential needs, such as food and shelter (Park, 2016). Such conditions negatively affect not only physical well-being but also mental well-being, which is a core component of QoL (Robeyns, 2017). New town development also tends to disrupt social networks and community ties, which are essential for psychosocial well-being, including feelings of safety and social support (Vanclay, 2017). Furthermore, large-scale development introduces substantial changes that are both physical and non-physical in nature.

In general, research on the impact of new town development in peri-urban areas is highly promising, particularly in relation to the sustainability of local communities. Accordingly, this study aimed to address the following main research question: *How does new town development in peri-urban areas influence the sustainability of local communities?* To answer this question effectively, the following subquestions were formulated:

1. *How can the QoL framework be reformulated to comprehensively assess the sustainability of local communities affected by new town development?*
2. *To what extent do geographical differences between peri-urban areas influence the impact of new town development on local communities?*
3. *To what extent has new town development affected the property rights of local communities?*
4. *How do changes in property rights, displacement, and spatial quality due to new town development affect the quality of life of local communities?*

This chapter summarises and reflects on the research findings. Section 6.1 presents a summary of the results and a general conclusion, which outlines the

relationship between new town development and the sustainability of local communities. Section 6.2 discusses the theoretical and practical contributions of the study. Finally, section 6.3 outlines the limitations and offers suggestions for future research.

6.1. SYNTHESIS OF MAIN RESULTS

The previous chapters have presented findings related to the impact of new town development on the sustainability of local communities, viewed through the lens of QoL. This section organises the results into several parts of the overall conclusion.

6.1.1. New towns as large-scale land developments in peri-urban areas: Contributing to the long-term impact on the quality of life of local communities

Chapter 2 explored how the development of Metro Tanjung Bunga (MTB)–a new town located in the peri-urban coastal area of Makassar City–affected the sustainability of coastal communities, using the QoL framework. The chapter began by outlining the development dynamics of Makassar, one of the largest and most significant coastal cities in eastern Indonesia. It then discussed how large-scale development in peri-urban areas influences the sustainability of local coastal communities, assessed through QoL indicators. QoL was positioned as a comprehensive measure of local community sustainability, particularly in relation to shifts in livelihood assets, which are key elements influenced by new town development. The chapter employed both objective and subjective approaches to QoL assessment, enabling a holistic understanding of local conditions and the sustainability outcomes of urban transformation. The chapter presented a longitudinal perspective, tracing changes in life circumstances over a 20-year period and uncovering patterns and dynamics within these transitions. The timeline was divided into five distinct phases: one pre-development phase and four post-construction phases. This segmentation facilitated a nuanced analysis of how QoL evolves throughout each development stage.

Building on the argument that objective indicators provide a more reliable basis for assessing QoL, while subjective perceptions alone are insufficient to fully capture welfare conditions, this study adopted a combined objective–subjective framework to better represent individuals and groups lived realities. Based on this, the evaluation results were categorised by QoL levels, ranked from highest to

lowest: well-being (objective–subjective: high–high), dissonance (high–low), adaptation (low–high), and deprivation (low–low). This classification offers a more comprehensive understanding of how communities experience and respond to changes in their QoL over time.

The findings in this chapter indicate that the development of the new town MTB has significantly affected both the livelihood assets and the QoL of local communities, before and after the development. Prior to the development, most residents fell into the adaptation and well-being groups, reflecting their strong dependence on coastal natural assets, such as land, the sea, and fish ponds, as primary sources of livelihood, which were effectively utilised. During the initial phase of development, livelihood assets, particularly natural assets, declined sharply due to land-use conversion. This resulted in a substantial increase in the deprivation category, with 70% of respondents falling into it. The shift was largely driven by unfair compensation schemes and forced evictions, which reduced community access to vital coastal resources and undermined people's ability to meet basic needs. The deterioration in livelihood assets led to growing marginalisation, as economic opportunities became limited due to inadequate resources and skills. In the subsequent period, the community's financial assets continued to decline, further constraining their capacity to recover and rebuild sustainable livelihoods. Consequently, most households remained trapped in deprivation or merely shifted into adaptation, which indicated that the development failed to generate an improvement in the local community's QoL.

In the third post-development phase, the condition of livelihood assets, particularly natural, financial, physical, and human assets, worsened further. This decline coincided with a drop in QoL, marked by a rise in the deprivation category. This trend continued into the fourth phase, with even more residents classified in the deprivation category. The primary drivers were ongoing losses in financial, human, and physical assets. Financial resources diminished due to limited job opportunities and inadequate compensation for land conversion, making it difficult for residents to meet daily needs. Additionally, limited skills reduced employment prospects, forcing many to sell personal assets to survive.

These findings demonstrate that development has progressively reduced the QoL of local communities across each phase, beginning with the loss of livelihood assets. This pattern highlights the strong connection between livelihood assets and the sustainability of life.

6.1.2. Different settings of development: The consequences of geographical differences between peri-urban areas for the impact of new town development on local communities

Chapter 3 examined the extent to which large-scale land development (LSLD), such as new towns, has had differing impacts on the QoL of local communities in different peri-urban settings. Building on the findings of **Chapter 2**, this chapter explored whether the effects of large-scale urban development vary significantly between two distinct geographical contexts: coastal and inland areas. These locations were selected for their relevance to Indonesia's geographical profile. The coastal area was chosen in recognition of Indonesia's identity as an archipelagic nation, where the majority of cities are located along the coastline (Arifin *et al.*, 2023). This pattern is also evident in other regions, including Mediterranean countries (Salvati *et al.*, 2014), Portugal (Gonçalves *et al.*, 2017), and Taiwan (Lee *et al.*, 2015). In contrast, inland areas reflect the pressures of urban expansion into peri-urban and agricultural zones, which are deeply connected to Indonesia's long-standing agricultural traditions. Such development has significantly affected rural livelihoods, particularly among communities previously reliant on farming (Pribadi & Pauleit, 2015). Development in both settings may carry serious consequences for communities that continue to depend on land and natural resources for their livelihoods. The contrast between these geographical contexts was illustrated through two case studies: Kota Baru Parahyangan (KBP), located in an inland area, and MTB, situated in a coastal zone. Both cases exemplify the kinds of large-scale urban development projects that have been intensively pursued in Indonesia over the past two decades.

This chapter successfully outlined the condition of local communities, reflecting the sustainability of livelihoods affected by new town development. The findings indicate that, following the development, nearly all communities experienced a decline in livelihood assets, particularly financial and natural ones. Changes in these assets also influenced QoL, which serves as an indicator of livelihood sustainability. Before development started, both areas displayed relatively strong conditions, with livelihood asset values and QoL indicators (subjective and objective) exceeding 3.0 on a 1–6 scale, placing these communities in the 'well-being' category. However, post-development, the two areas diverged significantly, shaped by their distinct geographical contexts. QoL levels generally declined across both areas, with a noticeable shift towards deprivation. In MTB, the proportion of respondents experiencing deprivation rose from 23% (17 individuals) to 68% (51), while in KBP, it increased from 19% (14) to 60% (45) of 75

respondents. This decline was largely driven by the loss of financial and natural assets due to land-use changes and the disappearance of key livelihoods, such as fisheries and aquaculture in coastal peri-urban areas. In KBP, communities generally benefited from better access to education and social facilities, resulting in a smaller impact compared to coastal areas. Despite observed adaptive efforts in both locations, QoL levels in coastal communities remained significantly lower than those in inland peri-urban areas. This disparity was mainly due to poorer housing conditions and lower living standards in coastal zones, which heightened vulnerability and limited resilience to external changes.

Thus, the decline in QoL was significantly more severe among coastal communities than their inland counterparts. This difference was primarily caused by a sharper drop in subjective QoL in coastal areas. The findings highlight the heightened vulnerability of coastal communities, rooted in their strong dependence on coastal resources and surrounding ecosystems. Additionally, coastal populations show lower short-term adaptive capacity to development pressures, as also discussed in **Chapter 2**. However, this does not rule out the possibility of long-term adaptation, suggesting that coastal communities may gradually build resilience over time.

6.1.3. The impact of new town development on the property rights of local communities

Chapter 4 introduced a new conceptual framework to examine how large-scale new town development affects property rights among local communities in peri-urban areas. Building on Schlager and Ostrom's (1992) property rights framework, the model incorporates an additional dimension—changes in security levels—to capture the dynamics of property rights transformations under urbanisation pressures. This framework enables a comprehensive assessment of land rights, including ownership, appropriation, and formality.

The findings show that new town development influences all three dimensions of property rights, with appropriation rights being the most significantly affected. Alienation rights declined sharply following development, indicating a broader weakening of property rights security. This decline was more severe for cultivated land than for residential land, exposing affected communities to higher risks of eviction and inadequate compensation.

Property rights play a vital role in the lives of local communities (Lai, 2020), serving not only as a primary means of accessing resources but also as a key determinant of economic (Abab *et al.*, 2023; Bizoza & Opio-Omoding,

2021; Schlager & Ostrom, 1992), social (Zhu & Simarmata, 2015), and cultural conditions (Gauster & Isakon, 2008). When property rights are well protected, communities are better positioned to improve their living standards. Conversely, insecure property rights can threaten survival and hinder adaptation during processes of urbanisation and development. This is evident in the changes brought about by development, which affected the livelihoods of rights holders, altered landownership status, and resulted in low levels of land formality. These conditions were exacerbated by land acquisition processes that significantly disrupted patterns of landownership. Moreover, changes in the security of property rights under urbanisation were statistically influenced by land use, occupation, and land-use types.

6.1.4. New town development: Property rights changes, displacement, and changes in spatial quality vs. local community's quality of life

Chapter 5 revealed varied impacts on local communities, depending on the type of challenge present in each location. Statistically, the level of property rights security (p-value = 0.001) had the strongest effect on QoL, followed by socio-economic quality (p-value = 0.008) and the type of displacement (p-value = 0.015).

Displacement was shown to negatively affect QoL, particularly as most communities in both MTB and KBP experienced primary displacement. This type of displacement is closely linked to the availability of employment and housing, which often triggered migration. Such circumstances increase community vulnerability due to the compounding effects of multiple, intersecting challenges. Furthermore, displacement has led to the formation of settlement groups shaped by close social ties and shared socio-economic conditions, with coastal areas tending to form larger groups than non-coastal zones. Another critical issue is the decline in property rights security, likely tied to land acquisition processes during new town development. A higher level of property rights security is positively associated with improved QoL, as secure tenure provides reliable access to, control over, and use of land resources. This security encourages landholders to invest more effort and capital into their land.

In general, better socio-economic conditions are considered indicative of a higher QoL, and vice versa. In this study, socio-economic conditions were assessed based on population density, the poverty rate, the size of the informal economy, education levels, and average household income. The results indicated that MTB had more favourable conditions than KBP across all these indica-

tors. An interesting finding emerged when statistical testing included location as a consideration or moderator variable. Three variables that previously showed no significant effect on QoL were found to be significant: Environmental Quality (p-value = 0.011), Motivation for Displacement (p-value = 0.025), and Physical Quality (p-value = 0.047). Among these, the location variable (M) had the strongest moderating effect on the relationship between Environmental Quality (X4) and changes in QoL (Y), with a coefficient value of 0.201. This suggests that geographical setting intensifies the impact of LSLD on changes in QoL—particularly those related to environmental quality—as location influences environmental conditions, natural resource availability, and disaster risk levels.

6.1.5. The impact of new town development on the sustainability of local communities

In the context of urban planning and development, QoL serves as a critical indicator for assessing the sustainability of communities affected by urban expansion. QoL is understood to reflect the fulfilment and satisfaction of individual or collective human needs. This study confirms that QoL not only represents levels of community well-being but also integrates interrelated social, economic, and environmental dimensions. The findings show that a decline in livelihood assets significantly contributes to the reduction of local communities' QoL. In addition to changes in livelihood assets, the security of property rights also plays a crucial role in shaping community QoL. In this dissertation, property rights are assessed in terms of ownership, appropriation, and formality. The results demonstrate that new town development has transformed these rights, particularly appropriation rights. The level of property rights security was found to have declined post-development, largely due to local communities' economic limitations and a lack of understanding of property rights security. Furthermore, the implications of new town development present ongoing challenges to sustainable development. These include displacement, changes in property rights, and alterations in spatial quality. Such conditions often trigger secondary impacts—arising from one or a combination of these challenges—which, in turn, influence the overall QoL of the affected communities.

However, the impacts of new town development vary in intensity depending on geographical context. Coastal areas experience more severe consequences than non-coastal regions. This suggests that coastal communities are generally more vulnerable to urbanisation and development pressures. Nevertheless, in the long term, coastal populations may have a greater potential to improve their livelihoods due to the economic advantages of coastal zones, such as enhanced

accessibility, connectivity, and a stronger integration into regional economies. Moreover, the more open and adaptive social characteristics of coastal communities may strengthen their capacity for recovery and long-term resilience.

The central conclusion of this dissertation highlights that several key variables statistically influence the sustainability of local communities as represented by QoL. These include the type of displacement, socio-economic conditions, and the level of property rights security. When geographical context is taken into account, additional location-specific variables emerge, such as displacement motivation, environmental quality, and physical infrastructure. These differences underscore that each community operates within unique socio-environmental conditions, shaped by varying opportunities and constraints that influence its QoL and overall sustainability trajectory.

6.2. GENERAL REFLECTIONS AND IMPLICATIONS

This study offers a comprehensive understanding of the relationship between new town development and the QoL of local communities in different peri-urban areas. The findings are expected to offer scientific and social contributions. The scientific contribution lies in advancing the understanding of QoL within the context of urban development. It highlights the sustainability of local communities by offering an assessment framework that integrates both objective and subjective measures to classify QoL levels. Another significant scientific contribution is the proposed framework for assessing comprehensive property rights within the field of land development. On the social side, the research aims to support the improvement of community sustainability by identifying the factors that influence QoL. These insights can serve as a reference for policymakers in designing more targeted and effective development strategies. The study also enhances understanding of the broader impacts of development, particularly in the context of new town projects in peri-urban areas.

6.2.1. Reflections on theory

This section discusses the study's contribution to three global scientific discourses:

1. *Rethinking QoL for urban planning and development*

The pressures of development resulting from the urbanisation process in peri-urban areas (i.e., peri-urbanisation) have transformed these regions

into areas of rapid growth. Peri-urbanisation undoubtedly has varying consequences, depending on the conditions in each area (Simon, 2008). If often involves large-scale projects, with one of the most promising being new town developments (Insa-Ciriza, 2012; Lai *et al.*, 2014; Song *et al.*, 2020). This large-scale development has significant implications for changes in peri-urban areas (Hudalah *et al.*, 2007; Winarso *et al.*, 2015), including for the sustainability of local community life (Zoomers *et al.*, 2017).

The impacts of new town development in peri-urban areas extend beyond physical transformations. They may lead to shifts in social, economic, and ecological conditions that affect the fulfilment and satisfaction of the basic needs of local communities. This concept is further explained by Costanza *et al.* (2007), who notes that the human capacity to meet their basic needs derives from the available opportunities, which are also associated with livelihood assets and form the fundamental basis for communities to access prospects that enhance their QoL, both in terms of meeting objective needs and subjective perceptions of well-being.

QoL plays a vital role in shaping new perspectives on the goals and decision-making processes of urban planning. It serves as a strategic resource for promoting sustainable development and enhancing future citizen satisfaction (Lee, 2008; Myers *et al.*, 2007; Tesfazghi *et al.*, 2010). Seik (2000) argues that research on QoL can inform planning and management tools to develop liveable, sustainable, and competitive cities. A comprehensive understanding of QoL can improve the effectiveness and efficiency of planning, which remains limited—particularly in developing cities (Belsky *et al.*, 2013; Huynh, 2015). QoL is central to current theories in urban design and planning (Khalil, 2012). In particular, it is closely linked to the surrounding environment (Mittal *et al.*, 2020) and to a sense of place shaped by geographical and environmental conditions at both individual and collective levels (Marans & Stimson, 2011). Myers *et al.* (2007) also emphasise the relationship between QoL and urban liveability or neighbourhood quality. As such, urban planning approaches can be designed to enhance resident satisfaction (Marans & Stimson, 2011). Consequently, QoL is frequently associated with the broader concept of 'quality of urban life' (Rezvani *et al.*, 2013).

Nevertheless, critiques indicate that urban development frequently prioritises the image or branding of an area while failing to comprehensively address basic human needs (Steg *et al.*, 2007). Das (2008) argues that QoL should be understood as the environment's ability to provide resources and

opportunities that support sustainable living. Rather than focusing solely on the provision of urban services, planning should first consider the capacity of the environment and its resources to meet physical, psychological, economic, and social needs (Rezvani *et al.*, 2013). This concept of QoL aligns with the ecological sustainability model developed by Costanza *et al.* (2007), as noted by Mulligan *et al.* (2005). This model integrates the notion of opportunities, also referred to as 'livelihood assets' in some research, with the fulfilment and satisfaction of human needs. Although this concept originates outside the traditional planning discipline, it remains profoundly relevant and applicable. Costanza *et al.* (2007) assert that QoL improves when individuals and groups can effectively access these assets, and the greater their availability and quality, the more likely it is that basic needs will be sustainably met.

Motivated by the research gap outlined in **Chapter 1**, this dissertation sought to re-conceptualise QoL within the context of urban planning and development by incorporating the dimension of opportunity. As visualised in **Figure 6.1**, this framework evaluates the conditions of communities affected by development through the lens of livelihood assets (Costanza *et al.*, 2007; Estoque *et al.*, 2019; Sirgy, 2011). These assets—human, social, natural, physical, and financial—represent fundamental components of human needs. They are interdependent and enable individuals and communities to meet their needs, respond to challenges, and adapt to socio-economic and environmental change (DFID, 1999; Ellis, 2000).

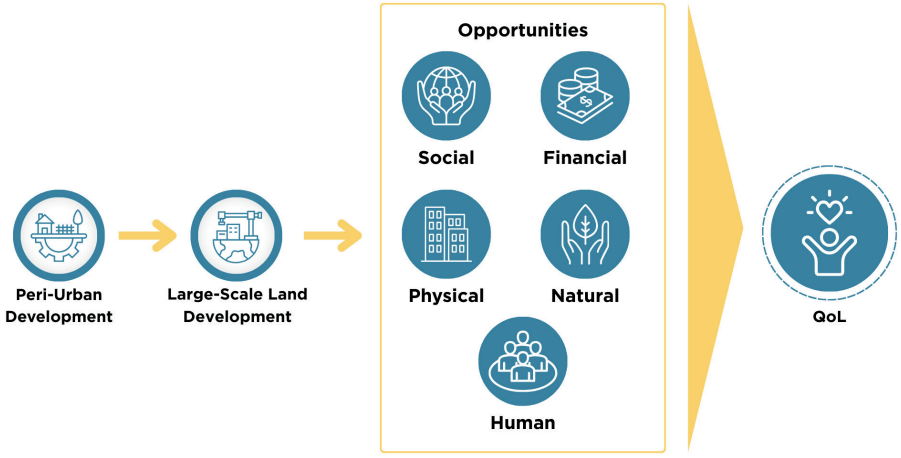

Figure 6.1 | Conceptual Framework of Quality of Life for Urban Planning and Development.

Viewed through this lens, QoL encompasses a wide range of dimensions—including health, education, income, housing, employment, social connectedness, environmental quality, and civil liberties—that collectively reflect the fulfilment and satisfaction of both individual and collective needs. Integrating livelihood assets into QoL indicators provides a more holistic understanding of sustainable livelihoods, especially in the context of rapid urban development. This study shows that changes in livelihood assets, triggered by new town development, can significantly influence QoL, either directly or indirectly. In doing so, the research offers a more nuanced understanding of how new towns, as a form of LSLD, shape not only individual well-being but also the structural foundations of community sustainability.

2. *Formulating an alternative framework to evaluate QoL*

Ideally, development should generate positive and sustainable impacts. The development of new towns holds the potential to stimulate economic growth in both the targeted location and its surrounding areas (Hudalah *et al.*, 2013; Otsuki *et al.*, 2017; Vento, 2017). However, large-scale development often has negative consequences for the lives of local communities (Hufe & Heuermann, 2017; Kim *et al.*, 2015; Shete & Rutten, 2015). These consequences are reflected in the changes to livelihood assets and activities, which can significantly affect QoL. Previous studies have recognised QoL as an indicator of the overall sustainability of a community (Massam, 2002).

QoL is widely viewed as a reflection of the well-being of individuals and community groups, encompassing satisfaction (Sirgy *et al.*, 2010) and overall life quality (Kelley-Gillespie, 2009; Matarrita-Cascante, 2010). QoL assessment should adopt an integrative approach that incorporates both subjective and objective dimensions (Cummins, 2000). Objective measures offer strong reliability but are often criticised for low validity in capturing human well-being (Seik, 2000). In contrast, subjective measures provide meaningful feedback and enable individuals to express dissatisfaction based on their lived experiences (Ibrahim & Chung, 2003; Veenhoven, 2008).

In urban planning, QoL research commonly relies on subjective assessments (Diener *et al.*, 2018; McCrea *et al.*, 2011). This approach is often favoured in planning and policy contexts due to its ability to capture personal experiences and perceptions of well-being (Ibrahim & Chung, 2003; Veenhoven, 2008). While each assessment method has its strengths and limitations, the integration of both subjective and objective approaches produces

more reliable outcomes (Abbott & Wallace, 2012; Das, 2008), thereby effectively representing the overall sustainability of a community (Massam, 2002).

This dissertation also sought to expand the QoL framework developed by Costanza *et al.* (2007) and Estoque *et al.* (2019), adapting it to the context of urban planning and new town development. Their initial concept integrates opportunities, human needs, and subjective well-being, offering a more comprehensive assessment of QoL by considering both objective and subjective dimensions. Costanza *et al.* (2007) define QoL as the extent to which objective needs are fulfilled, complemented by subjective perceptions of well-being. However, this study, as illustrated in **Figure 6.2**, demonstrates that QoL, in the context of new town development, is a complex construct that must be viewed holistically. Prior studies that assessed QoL as a separate, fragmented concept (Koirala *et al.*, 2017; Lee, 2008; Nikuze *et al.*, 2019; Oldenhuizing *et al.*, 2013; Santos *et al.*, 2007) have fallen short in capturing the full impact of new town development on the sustainability of local community life through QoL. Therefore, this dissertation, proposes a holistic framework (**Figure 2**) that better reflects the complex nature of QoL in peri-urban contexts.

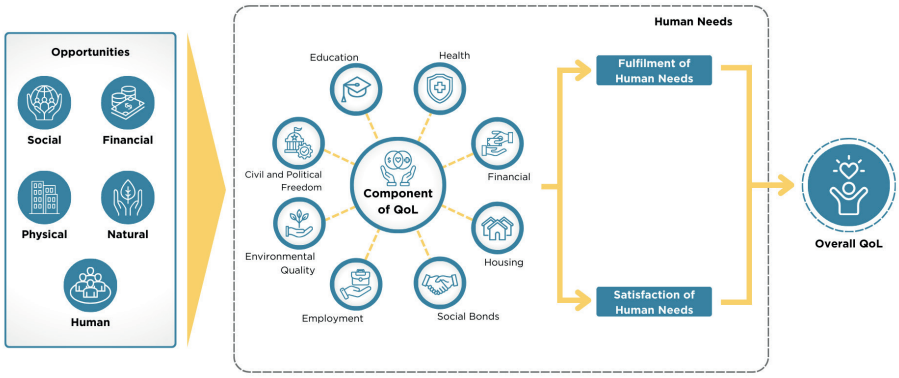

Figure 6.2 | Framework to Measuring QoL.

To further operationalise QoL in the fields of planning and development, this study introduced a classification system that captures the diverse conditions experienced by individuals or groups affected by development, illustrated in **Figure 6.3**. Consistent with Seik (2000), the objective component is prioritised in assessing QoL. Subjective QoL alone is considered inadequate for representing community well-being, as it relies solely on individual perceptions (Noll, 2013). Mohit (2013) supports this view, emphasising that objective QoL reflects the fulfilment of community needs, including econom-

ic, social, and physical well-being. It also offers comparability across scales, regions and time periods (Slavuj, 2012) and is easier to verify through public data (Cummins, 2000), which is often not possible for that subjective indicators.



Figure 6.3 | Classification of QoL Level.

Based on these considerations, also shown in **Figure 6.3**, QoL was classified into four levels: well-being (objective–subjective: high–high), dissonance (high–low), adaptation (low–high), and deprivation (low–low) (Olson & Schober, 1993; Zapf, 1984). The highest level, well-being category represents optimal conditions where both needs and satisfaction are fulfilled. Dissonance and adaptation represent intermediate states (Olson & Schober, 1993; Seik, 2000). Dissonance is ranked higher than adaptation, as it indicates that people are able to meet minimum living requirements despite low satisfaction. In contrast, adaptation reflects a situation where individuals express satisfaction even though their basic needs are not fully met. Deprivation represents the lowest level of QoL, where individuals or groups are in the poorest conditions in terms of both need fulfilment and satisfaction (Seik, 2000).

3. *Shaping the impacts of new town development in different geographical settings*

In regional development theory, geographical settings are a crucial factor in the development process, particularly in pursuing economic growth (Brakman *et al.*, 2001). Li and Gong, (2022) also explain that development heavily depends on and is influenced by several factors, including geographical location. Location, which represents regional topography and geomorphology, becomes an important factor in the formation of and changes in geographical characteristics and functions. This factor is then identified in some cases as shaping regional climate, soil, hydrology, and biology (Li & Gong, 2022), and even significantly influencing diverse cultures. This demonstrates

that geographical settings encompass more than just physical characteristics. Consequently, each area, including the communities within it, possesses its own unique characteristics (Desmet *et al.*, 2018; Zhu *et al.*, 2023), which ultimately influence the formation and development of distinct cities (Zhu *et al.*, 2023). Variations in geographical contexts lead to diverse outcomes in urbanisation processes. For instance, in China, Zhao *et al.* (2022) demonstrate that urbanisation has uneven effects on the sustainable development index, which encompasses aspects such as education, health, social safety, social security, ecology, equity and justice, democracy and the legal system, human capital, healthcare, safety and stability, personal insurance, and housing conditions. Generally, coastal regions show higher levels of sustainable development than inland areas. Furthermore, from a socio-demographic standpoint, migration patterns in coastal regions tend to be more pronounced than those in non-coastal areas (Yuan *et al.*, 2021). In Indonesia's peri-urbanisation process, urban expansion has primarily occurred in both coastal zones (Dewa *et al.*, 2022; Wibowo & Supriatna, 2011) and inland areas (Ji *et al.*, 2001; Lu *et al.*, 2018; Salvati & Sateriano, 2015), where communities often rely heavily on natural resources for their livelihoods (Creel, 2003; Effendi *et al.*, 2018).

As illustrated in **Figure 6.4**, this dissertation conceptualises how geographical settings shape the diverse impacts of new town development on local communities. LSLD interacts with the social, economic, and environmental characteristics of a region, and geographical conditions play a crucial role in shaping the unique characteristics of each area. These dynamics produce uneven results: while some communities may benefit from new opportunities, others face challenges that undermine their QoL.

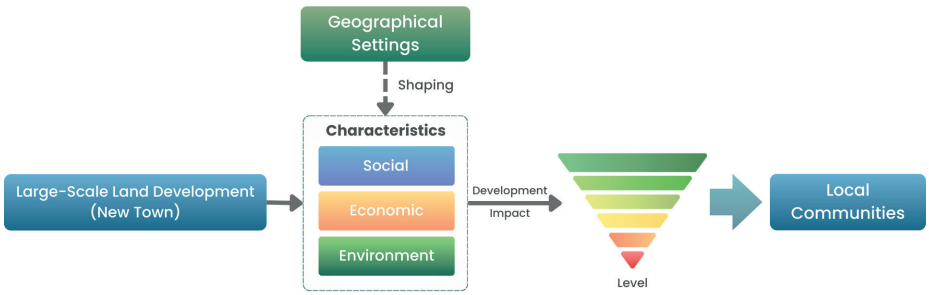

Figure 6.4 | How Geographical Settings Influence the Diverse Impacts of New Town Development on Local Communities.

Furthermore, this dissertation contributes to filling a significant gap in the existing literature by providing strong evidence for the influence of geographical settings on the differing impacts of development to local communities. This research proves the influence of geographical context through rigorous statistical analyses, including t-tests and causal modelling. The findings indicate that both the magnitude and the characteristics of developmental impacts are substantially shaped by geographical settings. More specifically, the dissertation pays special attention to the phenomenon of new town development, which has previously been overlooked. The results of this dissertation, while addressing a different development context, support the claims made by Yuan *et al.* (2021) on how the unique demographic, economic, and spatial configurations of coastal and inland regions lead to varying impacts on local communities.

4. *Proposing a new framework for assessing property rights security*

In the field of development, property rights play a crucial role in land development processes (Lai, 2020). This is largely due to the broad influence of property rights security on the creation of economic opportunities, which over time contributes to wider economic development beyond the extractive sector (Deininger, 2003). According to Ma *et al.* (2024), property rights also shape the behaviour of governments, developers, and individuals by influencing the distribution of landownership, the allocation of land resources, and the facilitation of investment. Weak property rights security not only leads to the loss of ownership but also triggers conflict, inefficient labour and time allocation, and resource degradation (Alston & Mueller, 2008). These risks highlight why the assessment of property rights security is also a key contribution of this dissertation.

Alston and Mueller (2008) define property rights as comprising both formal and informal claims that influence incentives for using and transferring resources. Property should not be viewed merely as a static object of ownership or capital but rather as a set of relationships between the owner and others who may hold claims to the same asset. The right to use property privately is essential for both individual and societal well-being (Krueckeberg, 1996). However, development often results in changes to or the loss of community property rights, undermining what is often a core component of sustaining livelihoods (Pratomo *et al.*, 2022b).

Furthermore, within the broader discourse on development, scholarly

assessments of property rights dimensions have frequently been limited in scope, often emphasizing a single aspect, such as appropriation, while overlooking other interrelated components (e.g., Schlager & Ostrom, 1992; Sikor *et al.*, 2017), ownership (Agegnehu *et al.*, 2016; Feder & Onchan, 1987) and the formality of rights (Lanjouw & Levy, 2002; Zhu & Simarmata, 2015). However, property rights cannot be fully understood when examined separately (Adam, 2014; Agegnehu *et al.*, 2016). To fill this gap, this dissertation provides an integrated framework (**Figure 6.5**) that is grounded in Barzel's (1997) *The Economic Analysis of Property Rights* and further develops the theories put forth by Ostrom (1990) and Schlager and Ostrom (1992). It conceptualises property rights as a set of rights that can be divided, transferred, or negotiated. Barzel (1997) contends that property rights extend beyond mere legal ownership to encompass rights to use, manage, or transfer property. This perspective also builds upon the theories of Ostrom (1990) and Schlager and Ostrom (1992), who highlight the critical role of property rights in the sustainable management of resources.

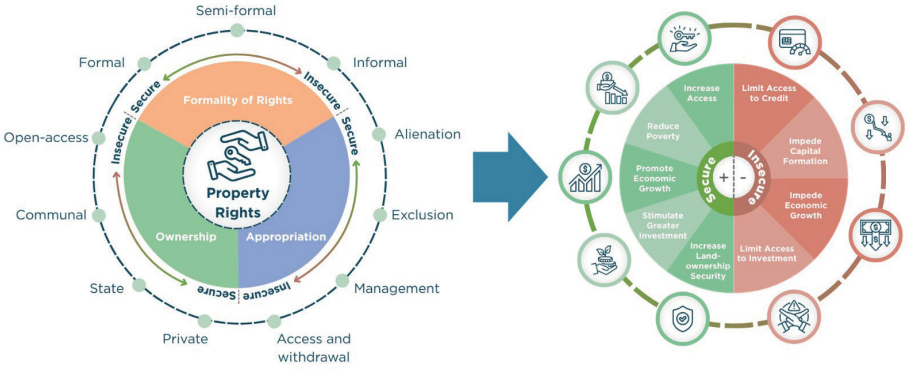

Figure 6.5 | Framework to Assess QoL.

The framework as illustrated in **Figure 6.5** conceptualises property rights as three interrelated dimensions: formality of rights (formal, semi-formal, informal), ownership (open access, communal, state, private), and appropriation (access and withdrawal, management, exclusion, alienation). The level of property rights security, classified as secure or insecure directly influences these dimensions and consequently broader development outcomes. Overlooking the holistic nature of property rights risks ignoring their broader impact on society (Platteau, 1996). Secure property rights increase access to credit, stimulate greater investment, promote economic growth, reduce pov-

erty, and enhance landownership security. Insecure property rights, conversely, create limit access to credit, impede capital formation, impede economic growth, and limit access to investment. This integrated perspective underscores that property rights should not be seen solely as legal ownership but as a dynamic system linking formality, ownership, and appropriation to broader development outcomes. Thus, the degree of security in property rights is a key factor that determines whether property rights serve as an instrument to strengthen development or become an obstacle to economic growth and community well-being.

Schlager and Ostrom (1992) argue that successful spatial management depends on the recognition of existing property rights. Ownership rights are essential in ensuring the fair and efficient use of resources and assets, while also helping to minimise conflict that could threaten community sustainability. The findings of this research show that development has led to a decline in property rights security, resulting in changes to the livelihoods and living conditions of local communities. This decline is attributed to development policies that overlook or disregard local property rights, often implementing system changes without considering the socio-economic realities of the affected communities. As a result, local populations may lose access to, or control over, the resources they once managed—directly impacting their livelihoods and social well-being. Uncertainty surrounding property rights creates instability in the economic lives of communities and poses a serious risk to their QoL.

5. *Unravelling the consequences of the main impacts of new town development on QoL*

Peri-urban areas are rapidly growing regions that are often considered strategic for the expansion of urban areas and various large-scale developments, such as industrial zones (Huang & Yang, 1996; Cartier, 2002), large-scale residential areas (Al-Shihri, 2016; Guan & Yang, 2015; Ott, 2020), and even new towns (Dieleman, 2011; McGee, 1991; Plater, 1992). This is because the fact that peri-urban areas offer a combination of extensive and affordable land, significant investment potential, and access to abundant natural resources and low-cost labour. As shown in **Figure 6.6**, peri-urban development often leads to LSLD, driven by both high investment and massive land acquisition.

In this study, geographical settings were incorporated as a contextual factor that moderates the relationship between new town development and

its impacts on local communities. The settings can distinguish one peri-urban area from another. These contextual differences are critical, as they shape the extent to which the main impacts of development affect the QoL. By recognising geographical settings as a determining factor, the framework acknowledges that development outcomes are not uniform but instead vary, depending on location-specific attributes and vulnerabilities.

However, large-scale development, particularly in peri-urban areas, has significant impacts. Numerous studies have underscored these issues (e.g., Zhao, 2012; Adam, 2014; Kleemann & Thiele, 2015; Yengoh & Armah, 2016; Bartels *et al.*, 2020). When these effects, they can be classified into three primary categories: displacement, security of property rights, and spatial quality. An initial phase of large-scale development–land acquisition–inevitably leads to displacement (Cernea, 1997; Wilmsen & Webber, 2015) and alterations in property rights (d'Amour *et al.*, 2017; Koirala *et al.*, 2017). These impacts can also be regarded as the main impacts of development, each of which can be associated with the pillars of sustainable development: social, economic, and environmental (see **Figure 6.6**).

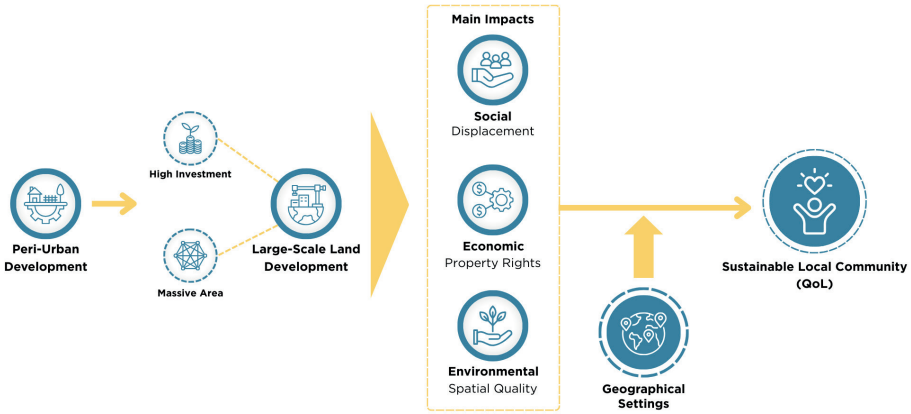

Figure 6.6 | Integrated Framework for Evaluating the Relationship Between the Main Impacts of Large-Scale Development on the Sustainable Local Community.

Identifying and understanding these key development impacts is crucial, as this study shows that property rights, spatial quality, and displacement not only directly influence QoL but also produce a range of secondary effects. For instance, declining spatial quality can limit access to essential services such as public transport, healthcare, and green spaces, thereby reducing both liveability and affordability. Insecure property rights can weaken tenure se-

curity, restrict access to financing and investment, and hinder long-term asset accumulation. Displacement often has broader and more complex consequences, including loss of housing, employment, and social networks, as well as psychosocial instability. It can also exacerbate inequalities and disproportionately affect vulnerable groups.

Despite increasing attention for new towns as a form of LSLD, only a few studies have systematically linked their main impacts to changes in community QoL. In fact, while previous studies have shown that displacement, as a main impact of development, contributes to the loss of housing and jobs (Herath *et al.*, 2017; Mahmood & Islam, 2019), other impacts–such as the insecurity of property rights–have restricted access to capital and investment (Carter & Olinto, 2003; Field, 2007). These issues are often addressed separately. To bridge this gap, this study proposes an integrated framework, illustrated in **Figure 6.6**, which explicitly connects peri-urban and large-scale development processes with their main social, economic, and environmental consequences. By linking displacement, property rights, and spatial quality to both objective and subjective indicators of well-being, the framework provides a holistic understanding of how development reshapes community QoL and long-term sustainability. Most existing studies focus on one or two of these aspects in isolation (e.g., Sajid *et al.*, 2008; Patra *et al.*, 2015; Karimi & Brazier, 2016; Puertas *et al.*, 2020; Nutakor *et al.*, 2023), failing to capture the interconnected and multidimensional nature of development impacts. Therefore, a holistic approach is essential to understanding how development simultaneously affects the fulfilment of basic needs and overall life satisfaction (Berhe *et al.*, 2014; Martinez-Martin *et al.*, 2012). This research has sought to address this gap by adopting a holistic approach based on empirical evidence through the integration of both objective and subjective indicators in measuring QoL. Additionally, a systematic analysis has been conducted to examine the relationship between new town development and changes in the QoL of local communities.

6

6.2.2. Reflections on practice

In addition to its scientific contributions, this dissertation offers several practical insights to inform future approaches to new town development.

1. Promoting sustainability as a core consideration in development policy

The findings indicate that current large-scale developments have not

delivered sustainable benefits for local communities. This is reflected in the decline in QoL observed post-development, suggesting that sustainability, particularly its social dimension, remains insufficiently addressed in planning processes. Key challenges such as displacement, changes in property rights, and deteriorating spatial quality must be anticipated and addressed from the earliest stages of planning. Furthermore, the geographical context of development should be carefully considered, as it significantly influences the scale and nature of the impacts experienced. These insights reinforce the need to integrate social, economic, and environmental dimensions within a holistic policy framework to ensure sustainable development outcomes.

2. Ensuring proportional and meaningful compensation mechanisms for affected communities

   This study underscores the importance of equitable compensation strategies for individuals whose livelihoods are directly linked to land or property acquired for new town development. The decline in livelihood assets, particularly natural capital, has had a significant negative impact on QoL, largely due to the loss or reconfiguration of property rights. Compensation is often inadequate, short-term, and misallocated for non-productive purposes. A more effective approach should combine financial compensation with capacity-building initiatives, such as skills training, to improve community resilience and adaptability. Additionally, government bodies should implement transparent and standardised mechanisms for valuing land and assets, ensuring that both tangible and intangible losses are properly addressed. This would help reduce future disputes and enhance the social legitimacy of development projects.

6.3. RESEARCH LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This study provides a statistical evidence of relationships between the main impacts of large-scale development and QoL. However, not all these relationships have been proven to be strong. Therefore, the complex interplay between new town development and changes in community conditions warrants further investigation, ideally through longitudinal or mixed-methods research. To more accurately capture the evolving nature of QoL and the varied outcomes of development, future studies should employ more integrated and higher-quality datasets.

Richer data would allow for more nuanced analyses of temporal dynamics, regional differences, and the specific effects of various development interventions.

This dissertation contributes to a deeper understanding of how new town development in peri-urban areas affects the QoL of local communities. By examining two towns in distinct geographical settings, it provides a context-specific perspective on the socio-spatial and economic transformations driven by large-scale urban expansion. However, the study is limited to exploring the impacts of new town development as one form of LSLD. Consequently, the findings may be applicable to only this particular type of large-scale development. Therefore, future research could broaden this scope by investigating the effects of other forms of development, such as industrial zones, tourism developments, or major infrastructure projects, which may have different implications for local QoL depending on land use characteristics, resource availability, and socio-economic dynamics.

Although this study considers geographical differences, specifically between coastal and inland areas, it remains focused on peri-urban zones. The characteristics of peri-urban communities may differ markedly from those in urban cores and rural settings, potentially leading to distinct developmental impacts, as indicated by Mandere *et al.* (2010). Consequently, future studies should explore other spatial contexts to examine the extent to which large-scale development produces similar or divergent outcomes across different territorial settings. Applying this research framework in other geographical environments could also provide broader comparative insights, enriching the discourse on urban development and its implications for community well-being.

Equally important, although this research has contributed to explaining how new town development impacts the QoL of local communities, the dimension of governance in new town development has yet to be elaborated and explored in depth in this dissertation. Governance plays a crucial role in determining whether the impacts of development can be controlled and minimised or, conversely, exacerbate the social, economic, and spatial conditions of the affected communities. Therefore, governance should be further examined in future research to understand its role in new town development.

6

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Appendices

Appendix A | Variation of main impact of large-scale land development.

Variable	Source	Analysis Technique	Data Source
		Displacement	
Type of displacement	Gellert and Lynch, 2003	Descriptive statistics	Household survey
Motivation for displacement	e.g.: Gellert and Lynch, 2003; Turner, 2010; Verme and Schuettler, 2021	Descriptive statistics	Household survey
Form of displacement	Modified from Wang *et al.*, 2020	ANN[a] tools and NNI[b] Cluster index = $\frac{\text{number of respondents in each settlement group}}{\text{observed average distance}}$	Household survey
		Property Rights Change	
Changes in security level (ratio)	Pratomo *et al.*, 2019	$\Delta S = S' - S$ $\Delta S = [W_1A' + W_2O' + W_3F'] - [W_1A + W_2O + W_3F]$ ΔS = transformation of property rights security; S, S' = security level of property rights in prior, current development; $W_{1,2,3}$ = weight per property right (the weight of each right is assumed to be similar = 1); A, A' = security level of appropriation in prior, current development; O, O' = security level of ownership in prior, current development; F, F' = security level of formality rights in prior, current development	Household survey
		Spatial Quality	
		Socio-economic	
Population density	Mortoja and Yigitchanlar, 2022	Population density = $\frac{\text{number of people}}{\text{land area}}$	Statistics Indonesia
Poverty level	Mortoja and Yigitchanlar, 2022	Descriptive statistics	Statistics Indonesia

Variable	Source	Analysis Technique	Data Source
Informal economy	Mortoja and Yigitchanlar, 2022	Descriptive statistics	Statistics Indonesia
Education	Carrilho and Trindade, 2022	Descriptive statistics	Statistics Indonesia
Median household income	Winarso *et al.*, 2015	Descriptive statistics	Household survey
		Physical	
Informal settlement (building structure)	Mortoja and Yigitchanlar, 2022	Descriptive statistics	Household survey
Infrastructure availability	Carrilho and Trindade, 2022; Mortoja and Yigitchanlar, 2022	Descriptive statistics	Household survey
		Environmental	
Built-up area/Impervious area	Ghosh *et al.*, 2022; Zheng *et al.*, 2021	$NDBI = \frac{SWIRBand - NIRBand}{SWIRBand + NIRBand}$	Pleiades image
Green vegetation	Ghosh *et al.*, 2022; Lo, 2007	GIS overlay (fuzzy logic)	Pleiades image
Land temperature	Kazemzadeh-Zow *et al.*, 2018	$LST = \frac{T_b}{1 + (\lambda \times \frac{T_b}{\partial}) \ln(\varepsilon)}$ LST = land surface temperature (°C) T = brightness temperature λ = mid-wavelength thermal band ∂ = ordinances 1.438×10^{-2} mK ε = emissivity	Landsat ETM+ image

a *Average nearest neighbourhood.*
b *Nearest neighbour index.*

SUMMARY

This dissertation embarks on a critical exploration of urbanisation as a double-edged sword: a phenomenon that simultaneously offers pathways to progress and harbours significant threats to local communities. This duality forms the foundation of our inquiry, aptly titled 'Hope or Despair'. Urbanisation and large-scale developments, such as new town projects, aim to address various urban challenges. The development of new towns seeks to stimulate economic growth, improve infrastructure, and create job opportunities. New town developments in peri-urban areas can transform suburban regions into new growth centres with better facilities, potentially enhancing the local economy. Furthermore, these towns are designed to provide high-quality housing and improve overall quality of life. Ultimately, new town development aims to create more innovative, organised, and balanced cities. However, these developments often lead to despair among local communities. These projects frequently prioritise the interests of the upper middle class while neglecting social inclusivity. The most common negative impacts include displacement and the loss of agricultural land, which directly threaten the livelihoods and social structures of long-standing residents. Although the promise of numerous job opportunities appears enticing, the available jobs tend to be filled by external workers, thereby limiting long-term employment prospects for local communities. Additionally, environmental changes such as rising temperatures, water and air pollution, spatial segregation, and increased crime rates can diminish the quality of life for the communities. This issue is exacerbated by a fragmented understanding of property rights, which can worsen the vulnerability of communities during the development process.

This research seeks to delve deeper into the relationship between new town development and the sustainability of local communities' lives. Without a clear understanding of the primary impacts of new town development and a holistic assessment of community life components, it is challenging to obtain a comprehensive picture of how these elements interact. Therefore, this research addresses the following main research question:

How does new town development in peri-urban areas influence the sustainability of local communities?

To answer this question, **Chapter 2** attempts to reformulate a quality of life (QoL) framework for a comprehensive sustainability assessment. The case study of Metro Tanjung Bunga (MTB) in Makassar is examined through a 25-year

longitudinal analysis. By integrating subjective indicators (community perceptions) and objective indicators (factual conditions), it is revealed that while new town development brings infrastructure and investment, it also increasingly marginalises coastal communities. The findings indicate that new town development tends to reduce the QoL of local communities, thereby challenging the achievement of the Sustainable Development Goals (SDGs), particularly concerning poverty alleviation and inclusive urban development.

Chapter 3 compares the impacts of new town development in two geographical contexts: coastal areas (Metro Tanjung Bunga - MTB) and inland areas (Kota Baru Parahyangan - KBP). The results demonstrate that geographic differences significantly influence community sustainability. Coastal communities, heavily reliant on fishery resources, experience a sharper decline in QoL compared to land-based agricultural communities. Thus, geographic settings emerge as a key factor mediating the impacts of new town development on sustainability.

Chapter 4 discusses how new town development affects property rights and security levels. Using case studies from Kota Harapan Indah (KHI), KBP, and MTB, this chapter explores the concept of the bundle of rights (ownership, use, access, and formal recognition). The findings show that new town development tends to weaken appropriation rights and diminish property rights security, particularly under urbanisation pressure. This directly impacts the social, economic, and cultural stability of local communities whose identities are closely tied to the land.

Chapter 5 aims to connect three main impacts of new town development – displacement, changes in property rights, and changes in spatial quality – with the QoL of communities. Statistical analysis reveals that the type of displacement, socio-economic conditions, and levels of security in land rights are the most influential factors affecting changes in QoL. Moreover, the degradation of spatial quality – including environmental pollution, segregation, and reduced social interaction – also diminishes well-being. This chapter emphasises that these three impacts are interrelated and determine whether communities can sustain themselves or become increasingly marginalised. In addition, through this chapter, the dissertation highlights the critical role of geographical context in moderating the main impacts of large-scale land development. The statistical findings indicate that geographical settings can amplify these effects, particularly those related to spatial quality, with positive relationships observed in relation to changes in QoL.

Finally, **Chapter 6** synthesises all research findings and concludes that new town development in peri-urban areas often undermines the sustainability

of local communities. While it may enhance economic growth and infrastructure, these benefits are predominantly enjoyed by certain groups, particularly newcomers from middle to upper economic strata, while local residents become more vulnerable to losing land, livelihoods, and social cohesion. This dissertation asserts that sustainability must be understood holistically, considering QoL to depict the sustainability of local communities, encompassing both subjective and objective aspects, as well as geographic variations and property rights security. By integrating local community perspectives into planning and governance, new town development can be directed towards a more inclusive, equitable, and long-term sustainable future.

SAMENVATTING

Deze dissertatie begint met een kritische verkenning van verstedelijking als een zwaard dat snijdt aan twee kanten, een fenomeen dat tegelijkertijd mogelijkheden voor vooruitgang biedt en aanzienlijke bedreigingen vormt voor lokale gemeenschappen. Deze dualiteit vormt de basis van mijn onderzoek, toepasselijk getiteld 'Hoop of Wanhoop'. Verstedelijking en grootschalige ontwikkelingen, zoals nieuwe stadsprojecten, bieden hoop die gericht is op het aanpakken van verschillende stedelijke uitdagingen. De ontwikkeling van nieuwe steden heeft als doel economische groei te stimuleren, de infrastructuur te verbeteren en werkgelegenheid te creëren. Nieuwe stadsontwikkelingen in peri-urbane gebieden kunnen voorstedelijke regio's transformeren in nieuwe groeicentra met betere faciliteiten, wat de lokale economie potentieel kan versterken. Bovendien zijn deze steden ontworpen om hoogwaardige woningen te bieden en de algehele levenskwaliteit te verbeteren. Uiteindelijk is het doel van de ontwikkeling van nieuwe steden om innovatievere, georganiseerde en evenwichtige steden te creëren. Echter, deze ontwikkelingen leiden vaak tot wanhoop onder lokale gemeenschappen. Deze projecten geven vaak prioriteit aan de belangen van de hogere middenklasse, terwijl sociale inclusiviteit wordt verwaarloosd. De meest voorkomende negatieve gevolgen zijn onteigening en het verlies van landbouwgrond, wat de levensonderhoud en sociale structuren van langdurige bewoners direct bedreigt. Hoewel de belofte van talrijke werkgelegenheden aantrekkelijk lijkt, worden de beschikbare banen vaak vervuld door externe werknemers, waardoor de lange-termijn werkgelegenheidsvooruitzichten voor lokale gemeenschappen verder beperkt worden. Daarnaast kunnen veranderingen in klimaat en milieu, zoals stijgende temperaturen en water- en luchtvervuiling, maar ook ruimtelijke segregatie en een toename van criminaliteit, de levenskwaliteit van de gemeenschappen verminderen. Dit probleem wordt verergerd door een gefragmenteerd begrip van eigendomsrechten, wat de kwetsbaarheid van gemeenschappen tijdens het ontwikkelingsproces kan verergeren.

Dit onderzoek zoekt naar een diepere verkenning van de relatie tussen de ontwikkeling van nieuwe steden en de duurzaamheid van het leven van lokale gemeenschappen. Zonder een duidelijk begrip van de primaire impact van de ontwikkeling van nieuwe steden en een holistische beoordeling van de componenten van het gemeenschapsleven, is het uitdagend om een uitgebreid beeld te krijgen van hoe deze elementen met elkaar interageren. Daarom behandelt dit onderzoek de volgende hoofdonderzoeksvraag:

Hoe beïnvloedt de ontwikkeling van nieuwe steden in peri-urbane gebieden de duurzaamheid van lokale gemeenschappen?

Om deze vraag te beantwoorden, probeert **Hoofdstuk 2** een kader voor Leefkwaliteit (QoL) te herformuleren voor een uitgebreide duurzaamheidsevaluatie. De casestudy van Metro Tanjung Bunga (MTB) in Makassar wordt onderzocht door middel van een 25-jarige longitudinale analyse. Door subjectieve indicatoren (gemeenschapspercepties) en objectieve indicatoren (feiten) te integreren, blijkt dat hoewel de ontwikkeling van nieuwe steden infrastructuur en investeringen met zich meebrengt, het ook de kustgemeenschappen steeds meer marginaliseert. De bevindingen geven aan dat de ontwikkeling van nieuwe steden de QoL van lokale gemeenschappen tendeert te verminderen, wat de verwezenlijking van de Duurzame Ontwikkelingsdoelen (SDG's), met name met betrekking tot armoedebestrijding en inclusieve stedelijke ontwikkeling, uitdaagt.

Hoofdstuk 3 vergelijkt de impact van de ontwikkeling van nieuwe steden in twee geografische contexten: kustgebieden (Metro Tanjung Bunga - MTB) en binnenlandse gebieden (Kota Baru Parahyangan - KBP). De resultaten tonen aan dat geografische verschillen een significante invloed hebben op de duurzaamheid van de gemeenschap. Kustgemeenschappen, die sterk afhankelijk zijn van visserijbronnen, ervaren een scherpere afname van de QoL in vergelijking met grondgebonden agrarische gemeenschappen. Geografische instellingen blijken dus een belangrijke factor te zijn die de impact van de ontwikkeling van nieuwe steden op duurzaamheid medieert.

Hoofdstuk 4 bespreekt hoe de ontwikkeling van nieuwe steden van invloed is op eigendomsrechten en het niveau van veiligheid. Aan de hand van casestudy's uit Kota Harapan Indah (KHI), KBP en MTB verkent dit hoofdstuk het concept van de bundel van rechten (eigendom, gebruik, toegang en formele erkenning). De bevindingen tonen aan dat de ontwikkeling van nieuwe steden de eigendomsrechten kan verzwakken en de veiligheid van eigendomsrechten kan verminderen, vooral onder druk van verstedelijking. Dit heeft directe gevolgen voor de sociale, economische en culturele stabiliteit van lokale gemeenschappen wiens identiteiten nauw verbonden zijn met het land.

Hoofdstuk 5 heeft als doel drie belangrijke effecten van de ontwikkeling van nieuwe steden—onteigening, veranderingen in landrechten en veranderingen in ruimtelijke kwaliteit—te verbinden met de QoL van gemeenschappen. Statistische analyses onthullen dat het type onteigening, sociaaleconomische omstandigheden en niveaus van veiligheid in landrechten de meest invloedrijke

factoren zijn die veranderingen in QoL beïnvloeden. Bovendien vermindert de degradatie van ruimtelijke kwaliteit, inclusief milieuvervuiling, segregatie en verminderde sociale interactie, ook het welzijn. Dit hoofdstuk benadrukt dat deze drie effecten met elkaar verbonden zijn en bepalen of gemeenschappen zichzelf kunnen onderhouden of steeds meer gemarginaliseerd worden. Bovendien benadrukt dit hoofdstuk de cruciale rol van geografische context in het modereren van de belangrijkste effecten van grootschalige landontwikkeling. De statistische bevindingen geven aan dat geografische context deze effecten kunnen versterken, met name die welke verband houden met ruimtelijke kwaliteit, waarbij positieve relaties worden waargenomen in relatie tot veranderingen in QoL.

Ten slotte synthetiseert **Hoofdstuk 6** alle onderzoeksbevindingen en concludeert dat de ontwikkeling van nieuwe steden in peri-urbane gebieden vaak de duurzaamheid van lokale gemeenschappen ondermijnt. Hoewel het economische groei en infrastructuur kan bevorderen, worden deze voordelen voornamelijk genoten door bepaalde groepen, vooral nieuwkomers uit de midden- tot hogere economische lagen, terwijl lokale bewoners kwetsbaarder worden voor het verlies van land, levensonderhoud en sociale cohesie. Deze dissertatie stelt dat duurzaamheid holistisch moet worden begrepen, met inachtneming van QoL om de duurzaamheid van lokale gemeenschappen weer te geven, waarbij zowel subjectieve als objectieve aspecten, evenals geografische variaties en de veiligheid van eigendomsrechten, worden meegenomen. Door de perspectieven van lokale gemeenschappen te integreren in planning en governance, kan de ontwikkeling van nieuwe steden worden gericht op een meer inclusieve, rechtvaardige en duurzame toekomst op lange termijn.

RINGKASAN

Disertasi ini berangkat dari sebuah eksplorasi kritis terhadap fenomena urbanisasi yang sering dipandang sebagai pedang bermata dua. Di satu sisi, urbanisasi menawarkan peluang untuk mencapai kemakmuran melalui pertumbuhan ekonomi, peningkatan infrastruktur, serta perluasan kesempatan kerja. Namun di sisi lain, proses tersebut juga berpotensi menimbulkan berbagai ancaman signifikan bagi komunitas lokal, termasuk perubahan struktur sosial, tekanan terhadap sumber daya, serta ketimpangan akses terhadap manfaat pembangunan. Dualitas inilah yang menjadi landasan utama penelitian ini, yang kemudian dirumuskan dalam judul "Hope or Despair". Dalam konteks ini, urbanisasi dan pembangunan skala besar, seperti pembangunan kota baru, sering diposisikan sebagai strategi pembangunan yang menawarkan harapan untuk mengatasi berbagai tantangan perkotaan. Secara khusus, pembangunan tersebut diarahkan untuk menstimulasi pertumbuhan ekonomi, memperkuat infrastruktur, serta menciptakan peluang kerja bagi masyarakat. Di kawasan peri-urban, pembangunan kota baru berpotensi mentransformasi wilayah pinggiran menjadi pusat pertumbuhan baru dengan fasilitas yang lebih memadai dan kemampuan untuk mendorong dinamika ekonomi regional. Selain itu, kota baru juga dirancang untuk menyediakan perumahan yang lebih berkualitas serta meningkatkan kualitas hidup masyarakat secara keseluruhan. Dengan demikian, pembangunan kota baru pada dasarnya bertujuan untuk mewujudkan lingkungan perkotaan yang lebih inovatif, terorganisasi, seimbang dan berkelanjutan.

Namun demikian, berbagai studi menunjukkan bahwa pembangunan kota baru tidak selalu menghasilkan manfaat yang merata. Dalam banyak kasus, proyek pembangunan skala besar justru menimbulkan berbagai dampak sosial dan keputusasaan bagi masyarakat lokal. Penggusuran, hilangnya lahan pertanian dan atau juga akses ke aktivitas perikanan, serta perubahan struktur ekonomi lokal menjadi konsekuensi yang sering terjadi, yang secara langsung maupun tidak langsung mengancam keberlanjutan mata pencaharian masyarakat. Meskipun pembangunan kota baru sering dipandang mampu membuka peluang kerja baru, banyak dari peluang tersebut justru dimanfaatkan oleh tenaga kerja dari luar kawasan, sehingga manfaat ekonomi yang diterima masyarakat lokal menjadi terbatas. Selain itu, perubahan lingkungan seperti peningkatan suhu, pencemaran air dan udara, serta munculnya segregasi spasial juga berpotensi menurunkan kualitas hidup masyarakat yang telah lama bermukim di kawasan tersebut. Situasi ini semakin diperparah oleh lemahnya keamanan hak atas prop-

erti dan kompleksitas struktur kepemilikan tanah, yang sering kali meningkatkan kerentanan masyarakat lokal selama proses pembangunan berlangsung.

Berdasarkan kondisi tersebut, penelitian ini berupaya mengkaji secara lebih mendalam hubungan antara pembangunan kota baru dan keberlanjutan komunitas lokal di kawasan peri-urban. Tanpa pemahaman yang komprehensif mengenai dampak pembangunan kota baru serta pengukuran yang holistik terhadap berbagai dimensi kehidupan masyarakat, sulit untuk menilai sejauh mana pembangunan tersebut benar-benar berkontribusi terhadap keberlanjutan komunitas lokal. Oleh karena itu, penelitian ini mengajukan pertanyaan utama sebagai berikut:

Bagaimana pengembangan kota baru di kawasan peri-urban mempengaruhi keberlanjutan komunitas lokal?

Untuk menjawab pertanyaan tersebut, penelitian ini menggunakan pendekatan bertahap yang disajikan dalam beberapa bab. **Bab 2** merumuskan kembali kerangka kualitas hidup/*Quality of Life* (QoL) sebagai pendekatan untuk menilai keberlanjutan komunitas secara lebih komprehensif. Melalui studi longitudinal selama 25 tahun di kawasan Metro Tanjung Bunga (MTB), Makassar, penelitian ini mengintegrasikan indikator subjektif, yang merefleksikan persepsi masyarakat, dan indikator objektif, yang menggambarkan kondisi faktual kehidupan masyarakat. Hasil analisis menunjukkan bahwa meskipun pembangunan kota baru membawa investasi dan infrastruktur baru, proses tersebut juga meningkatkan marginalisasi komunitas pesisir. Temuan ini menunjukkan bahwa pembangunan kota baru dapat menurunkan kualitas hidup kelompok masyarakat lokal sekaligus menantang pencapaian Tujuan Pembangunan Berkelanjutan (*Sustainable Development Goals*), khususnya terkait pengentasan kemiskinan dan pembangunan kota yang inklusif.

Selanjutnya, **Bab 3** membandingkan dampak pembangunan kota baru pada dua konteks geografis yang berbeda, yaitu kawasan pesisir (MTB) dan kawasan daratan (Kota Baru Parahyangan – KBP). Hasil penelitian menunjukkan bahwa faktor geografis memainkan peran penting dalam menentukan tingkat keberlanjutan komunitas. Komunitas pesisir yang bergantung pada sumber daya perikanan mengalami penurunan kualitas hidup yang lebih signifikan dibandingkan komunitas daratan yang berbasis pada kegiatan pertanian. Temuan ini menegaskan bahwa kondisi geografis menjadi faktor kunci yang berpotensi memediasi dampak pembangunan kota baru terhadap keberlanjutan komunitas lokal.

Bab 4 kemudian membahas dampak pembangunan kota baru terhadap

hak atas properti serta tingkat keamanannya. Dengan menggunakan studi kasus di Kota Harapan Indah (KHI), KBP, dan MTB, penelitian ini mengeksplorasi konsep *bundle of rights* yang mencakup hak kepemilikan, pemanfaatan, akses, dan pengakuan formal atas tanah. Hasil penelitian menunjukkan bahwa pembangunan kota baru cenderung melemahkan keamanan hak atas properti masyarakat lokal, terutama di bawah tekanan urbanisasi yang semakin meningkat. Kondisi ini berdampak langsung pada stabilitas sosial, ekonomi, dan budaya komunitas yang kehidupannya sangat terkait dengan tanah yang mereka kuasai.

Pada **Bab 5**, penelitian ini mengintegrasikan tiga dampak utama pembangunan skala besar yang meliputi penggusuran/pemindahan paksa, perubahan hak atas properti, dan perubahan kualitas kawasan, dengan kualitas hidup masyarakat lokal. Analisis statistik menunjukkan bahwa jenis penggusuran/pemindahan paksa, kondisi sosial-ekonomi masyarakat, serta tingkat keamanan hak atas tanah merupakan faktor yang paling berpengaruh terhadap perubahan kualitas hidup. Selain itu, degradasi kualitas lingkungan, segregasi spasial, serta menurunnya interaksi sosial juga berkontribusi terhadap penurunan kesejahteraan masyarakat. Temuan ini menunjukkan bahwa ketiga faktor tersebut saling berkaitan dan secara bersama-sama menentukan apakah suatu komunitas mampu mempertahankan keberlanjutannya atau justru mengalami proses peminggiran. Selain itu, bab ini menegaskan bahwa konteks geografis memiliki peran penting dalam memoderasi dampak utama dari pengembangan lahan berskala besar. Hasil uji statistik menunjukkan bahwa perbedaan geografis dapat memperkuat pengaruh dampak pembangunan, terutama mereka yang berkaitan dengan kualitas kawasan, terhadap perubahan kualitas hidup. Pengaruh menunjukan hubungan positif, yang mengindikasikan bahwa semakin baik kualitas kawasan, semakin besar pula dampaknya terhadap peningkatan kualitas hidup masyarakat.

Akhirnya, **Bab 6** mensintesis seluruh temuan penelitian dan menunjukkan bahwa pembangunan kota baru di kawasan peri-urban justru melemahkan keberlanjutan komunitas lokal. Meskipun pembangunan tersebut mampu meningkatkan pertumbuhan ekonomi dan memperbaiki infrastruktur, manfaat yang dihasilkan sering kali lebih banyak dinikmati oleh kelompok tertentu, khususnya para pendatang dengan status ekonomi menengah ke atas. Sementara itu, masyarakat lokal menjadi semakin rentan kehilangan tanah, mata pencaharian, serta kohesi sosial yang telah terbentuk selama bertahun-tahun. Oleh karena itu, disertasi ini menegaskan bahwa keberlanjutan pembangunan harus dipahami secara holistik dengan mempertimbangkan kualitas hidup masyarakat sebagai

indikator utama yang mencakup dimensi subjektif dan objektif, sekaligus memperhatikan variasi geografis serta keamanan hak atas properti. Dengan mengintegrasikan perspektif komunitas lokal dalam proses perencanaan dan tata kelola pembangunan, pembangunan kota baru diharapkan dapat diarahkan menuju bentuk pembangunan yang lebih inklusif, adil, dan berorientasi pada keberlanjutan jangka panjang.

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He is currently a PhD candidate at the Department of Geography, Planning and Environment, Radboud University, the Netherlands. His doctoral research, "Hope or Despair: Large-Scale Land Development in Peri-Urban Areas towards Sustainability of Local Communities", provides a systematic examination of how large-scale land development restructures livelihood systems and quality of life. The research advances scholarly debates by integrating property rights analysis, displacement dynamics, and spatial quality assessment within a comprehensive analytical framework.

Aris has contributed to a range of national and international research initiatives, including projects supported by the World Bank. His methodological approach combines advanced spatial analysis with quantitative techniques, including structural equation modelling, to capture the multidimensional processes underlying urban transformation. He was also invited as a guest critic at the Graduate School of Design, Harvard University, in 2023, reflecting recognition of his academic engagement in international forums.

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His work aims to bridge theoretical advancement and policy relevance by

offering empirically grounded insights into the socio-spatial consequences of urban development. With a strong commitment to sustainability, his research contributes to more just, inclusive, and sustainable urban futures.

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