

Title page

Streets in Informal Settlements:

Design, community, and power in Indonesian *kampung*

This thesis is submitted in fulfilment of the requirements for the
degree of Doctor of Philosophy

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Abstract

This research explores the roles of the street in informal settlements, through a case study of two contrasting urban *kampung*, Kampung Keparakan and Kampung Kricak, in Yogyakarta, Indonesia. Much has been written both on the street and on informal settlements, but there is little research on the intersection of these two important topics. Previous research has looked at the historical role of the street, street design as a channel for movement, and at streets as public space, but most studies focus on cities in the developed world with few examples from developing country cities.

This research focuses on the organic and ordinary streets of informal settlements. Although the context of informal settlements is common, the complexity of their physical and spatial structure is under-explored, and there is limited information how streets in informal settlements are produced, used, and managed. Governments often characterise informal settlements as chaotic and associated with poverty, pursuing policies of slum clearance rather than understanding the nuanced operation of low-income communities.

The study poses three fundamental challenges to concepts of the street that privilege movement over other uses. Firstly, it shows that streets in urban *kampung* are multi-functional shared-use spaces that play a key role in the existence and continuation of communities, blurring the traditional divide between the public and private realm. Secondly, communities have a major role in creating, claiming and managing streets, which shows that the perception that government is responsible for the public realm and the household for the private space does not apply in an informal setting like *kampung*. Thirdly, the diversity of street use and management by communities in low-income informal settlements demonstrates that community involvement is essential to settlement upgrading and transforming streets into productive and vibrant places. The research adds depth to the understanding of how streets in informal settlements function and their relationship with communities, with significant implications for urban planning and upgrading interventions.

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List of Acronyms

ABRI	: <i>Angkatan Bersenjata Republik Indonesia</i> (Republic of Indonesia Armed Force)
AMD	: <i>ABRI Masuk Desa</i> (ABRI entering the village)
BKM	: <i>Badan Keswadayaan Masyarakat</i> (Community Self-help Organisation)
BPN	: <i>Badan Pertanahan Nasional</i> (National Land Agency)
DPRD	: <i>Dewan Perwakilan Rakyat Daerah</i> (Regional House of Representatives).
KIP	: <i>Kampung Improvement Programme</i> .
KOTAKU	: <i>Kota Tanpa Kumuh</i> (City without Slums)
LKMD	: <i>Lembaga Ketahanan Masyarakat Desa</i> (Community Self-reliance Council)
LPMK	: <i>Lembaga Pemberdayaan Masyarakat Kelurahan</i> (Community Empowerment Council)
M3K	: <i>Mundur, Munggah, Madhep Kali</i> (stepping back, elevating, and facing the river)
Musrenbang	: <i>Musyawarah Perencanaan Pembangunan</i> (Development Planning Forum)
PTSL	: <i>Pendaftaran Tanah Sistematis Lengkap</i> (Systematic and Comprehensive Land Registration)
RK	: <i>Rukun Kampung</i> (harmonious <i>kampung</i> – the former second lowest tier of neighbourhood unit)
RT	: <i>Rukun Tetangga</i> (harmonious neighbours – the lowest tier of neighbourhood unit)
RW	: <i>Rukun Warga</i> (harmonious residents – the second lowest tier of neighbourhood unit)

1.0. Introduction

1.1. Introduction

Celebrating *Eid al Adha*, marking funeral rites of passage, playing football, exchanging gossip, or cooking the evening meal – streets are the theatre of life of Indonesian *kampung*. Wandering through *kampung* streets provides an authentic experience of life on the margins with their unique spectacles. Underpinning this cacophony of life lie the community negotiations which mediate the use of precious space and form a bulwark against external intrusion. Yet conventional urban planning often sees *kampung* streets only as a conduit for pedestrians or motorcycles, while ignoring their wider role at the heart of the *kampung* community. Yet, as a product of social practices, cultures and values, and political negotiation articulated in urban space, the street and its role is socially and politically contextual, which requires a situated analysis in order to be theorised.

This study seeks to contribute to the understanding of the urban street by exploring the narrative of vulnerable and marginalised groups in the developing world, which is often absent in academic discourse and urban policy. Its significance is in looking beyond the physical and visual qualities of the street to explore the social and political significance of ordinary streets for communities in informal settlements who are often excluded from formal urban streets and public space. It calls for a fundamental re-think of the street and informal settlements in urban planning and design.

Chapter 1 explains the rationale behind this research, the research problem, the aims and objectives of the research, and the structure of the thesis and provides an overview of the content of each chapter.

1.2. Background

Over recent decades, exclusion of marginalised and vulnerable groups from urban streets and public space has become widespread. Low-income people have often been the victims of displacement or eviction by urban managers seeking to beautify and civilise urban space. Homeless people are often removed from public space because they are seen as a problem for private property owners (e.g. see Mitchell, 1995).

Street traders face harsh street-cleansing policies from city authorities and are considered as an obstruction to public order (Asiedu & Agyei-Mensah, 2008; Bromley, 2000; Bromley & Mackie, 2009; Brown, 2006; Rogerson & Hart, 1989; Yatmo, 2008). Women and children may shun streets and public space due to societal norms and fears of safety (see e.g. Beazley, 2002; Bondi & Rose, 2003; Cohen, 2000; Harden, 2000; Malone, 2002; Muiruri, 2010; Pratt, 2006; Valentine, 1997; Valentine & McKendrick, 2007; Viswanath & Mehrotra, 2007). These phenomena signal a decline in the vitality of public spaces.

Transformation of urban streets

The introduction of the automobile in the early twentieth century has dramatically changed the urban street. Streets have been transformed from a viable public space to a space for fast-moving traffic (Southworth & Ben-Joseph, 2003). Transport engineers and urban planners planned and designed streets to increase their efficiency to transport people and goods. Traditional street patterns were soon replaced by a new system of vehicular highways (Marshall, 2005; Mehta, 2013; Southworth & Ben-Joseph, 2003;). Street upgrading and network expansion is undertaken with insufficient attention to its effects on existing street users. Streets have been largely considered as a tool for facilitating vehicular traffic and capital accumulation, while other important functions of streets have been gradually ignored and rarely articulated in the urban programme.

Despite the growing worldwide movement to reclaim the street as a public space, mostly in Europe and North America (see Appleyard, 1980, Gehl, 1987; Jacobs, 1993; Moudon, 1991; Whyte, 1980), little attention is given to the role of streets for marginalised communities. Planning and design of the street as a public space often seeks to improve the visual aesthetic of the city and attract capital investments (Brown, 2006; Madanipour, 1999;), reclaiming streets for pedestrian malls or places for leisure activities whose image is not compatible with the presence of the urban poor and their activities. This transformation privileges the middle class and those with economic and political power to dominate streets and public spaces.

Street planning and design in the developing world often mimics design concepts from the West without reference to local socio-cultural and political contexts. This practice has been critiqued for creating a monotonous appearance to the street (Carmona, 2010b; Townshend & Madanipour, 2008), being incompatible with

people's behaviour and lifestyles in using space (Oranratmanee & Sachakul, 2014), and ignoring the importance of public space to the poor (Brown, 2006). Streets in the developing world have been increasingly controlled, monitored, and privatised, exacerbating the exclusion of the urban poor from the street. Yet many low-income households depend on access to the street for their livelihoods through informal claims (Brown, 2006).

This study thus seeks to contribute to social justice by exploring the role of the street for marginalised communities living in informal settlements in Indonesia. It investigates the creation, use and management of the street in informal settlements where these communities are concentrated. It also seeks to contribute to the understanding of the street by providing alternative narratives of the streets based on empirical observations from the developing world that could challenge the dominant presumptions inherent in urban planning and design theories from the global north.

Rethinking planning and design approaches for the global south

Cities in the global south display a distinct type of urbanism, often characterised by informal processes of land delivery, housing development, economic activity and governance. However, there is a mistaken assumption that they can be understood according to the model of European and North American cities (Bishop *et al.*, 2003; Watson, 2016). As urban problems become more complex, it is apparent that many of these theories show little relevance to the urban realities and political and social contexts of the global south.

The recent paradigm shift in urban studies and planning which generates urban knowledge from the global south (e.g. Oldfield & Parnell, 2014; Parnell & Robinson, 2012; Robinson, 2006; Watson, 2016) stresses the importance of recognising the variation of place and context. This in turn requires situated knowledge of the reality on the ground, and new conceptual thinking to reflect on theory (Watson, 2016). Context is seen as key in the production of urban knowledge and understanding urban phenomena, including the street.

The narrative of the street derived from the global north literature cannot fully explain the street in cities in the global south, as the context is very different. This narrative is largely based on an urban setting characterised by strong state capacity to structure urban space, and a clear separation between public and private domain.

The street in the global north is mostly produced through institutionalised technocratic planning processes and predetermined design concepts (Southworth & Ben-Joseph, 2003), symbolising an image of a controlled, orderly, and predictable urban environment.

Urban streets in the global south are often situated in a context of “messy urbanism”, which “denotes urban conditions and processes that do not follow institutionalized or culturally prescribed notions of order” (Hou & Chalana, 2016, p. 4). For instance, Kim (2016) refers to the mixed use of sidewalks in Ho Chi Minh City as an example of messy urbanism. Kusno (2016) discusses how *kampung* in Jakarta, with their organic and unplanned streets, and appropriation by street traders, have been deemed a source of messiness and become the target of city order policies.

Messy urbanism is closely linked to the concept of urban informality (Hou & Chalana, 2016). Scholars argue that informality is a key feature of Southern urbanism, which needs to be carefully evaluated when interpreting urban phenomena in the global south (Roy, 2009b; 2011; Watson, 2016). Urban informality is pervasive, but also it is a logic that governs the process of urbanisation through which space is produced (Roy & AlSayyad, 2004), which suggests the need for situated interpretations and theorisation based on empirical observations embedded in the local context, in order to nuance the understanding of urban space in the global south.

In light of this argument, it is clear that informal settlements, and their socio-spatial processes, are an epitome of Southern urbanism, where mundane and everyday urbanity is manifested but remains underexplored. Informal settlements have evolved to adapt to urban dynamics, demonstrating their resistance and resilience in responding to various threats and challenges. Many of these settlements are economically productive and contribute significantly to the city economy. Their inhabitants have developed a distinct lifestyle that helps them meet their basic needs despite limited space and resources. Their streets may look disorganised but are vibrant and rich in public life. Much of this potential is subjugated by interpretations of urban phenomena provided by contemporary theories from the global north.

Therefore, this study seeks to conceptualise the nature of contemporary streets in informal settlements and explore the agents and actions which underpin their production, use and management. It strives for new recognition of spatial and visual orders that have largely shaped cities in the global south.

Informal settlements and urban dynamics in Yogyakarta, Indonesia

Informal settlements exist across the globe with their own characteristics and locally specific names. In Indonesia, informal settlements are mostly associated with *kampung*, vernacular urban settlements with organic spatial patterns that grow incrementally. *Kampung* dominate urban land in many Indonesian cities and play a significant role in providing affordable housing to urban residents. In 2009 it was estimated that around 70–85 percent of the urban population in Indonesia lived in urban *kampung* (Ministry of Housing, 2009). Nevertheless, government responses towards *kampung* vary between different cities.

Yogyakarta is an appropriate locus for this study due to the unique context of the city that shapes the identity and development of *kampung* as a significant part of Yogyakarta's urban fabric. Yogyakarta's reputation as a student city and an important tourist destination has brought capital investment into the *kampung*, which gradually changes their image and provides economic opportunities for both established residents and migrants.

The city government's approach in managing *kampung* in Yogyakarta is progressive. Unlike in many other cities in Indonesia, such as Jakarta, where eviction and displacement of *kampung* residents for aesthetics and legality grounds are still commonplace, in Yogyakarta *kampung* are often incorporated into urban policies. Eviction policies in Yogyakarta have been slowly discarded. Many *kampung* have been formalised and upgraded. The city authority has also delivered a number of social and economic development programmes to promote the economic potential of *kampung* and improve their image. Many *kampung* have grown to become centres of home-based industries that support Yogyakarta's tourism sector, as well as student areas that provide affordable services and housing for students. It can thus be expected that *kampung* will continue to provide significant contributions to the city.

The existence of the Yogyakarta Sultanate with its prolonged history and strong tradition also situates *kampung* in a distinct socio-political setting that gives them a unique identity and dynamic. The history of *kampung* in Yogyakarta was influenced by the Sultanate, under which they were established and administered. Although the city administration has now been modernised, the strong political and cultural powers of the Sultanate create a dualism of power in city development, including *kampung* management, which is interesting to investigate.

1.3. Research problem

Much has been written both on the topic of the street and informal settlements, but there is little research conducted on the intersection of these two important topics. Various functions and roles of the street have been well-studied in both empirical and theoretical works, addressing important but different dimensions of the street. Some are concerned with the historical role of the street (e.g. Anderson, 1986; Celik *et al.*, 1996; Kostof, 1992), while others focus on the role of the street in relation to design standards (e.g. Southworth & Ben-Joseph, 2003; Grammenos & Lovegrove, 2015; Moughtin, 2003; Marshall, 2005). Several authors discuss images and meanings of the street as an important public space rather than as a mere channel for movement (e.g. Appleyard, 1981; Fyfe, 2006; Jacobs, 1961; Jacobs, 1993; Lynch, 1960; Mehta, 2013; Moudon, 1992; Loukaitou-Sideris & Ehrenfeucht, 2009; Whyte, 1980; Zavestosky & Agyeman, 2015).

Despite the extensive literature discussing the street, most studies are based on urban settings in the developed world, which fail to explain the nuanced significance of the street for marginalised communities in the developing world. Some authors have tried to address this gap. For instance, Brown (2006) focused on the role of the street and public space for the livelihoods of the urban poor. However, this work focuses on streets in the urban centres as strategic locations for street traders. There is a lack of discussion of ordinary streets, especially those in the organic form of informal settlements which are common in many developing country cities. The context of informal settlements is very different, and there is limited information how streets in informal settlements are produced, used, and managed.

Various aspects of informal settlements have also been well-studied. Some works have theorised the origin and formation of informal settlements (e.g. Durand-Lasserve & Royston, 2002; Dovey & King, 2011; Tunas & Peresthu, 2010; UN-HABITAT, 2012). Other works have focused on social problems and interventions to improve living conditions in informal settlements, particularly on land and housing tenure, basic infrastructure, and public health (e.g. Hegazy, 2016; McFarlane *et al.*, 2014; Minnery *et al.*, 2013; Panchang, 2019; Rigon, 2016; Shoniwa & Thebe, 2020; Wekesa *et al.*, 2011;). These works are primarily based on assumptions that informal

settlements are overcrowded and chaotic, lack basic services and security of tenure, and are occupied by low-quality housing.

However, this is only part of the truth. Informal settlements have evolved and become more complex. Capital investments and state interventions have transformed spaces inside informal settlements, but little is understood about how these spaces work. The complexity of the physical and spatial structure of informal settlements is still underexplored (Dovey, 2012; Kamalipour, 2016; Lombard, 2014;), and the interaction of physical and social structures remains under researched.

Consequently, informal settlements are often considered by governments to be chaotic and associated with poverty, resulting in insensitive upgrading or clearance interventions (Dovey & King, 2012; Lombard, 2014). Streets in informal settlements often become the focus of slum upgrading programmes without an understanding of the relationship between the street and residents, and use of and access to the street may often result in power struggles. However, this aspect is often overlooked in the upgrading programmes and hardly discussed in the existing literature.

1.4. Research aim and objectives

This research therefore aims **to explore the roles of the street in informal settlements** through a case study of two contrasting urban *kampung* in Yogyakarta, Indonesia. The research has the following specific objectives:

1. ***To investigate the physical and spatial characteristics of streets in kampung.***

These following questions are considered as a guide:

- a) How can the physical and spatial characteristics of streets in *kampung* be described and assessed?
- b) How have the physical and spatial characteristics of streets evolved over time?

2. ***To explore how communities in informal settlements use streets in their neighbourhoods;*** which is guided by the following questions:

- a) What types of street uses are practised by *kampung* communities?
- b) How are the spatial and temporal patterns of street uses in *kampung*?

- c) How are street uses related to the spatial and physical characteristics of the streets?
- 3. ***To examine power relations in the process of street creation and management in informal settlements***; which considers the following questions:
 - a) Which actors are involved in planning and managing/controlling streets in *kampung*?
 - b) What control mechanisms are adopted and how are these reflected in management of the street?
 - c) How do power relations affect the use of and access to the street in *kampung*?

1.5. Thesis structure

This thesis consists of seven chapters that are structured to address the research aims and objectives. Following this introductory chapter, **Chapter 2 (Literature Review)** examines relevant literature framing this research. Three main topics are discussed here: the street, public space, and informal settlements. The first section explores multiple roles of the street from historical, economic, socio-cultural, and political perspectives, with an emphasis on the contested interpretation of the role of the street. The second section elaborates the concept of public space, covering theoretical debates on the nature of public space and the issue of power and control in public space, to provide a framework for understanding the role of the street as public space. The third section explores the topic of informal settlements as a stigmatised place where people live and experience space, to give an understanding of the reality of everyday life in informal settlements and indicates the need to understand their function.

Chapter 3 (Methodology) explains the choice of research methods and techniques employed in this study and the justification for the choice. It begins with an explanation of the 'Critical Realism Paradigm' that shows the position of this research within the ontological and epistemological continuum. It is then followed by an explanation of the mixed-methods approach emphasising qualitative analysis as the adopted research strategy. When necessary, quantitative data is used as supporting evidence in the qualitative analysis. Afterwards, justification for the selection of Kampung Keparakan and Kampung Kricak as study sites is provided, followed by a

detailed description of the fieldwork process, data collection tools, and data analysis techniques employed in this study.

Chapter 4 (Research Context) provides an overview of the setting of the research. It presents the concept of *kampung* as a form of informal settlement in Indonesia, their neighbourhood governance, and a brief review of government interventions in *kampung*. It then discusses the wider context of Yogyakarta where this study is situated, followed by a more detailed description of the historical, geographical, and socio-economic settings of two study sites, Kampung Keparakan and Kampung Kricak. The last section of this chapter examines spatial and physical characteristics of streets in both *kampung* that addresses the first research objective and serves as an entry point for further analysis.

Chapter 5 and Chapter 6 explore findings from this research. **Chapter 5 (The Use of Kampung Streets)** focuses on examining four types of street uses identified in this study (i.e. ceremonial uses, social uses, economic uses, and domestic and private uses) in relation to their characteristics, spatial and temporal patterns, user profiles, and their connection to the physical characteristics discussed in Chapter 4. It highlights the distinct quality of street uses in *kampung* that could challenge the dominant narrative of urban streets in the literature.

Chapter 6 (Politics and Control in Kampung Streets) explores the political dimension of *kampung* streets. The chapter contributes to the understanding of the street by examining the hidden underlying politics and power relations affecting the spatial and physical characteristics, use, and management of *kampung* streets. It begins with an examination of power relations during the evolution of *kampung* streets and the actors involved in the process, showing the dynamic relationship between the state, communities, and landowners. The second section discusses control mechanisms exercised by communities to manage the street on a day-to-day basis, and politics involved in the planning process for street improvement. The third section examines conflicts and political negotiation related to *kampung* streets.

Chapter 7 (Conclusion) concludes this research by drawing together all the findings. It provides a reflection on the research objectives and highlights several key contributions to the understanding of the street and informal settlements. It concludes with a discussion of limitations and recommendation for further research.

2.0. Literature Review

2.1. Introduction

This literature review provides a theoretical basis for studying streets in informal settlements. It draws on a broad range of literature – radical urban design and planning, critical and anarchist geography, political economy, philosophy and sociology, and informality literatures – structured into three themes: the street, public space, and informal settlements. Section 2.2 discusses the multiple roles of the street, and how their design has changed and their economic, social, and political roles have been contested. Section 2.3 focuses on conceptualising the street as a public space by examining the notion of public–private space and the concept of power in public space. Section 2.4 examines the definition and physical characteristics of informal settlements. It highlights the everyday life of residents in informal settlements, which helps to understand the reality of life in informal settlements as the setting of this research, and the relevance of the street to informal settlements. Section 2.5 summarises the review and highlights the gaps in the literature.

2.2. Understanding contested roles of the street

This section explores multiple roles of urban streets from historical, economic, socio-cultural, and political perspectives, emphasising the contested interpretations of their role. The first part traces the change in the design of urban streets that reflects their changing role. The second part focuses on the contested economic, social, and political roles of contemporary urban streets that lead to the exclusion of marginal and vulnerable groups from public streets.

2.2.1. Transformation of urban streets and their changing role

Although urban streets ideally function as both a network connecting places and a container for various activities (Moughtin, 2003), it is clear that their function to accommodate people's activities has slowly diminished. This review examines the transformation of urban streets throughout history and outlines the environmental,

social, and political impetus behind the transformation. It shows how the systematic change in the design of urban streets has gradually marginalised and degraded public life on the street.

Streets as a channel for movement of people and goods

The traditional function of the street as a channel for movement, connecting places and providing space for the movement of people and goods, has been long recognised. In the civic centres of Roman cities, streets were usually wide, crossing at right angles, and designed to ease the movement of the Roman armies, yet full of social life, especially at daytime when wheeled traffic was not allowed (Hass-Klau, 1998). Beyond civic centres were neighbourhoods of typically narrow streets designed mainly to accommodate pedestrians, while the movement of vehicles was highly controlled (Southworth & Ben-Joseph, 2003).

Medieval cities were often characterised by narrow streets forming an irregular spider-web pattern that, although it looked like a labyrinth, could be understood easily by the local population (Hass-Klau, 1998; Southworth & Ben-Joseph, 2003). Although the irregular pattern seems to reflect the lack of control of street space, Mumford (1961) believed that it was made with conscious attention to be functional for pedestrian movement, because most movements were on foot, and goods were transported by pack animals.

In old Islamic cities, through-streets were designed to enable two packed camels to pass (Grammenos & Lovegrove, 2015; Kostof, 1992), creating an intimate space for social interaction. Main streets were often partially occupied by shops anchored to the colonnade along the street (*al fina*), turning the streets into street bazaars (Jaber, 2013; Mehta, 2013). There were relatively few conflicts between the needs for movement space and social space in the street because the dominant modes of travel were on foot and by animal (Carmona *et al.*, 2003).

Streets as a representation of philosophical principles

Ideological messages were often communicated to the public through street names, network patterns, routes connecting symbolic places, buildings, artefacts that have significant meanings, and other architectural details of the streetscape. Mumford (1961) argued that streets in the Renaissance era were designed to represent worldly power and harmony of proportion, as opposed to the religious medieval ideology. Wide, straight streets, with uniform size and angles creating a dramatic view of civic

and religious landmarks, symbolised the principle of balance and harmony in society (Hass-Klau, 1998; Munteán, 2006; Southworth & Ben-Joseph, 2003). A concentric/radial or rectangular/diagonal city surrounded by a star-shaped fortress often became an ideal model of a city, as implemented in the city of Palmanova, Italy (Gehl, 1987; Munteán, 2006). However, streets in this era began to lose their function of providing space for social life as the more geometric street layout encouraged the use of wheeled traffic (Gehl, 1987).

In Asian cultures, such as in India and China, the street layouts of traditional cities have been designed on the basis of rituals, myths, and beliefs. For example, the historical layout of Madurai in Tamil Nadu, South India, established in the sixteenth and seventeenth century, and its encircling streets coincides with the ancient religious processional routes (Lynch, 1981). In traditional Chinese cities, the city layout is based on the principle of harmony of 'heaven and men' (Lynch, 1981; Whitehand & Gu, 2006), that manifests in the main features of the layout: walled-enclosure, axuality, north-south orientation, symmetrical layout and closed courtyard (Jin, 1993; Lynch, 1981). Streets were designed in a 'chessboard' pattern (Jin, 1993) to divide the city symmetrically to represent religious and political order.

Yogyakarta, Indonesia – where this research is located – was designed based upon the principle of the harmony of microcosm and macrocosm in the universe (Suryanto *et al.*, 2015). This principle is manifest in the layout of the early city, consisting of the four basic elements of an ancient Javanese city: the *kraton*/Sultan's palace (representing leadership), the mosque (representing morality and religiosity), the market (representing economic life), and the *alun-alun*/square (representing people and culture), connected to one another by streets. A cosmological axis exists, connecting the *kraton* (sultanate palace) to two supernatural powers, Mount Merapi in the north and the Indian Ocean in the south, symbolising the principle of *Manunggaling Kawulo Gusti* (the unification of man and God's power). The axis was reinforced through several straight streets stretching from the Sultan's Palace to an obelisk in the north, with the streets being considered as sacred corridors.

Street design as a manifestation of philosophical principles was often concerned about the visual aspects, while the functional aspects of the streets tended to be reduced to the issues of defence, transportation, and formalised social functions such as parades and processions (Gehl, 1987).

Streets as a response to urban disorders.

From the mid to late nineteenth century, the planning and development of streets were often motivated by notions of city order. The economic, environmental, and social pressures from industrial activities during the Industrial Revolution called for the emergence of new planning schemes to combat environmental and social problems, which were visible in urban streets.

During this period, streets were designed to achieve a healthier urban environment, public safety, and a distinct aesthetic quality of the streetscape. For example, the standardisation of streets in nineteenth century England through the enactment of the Street Ordinance bylaw in 1875 was a response to environmental degradation resulting from the Industrial Revolution. The streets were straight and wide, typically arranged in a parallel grid with infrequent cross-streets to introduce light and air and remove slums from the city (Kostof, 1992; Southworth & Ben-Joseph, 2003). In Germany, the 1875 *Fluchtliniengesatz* (Law of Building Lines) encouraged construction of wide streets with a concern for light and air circulation (Kostof, 1992). Although standardised streets looked clean and orderly, they created a monotonous atmosphere discouraging social life.

Street redesign to address urban problems was also demonstrated in Paris. From 1854 onwards, Napoléon III's ambitious projects to modernise the city were realised through designs by Baron Haussmann which addressed the physical, economic and social problems of Paris. The old, dark, and cold narrow streets of Paris were transformed into wide boulevards with more space for sunlight, trees, pavements and social interaction (Neal, 2010a). This project was significant in absorbing surplus labour and capital to address the problem of unemployment after the 1848 Revolution (Harvey, 2006; 2012). However, the replacement of the organic streets with wide and straight boulevards was also an attempt by the state to gain political control over urban land and protect the interest of the bourgeois class (Grammenos & Lovegrove, 2015; Harvey, 2006; 2012). Haussmann's redesign helped the state remove rebellious citizens from the city centre and promoted the bourgeois lifestyle in public space.

Streets designed to facilitate fast-moving vehicular traffic

After the introduction of the automobile in the early twentieth century, a new system of vehicular highways and thoroughfares prioritising fast-moving vehicular traffic

replaced the traditional street pattern (Marshall, 2005; Mehta, 2013; Southworth & Ben-Joseph, 2003). This dramatic transformation was supported by an urban planning movement that emphasised speed, movement, and efficiency (Southworth & Ben-Joseph, 2003). One of the most influential figures behind this movement was Le Corbusier, a French architect, who considered the street as a traffic machine to produce fast movement.

To facilitate vehicular traffic, Le Corbusier proposed that pedestrians and vehicular traffic needed to be separated (Moughtin, 2003). For this purpose, hierarchical street networks were introduced, whereby the main traffic flow was directed to major roads, and lighter and slower traffic loads and pedestrians were directed to circulate in local street networks (Carmona *et al.*, 2003). In the US, the Radburn Plan (see Birch, 1980; Southworth & Ben-Joseph, 2003) and Clarence Perry's Neighbourhood Unit – a proposed model of residential blocks equipped with amenities, and bordered by major arterial roads (see Perry, 1929; Silver, 1985; Southworth & Ben-Joseph, 2003) – were introduced to counter automobile domination. The separation of pedestrian and vehicular movement was also undertaken through the introduction of pavements (Carmona *et al.*, 2003), which allocates the centre of the street for vehicles, but marginalises pedestrians into a narrow space. However, pavement space soon became a subject of regulation, which aimed mainly to provide unobstructed circulation for pedestrians (Blomley, 2011), while limiting the presence of other activities on the street.

In the cities of developed countries, the effect of automobile domination and the isolation of pedestrians were detrimental for social life on the street. The street was no longer a lively public space because people and non-motorised vehicles that used to dominate urban streets were replaced by fast-moving traffic separating people from streets. Pedestrians were often limited to the narrow space of a pavement, while other pavement activities are restricted.

In many developing cities, the situation was often worse. Prioritisation of vehicular traffic in urban streets often led to conflict among street users. Pedestrians jostled in the narrow space of pavements but were often impeded by other pavement uses such as parking and street vending. In many cases, pavements were not provided, forcing pedestrians and street vendors to overflow onto the road surface – a practice that is often deemed to be illegal. As a result, using and accessing the street for non-movement functions was often challenging – a situation that remains common today.

Streets as a place for public life

The domination of automobile traffic in urban streets has been challenged (Moughtin, 2003). Motivated by criticisms over the detrimental effect of heavy vehicular traffic on social life, a growing concern is to reclaim the street as a place for public life from its role as a channel for fast-moving traffic. One of the most prominent figures behind this movement is the noted American-Canadian author, Jane Jacobs (1961), who, in her influential book *The Death and Life of Great American Cities*, emphasised the vital role of the street and its pavements as the main public place of a city that should be accessible for the public to stimulate social contact. Appleyard (1981) showed that social life can unfold on the street if public life is not discouraged by traffic. Since then, reclaiming the street as public space has been advocated as a high priority in urban development (see Appleyard, 1980; Gehl, 1987; Jacobs, 1993; Mehta, 2013; Moudon, 1991; Whyte, 1980).

Nevertheless, reclaiming of the street tends to be constrained by middle-class sensibilities (Kilian, 1998), often narrowly construed as a design approach to create safe and attractive places for the sociability of 'normal' users and thus used to justify the eviction of undesirable people from the street (Belina, 2003; Kilian, 1998). This approach often involves repressive measures and street policing that restrict the presence of marginal and vulnerable groups in the street. Although reclaiming the street for public life can bring vitality to the street by allowing varied activities to take place, without recognising the importance of the street for marginalised and vulnerable groups, redesigns contribute to their exclusion from the street.

2.2.2. Economic, social, and political roles of contemporary urban streets

In addition to being a network link, the street is also a place for economic and social exchanges, and expressions of politics and identity. This section provides a critical discussion of the economic, social, and political roles of contemporary urban streets to show how these roles have been increasingly excluded from the streets, particularly in the developing world. By defining what activities are acceptable in the street, the exercise of economic and political power in the management of urban streets often leads to the domination of the middle class and urban elites while excluding disadvantaged groups.

Economic roles of the street

The economic role of streets is related to their potential to support the urban economy. They enable the transport of goods for trading, manufacturing, and import/export, attract capital investment and increase retail sales, and are a place where sellers and buyers meet to exchange goods and services. For the urban poor, the street is a productive resource for income generation activities through informal sectors (Brown, 2006). However, the economic significance of the street for the urban poor is often overlooked in the planning, design, and management of the street.

For formal sector businesses, the quality of the built environment is essential for attracting capital investment and visitors. New industries, especially from the service-based sector, and their white-collar workers, demand safe and attractive environments to meet their expectations and lifestyles (Madanipour, 1999; 2004). For this reason, public space and street renewal is carried out to bring aesthetics and safety back to the city, and increase the attractiveness of the city as a location for business investment. Streets, particularly in the city centre, are often turned into shopping areas to attract visitors. Francis (1991) discussed how the pedestrianisation movement in American downtowns has become part of commercialisation efforts to maximise retail sales by creating a more comfortable shopping environment. The economic benefit of pedestrianisation has been evident, for instance in the case of Strøget in Copenhagen, which experienced a 30 percent increase in retail sales after pedestrianisation (Yuen & Chor, 1998).

For informal sector enterprises, streets provide space for income generation, mainly through informal trading and other street-based economies (see Adriaennsens & Hendrickx, 2011; Bell & Loukaitou-Sideris, 2014; Bromley, 2000; Brown, 2006; Oranratmanee & Sachakul, 2014; Yatmo, 2008). Nevertheless, the proliferation of informal economies, particularly in the developing world, poses new challenges in the management of urban streets. With the increasing number and scale of activities, street-based economies demand more space to operate, and streets and public space are not fairly and adequately regulated to accommodate this demand (Brown & Mackie, 2017).

Street-based economies do not locate themselves haphazardly in urban space. They make a careful trade-off between proximity to customers, the security of trading, and the cost of access to space (Brown, 2006). Street traders prefer locations with

concentrations of people and pedestrian flow, such as street intersections, busy streets, transit stops, or major tourist areas, as these places are well-connected to a potential market (Bell & Loukaitou-Sideris, 2014; Bromley & Mackie, 2009; Brown, 2006; Dierwetcher, 2002; Setsabi, 2006; Yankson, 2000). While the general pattern of street-based informal economies has been spatially documented, and is largely concentrated around activity centres, there is still limited information on how they operate outside these activity centres, for instance in informal settlements where streets are more enclosed and residents have greater control over the street.

The pattern of spatial appropriation is also crucial for the management of street space. Some street-based economies are stationary, while others are relatively mobile (Bromley, 2000; Kamalipour & Peimani, 2019; Yatmo, 2008). Those which are more stationary may occupy the street semi-permanently (e.g. using a kiosk), indicating some degree of security, or temporarily, such as simply displaying goods on a cloth on the ground, or using a non-permanent structure, such as a tent (Yatmo, 2008). Those who are mobile may carry goods or use a pushcart or bicycle, and therefore only occupy street space for a short period. Street traders negotiate their visibility and spatial claims by positioning themselves in relation to the public-private interface (Kamalipour & Peimani, 2019), and social networks often determine their trading security and access to the street (Neethi *et al.*, 2019; Zaidi, 2019).

Street-based economies are often perceived as threats to the public interest. Appropriation of streets and pavements by informal actors is seen as contrary to the aim of achieving a smooth traffic flow and an attractive urban environment (Bromley, 2000; Yatmo, 2008). Therefore, in many cities, especially in Africa, Asia, and Latin America, street-based economies have to deal with repressive policies from city authorities, ranging from imposing strict registration and permits for operation, to violent eviction, displacement and 'street cleansing' (Asiedu & Agyei-Mensah, 2008; Bromley, 2000; Bromley & Mackie, 2009; Brown, 2006; Rogerson & Hart, 1989; Yatmo, 2008).

Although such policies are proposed for aesthetic and public order grounds, they often favour the interest of the urban elites, while excluding the urban poor from the street. This reality reflects the failure to recognise the significance of the street for the livelihoods of the urban poor. In fact, such policies were often unsuccessful in preventing street-based economies from returning to the street (Yatmo, 2008), implying the dependence of the street economy on access to the street. The policies

also fail to recognise the potential of street-based economies to bring vitality to the street, due to a lack of understanding of how they operate on the street (Kamalipour & Peimani, 2019).

Social roles of the street

The street has also been recognised for its contribution to sociability in the city (Appleyard, 1980; Gehl, 1987; Jacobs, 1961; Jacobs, 1993; Mehta, 2009; Whyte, 1980;). It has been argued that the successful street is the one which offers opportunities for attractive and enjoyable experiences for its users (Blomley, 2011), and creating a safe and attractive environment often becomes the focus of street design and management to encourage social interaction. However, the social roles of the street are challenged by the growing trend of street privatisation and commodification.

The quality of the physical environment is key to encouraging more people to socialise on the street. Jan Gehl (1987) classified outdoor activities into three categories. The first, 'necessary activities', are defined as those which the participants have to undertake, such as going to work or school, delivering mail, waiting for the bus, etc. The second, 'optional activities', are defined as activities which take place if conditions are favourable. The third category are 'social activities', defined as "all activities that depend on the presence of others in public spaces" (Gehl, 1987, p. 12), which can be encouraged by creating inviting space for people. 'Social activities' are central to the argument of this section. Jacobs (1961), Whyte (1980), and Francis (1991) emphasised the importance of the presence of different social groups and activities to promote a vibrant public street life, while Appleyard (1980) showed the detrimental effect of vehicular traffic on social life on the street.

Following these findings, certain design approaches emerged in the developed world – often assumed universally applicable – to maximise street liveability (Francis, 1991; Hass-Klau, 1998), which mostly focus on reducing traffic and creating safe, secure, and comfortable street environments. Particular attention is given to promoting the involvement of women and children, who are often portrayed as being excluded from the street due to the safety concerns and a feeling of being out of place (Bondi & Rose, 2003; Harden, 2000; Mahadevia & Lathia, 2019; Valentine, 1997; Valentine & Kendrick, 2007; Viswanath & Mehrotra, 2007;). However, the inclusion of marginalised groups and the urban poor is rarely addressed.

For instance, in post-war Europe and the US, pedestrianisation was introduced to revitalise downtown streets by restricting access of vehicular traffic and turning them into shopping centres. A more intriguing approach was based on the shared-street concept, suggesting the integration of street use for vehicular movement, social contacts, and civic activities in the same space, with priority given to pedestrians, such as applied in the Dutch *woonerfen* (Appleyard, 1981; Moore, 1991; Southworth & Ben-Joseph, 2003). Prioritising pedestrians in the street and providing access and facilities for different social groups increased the number of people engaged in street activities, including women and children (Biddulph, 2012; Monheim, 2003; Moore, 1991; Stevens, 2007).

More radical approaches to create safe and attractive streets entail greater behaviour control. In recent decades, the fear of crime and desire for enjoyable experiences in public space has resulted in the extensive use of security measures and private management in public space (Van Melik *et al.*, 2007), particularly in city centres. Although these efforts were successful in encouraging more users, they tend to keep 'the undesirables' out (Zukin, 1995). Like other public spaces, the street has been increasingly privatised, watched, and turned into a space of consumption (Carmona, 2010a), restricting freedom in accessing and using the street.

Private indoor streets were created in North American and European cities, mostly as shopping or leisure precincts, often supported by public policies and funding (Francis, 1991). These privileged urban enclaves are highly exclusionary with gates and even armed guards protecting them from unwanted groups, and surveillance techniques are often used to control behaviour. They rely heavily on the interests of private sector elites that determine the design of the street (Francis, 1991; Zukin, 1995). With the exclusive design and spectacle of commodities, these places communicate a message that they are designated for those who can afford to buy (Carmona, 2010a).

Zukin (1995; 2010), Sorkin (1992), Arefi (1999), and Banerjee (2001) also critique the emergence of these 'invented places' for the loss of authenticity and sense of place. These places create a contrived setting where the risks and uncertainties of everyday life are controlled (Banerjee, 2001). The focus of creating places of attraction and entertainment may also result in other forms of exclusion, for instance through financial means, such as entry fees (Carmona, 2010a).

Davis (1992) highlighted how streets in Los Angeles became more hostile with control measures put in place, such as the use of barrel-shaped benches and sprinklers to drive away homeless and the urban poor from the street and pavement.

The emergence of gated residential neighbourhoods in developed countries, where citizens, especially wealthier citizens, barricade themselves behind walls and gates, meant that streets became less accessible to the public. Public access to the street within these neighbourhoods is regulated through restricted entry points guarded by security guards and equipped with security cameras. In England, gated neighbourhoods emerged not only as a response to fear of crime, but also as a strategy to maintain property value (Atkinson *et al.*, 2005; Blandy, 2006; 2007).

Street privatisation and commodification usually involves surveillance, but surveillance has also been increasingly used in public settings (Coleman, 2004; Fyfe & Banister, 2006; Koskela, 2000). In British urban streets, CCTV is often employed by public authorities as part of an economic and political agenda to restructure public space (Coleman, 2004; Fyfe & Banister, 2006). The problem with surveillance is that it reduces everything to the visual (Koskela, 2000), and often works based on aesthetic considerations concerning moral principles and appropriateness of behaviour in public space (Coleman, 2005). With the use of CCTV surveillance, the appearance and visibility of marginal and undesirable groups are often deemed problematic. The detrimental effect of CCTV is not limited to the undesirables, but also 'normal' people whose privacy may be infringed.

In the developing world, the social role of the street is also challenged. The rise of the middle class has changed consumption patterns and housing preferences (Short & Martinez, 2020) resulting in a growing tendency of street privatisation and regulation. For instance, the spread of gated communities in the global south has been reported in numerous countries, including Brazil (Coy, 2006), Argentina (Roitman & Phelps, 2011), China (Miao, 2003), Indonesia (Leisch, 2002), and South Africa (Landman, 2010). The middle class is also responsible for the growing demand for consumption spaces, such as shopping malls.

However, informal appropriation of ordinary streets by marginalised groups in the developing world demonstrates that the street is still a lively public space. For instance, Drummond (2000) described Southeast Asian streets as full of public life, where even domestic activities, such as cooking, eating and bathing spill out into the

street. Lupala (2002) also found that people in informal settlements in Dar es Salaam used streets and footpaths for social activities while doing their income generation activities. This reality is underexplored, obscured by the dominant narrative of the decline of street life.

Political roles of the street

The street is political because “it is a site for politics, a place where social encounters and political protest take place, sites of domination and resistance, places of pleasure and anxiety” (Fyfe, 2006, p. 1) – a site for celebration and demonstration as people claim the right to the street (Friedmann, 1992 in Brown, 2013). As a political space, the street is a theatre of power where the dominant political agenda and the dominating party are clearly displayed to the public (Kostof, 1992). For example, Hitler built wide and straight streets in Nuremberg where his military parade was displayed to the public, to show off his military power (Hass-Klau, 1998). Atkinson (2006) described the streets in Rome during the emergence of Fascism as a place to intimidate the public through public violence, especially to political oppositions. The regime also exercised its authority to discipline and order Italian life in public space by controlling the display in the street and other public spaces. During the reign of General Suharto’s New Order authoritarian regime in Indonesia, urban streets were turned into “a space of discipline and fear” (Kusno, 2000, p. 103), where unlicensed activities on the street were disciplined by police and military officers.

However, the street is also a site of resistance for those oppressed by the dominating groups. The street has been used as a place for social movements, demonstration, and revolution to challenge the ruling groups. For instance, during the 2011 Arab Spring, streets, particularly near symbols of regime power, became the centre of a series of anti-government protests across the Arab World (Abaza, 2017; Governa & Puttilli, 2016; Said, 2015). In Indonesia, attempts to overthrow the New Order regime in May 1998 culminated with mass demonstrations in Jakarta’s streets, where numerous speeches and marches erupted into riots between protesters and the military and police officers (Juliawan, 2011; Lee, 2011).

During actions, protesters exercise their control over the street by occupying the street *en masse* and by creating key facilities in the location to support their activities. At Tahrir Square, Cairo, activists managed to get food, water, and sleeping equipment supplies, bring loudspeakers, and set up stages, a kindergarten, clinic, pharmacy,

water points, toilets, food stalls, camping areas and rubbish bins (BBC, 2011; Said, 2015). During Sudan's Nile Spring in 2018, protesters created an encampment equipped with stages, electricity supply, cooking areas, toilets, prayer spaces, water stations, internet hotspots, and a lost-and-found station (Bahreldin, 2020). Juliawan (2011) argued that the public display of basic facilities and domestic chores during public demonstrations is partly for a territorial claim over public space, but also as a mockery towards the state's power that often seeks to achieve public order.

The street also provides an open stage for peaceful political expression. Theatrical performances, graffiti, banners, and street processions to voice political grievances often take place on the street, as displayed, for instance, in the student protest in Belgrade in 1996–1997 (Dragicevic-Sestic, 2001) and around Tahrir Square during the 2011 Egyptian revolution (Abaza, 2012). During the 2018 protest in Sudan, streets were occupied for political activities, and also for activities supporting the protest, such as cooking, religious gatherings, sports, and entertainment (Bahreldin, 2020). More subtle, everyday politics of the street was displayed in nineteenth century America where marginalised social groups mingled with the bourgeoisie and middle-class groups in Broadway and Fifth Avenue, a middle-class space in New York, to challenge the social norm of class identity (Domosh, 1998).

However, Roberts (2008) argued that public spaces, including the street, have been closely controlled by the state, limiting the role of the street as a space of dissent. The state exercises its control through various means including installing physical barriers, employing police officers, and CCTV surveillance. Governa and Puttilli (2016) found that since the 2011 revolution, barbed wire has been constantly present around Avenue Bourguiba in Tunis, where many demonstrations were held during the revolution. They argued that “the presence of barbed wire expresses the persistence of a form of control over public space that is intended to separate social and political bodies, emphasizing the reappearance of social tensions and violence” (Governa & Puttilli, 2016, p. 48). In Cairo, walls and wires were installed around Tahrir Square to contain protesters in narrow streets if there was a demonstration (Abaza, 2012).

Finally, as a political space, urban streets are not only a physical place for “street politics”, but they also “signify a different but crucial symbolic utterance, one that transcends the physicality of street, to convey collective sentiments of a nation or a community” (Bayat, 2010, p. 212). The contest between powers of dominance and

resistance in the public realm represents “a battle to control the space, especially under an authoritarian regime and heavy police state” (Said, 2015, p. 356). As states increase their surveillance over public space, particularly spaces with symbolic significance, the role of the street as a platform for a political voice and identity will increasingly be challenged and diminished. The focus of the literature has been on the symbolic sites of resistance, but little is known about the political role of ordinary streets, particularly in informal settlements, where the activities of marginalised communities may be hidden from the public gaze.

2.2.3. Streets from historical and contemporary perspective – summary

In summary, **the historical role of urban streets has evolved** in parallel with urbanisation, and streets today are mainly conceived and designed as channels for vehicular movement. Yet streets in contemporary cities play a far wider role. In the centre of cities, streets frame the public realm through which the image of the city is promoted and experienced. These are often sites for ceremony and celebration, but also for political claims and protests subject to state control and repression and the exclusion of privatisation.

Nevertheless, the role of urban **streets as public space has been undermined** by two development processes. First, as Section 2.2.1 demonstrates, the design and management of urban streets as a **mono-functional** space to maximise traffic flow pays limited attention to the social value of the street. Second, as outlined in Section 2.2, the increasing **privatisation, commodification, and surveillance** of streets is limiting the freedom of the public in general, and marginalised and vulnerable groups in particular, to use the street for different purposes.

Yet it is the socialisation and claim of **ordinary streets**, which is under-recorded and researched, particularly in informal settlements of the developing world that is critical to the experience of the city. The existing literature on urban streets is often limited to a narrow range of geographical and cultural settings (mostly from the developed world), and provides very little description of the street in the developing world beyond some major streets with historical and symbolic significances.

2.3. Conceptualising streets as public space

This section elaborates the notion of streets as public space. It covers theoretical debates on the nature of public space and the issue of power and control in public space to provide a framework for understanding the role of the street as public space. Throughout the review, the link between the physical aspects and social aspects of public space is emphasised, through which power emerges as a key theme in the production and interpretation of public space.

2.3.1. Understanding the nature of public space

The concept of public space is debatable, shaped by social practices and norms in particular societies. These practices and norms “are constantly transforming the nature, manifestation, and meanings of public space” (Tornaghi & Knierbein, 2015), suggesting that the concept of public space is not only defined by its spatial boundaries and features, but also by invisible social systems and collective values.

Various definitions of public space

There is no consensus among scholars regarding the definition of public space despite the existence of a growing cross-disciplinary interest. Varna (2014) argued that the use of related and sometimes interchangeable terms, such as ‘public space’, ‘public sphere’, and ‘public realm’ often complicates the definition of public space. As a social reality, the meaning, functions, and significance of public space are assigned multiple interpretations (Madanipour, 1999). The terms ‘public’ and ‘space’ may refer to a vast array of meanings, contributing to the complex definition of public space.

Some authors emphasised the importance of public space as a physical manifestation of public life. It is an arena, usually with identifiable boundaries, where collective culture and values among people are developed and shared. This concept is reflected in the definitions proposed by Francis (1989, p. 149), that “public space is the common ground where civility and our collective sense of what may be called ‘publicness’ are developed and expressed”, and Carr *et al.* (1992, p. xi) who defined public space as “the common ground where people carry out the functional and ritual activities that bind a community, whether in the normal routines of daily life or in periodic festivities”.

As a manifestation of public life, public space is shaped by social and cultural values. In Western industrialised societies, the concept of public space was often associated with the rise of industrial capitalism, separating the domain of work and home from each other (Madanipour, 1999). Men are often associated with the function of work and production, while women are associated with domestic and reproductive activities. This separation has further led to male domination of public space outside the home, while women are often associated and restricted to the private space at home (Bondi, 1998; Franck & Paxon, 1989; Madanipour, 1999).

Oldenburg (1999) described another form of public life situated in the so-called 'third places', neutral grounds but not necessarily in public space settings, located outside the places of home and work that provide an opportunity to meet and exchange ideas with other people. Third places are considered inclusive, welcoming and comfortable for conversation. These places can be coffee houses, taverns, bars, public libraries, or pavement cafes, where people have opportunities to meet, talk, and socialise regardless of their status. In some places, third places have been associated with the cultural setting of particular cities, such as the pubs of England, pavement cafes of Paris, and beer gardens of Germany (Banerjee, 2001).

Madanipour (2003) focuses on control as a key mechanism in the production of public space. He defined public space "as places outside the boundaries of individual or small group control, mediating between private spaces and used for a variety of often overlapping functional and symbolic purposes" (Madanipour, 2003, p. 204). A particular space can be considered public when it is situated outside the control of individuals or particular small groups. In reality, however, control is also exercised by individuals and small groups in many places considered as public space. Therefore, while public space by its nature is often neutral, such control may alter the nature of interaction taking place in public space (Madanipour, 1996).

Brown (2006) extended the definition of public space by including right and legitimacy in using a particular space, regardless of the ownership. Considering the context in the developing world, urban public space is defined as:

all space that is not delineated or accepted as private and where there is at least a degree of legitimate public or community use. This includes formal public space in parks, squares and streets, and also space at the margins – between the pavement edge and building façade, on road reserves or riverbanks, or in vacant and unfenced lots – space where public access is possible but not formalized. The definition is independent of ownership, as such space may be in government, private,

communal or undefined ownership, but implies some sort of accepted communal access or use right (Brown, 2006, p. 22).

This definition acknowledges perceived rights of use by communities. A particular space may be regarded as public space if members of the community consider it legitimate to access and use that space, even if in reality the use is not officially entitled. In this sense, public space is shaped by communal practices and negotiations among community members to dissolve overlapping claims of rights among community members.

To summarise various definitions of public space, Orum (2010, p. 13) noted that “there are a variety of definitions, [...], but they all essentially come down to the same thing: they are those common sites at which people gather in public”. Neal (2010a, p. 1) concluded that “most agree that public space includes all areas that are open and accessible to all members of the public in a society, in principle though not necessarily in practice”. However, as Madanipour (1999, p. 881) put it, “as with any other definition, this is a generalized statement, each section of which can represent a wide range of possible conditions”. These basic definitions may encompass different forms of public spaces, but do not fully explain the complex reality of public space, as witnessed for instance in the low-income urban settlements in developing countries. Public space can only be understood more accurately when situated in specific social and physical contexts (Madanipour, 1996).

The dual nature of public space – as a physical and social space

Public space is usually discussed under two conceptual frameworks: as a physical space and a social space (Brown, 2006; Gehl & Matan, 2009). This section aims to clarify the core distinction between the two frameworks and their connection that helps to understand multi-faceted issues and interpretations of public space.

The notion of public space as a physical space tends to view public space from a socio-spatial perspective (Neal, 2010b), exploring the materiality of the relationship between people and space – the interest of architects, urban designers and planners. It focuses on the physical design and use of public space (Neal, 2010b) and seeks the criteria for the ideal quality of ‘good public space’ as a container for activities (Gehl & Matan, 2009). Much recent work in this vein draws on the works of Lynch (1960), Jacobs (1961) and Whyte (1980) that emphasises the importance of physical boundaries, spatial organisation, and aesthetics of space, and its relationships with

adjacent space to meet the demand of its users (Gehl, 2010; Miller, 2007; Shafitoe, 2010).

As a physical space, public space tends to be designed as a setting for social interaction, relaxation, and recreation (Miller, 2007) by following design standards of public space. For instance, some authors recommend that public space should be designed as a spatial enclosure, with a relationship with the surrounding buildings to create a positive urban space, instead of residual space left after the construction of buildings (Gehl, 1987; Madanipour, 1999). Others proposed the presence of inviting and supportive conditions to foster social interaction and leisure activities in public space (Gehl, 1987; Shafitoe, 2010; Whyte, 1980). Carmona *et al.* (2003) suggests at least six social-spatial dimensions of design (morphological, perceptual, social, visual, functional and temporal) that need to be considered for successful development of public space.

The preoccupation of architects, urban designers, and planners with the physical qualities of public space has been critiqued for its tendency to ignore the immaterial concepts of public space, such as democracy and social justice (Boros & Glass, 2014; Miller, 2007; Parkinson, 2012). This critique views public space from the political perspective (Neal, 2010b) as a site of contention where people are excluded and dominated (Orum & Neal, 2010). It is concerned with the exercise of political power and control of behaviour that can limit the openness and accessibility of public space, leading to exclusion or domination in public space (Neal, 2010b).

The works of Habermas, Arendt, and Lefebvre influence much of this perspective. Habermas (1989) and Arendt (1998) use two synonymous terms, public sphere and public realm, to refer to a conceptual space where public affairs are discussed and debated. This is a space of institutions and practices situated between the private interests of individuals and domestic life in civil society and the state. Both Habermas and Arendt envisioned ideal public space as a place that appreciates diversity and tolerance, and provides individuals with an opportunity to participate in political discussion to express political opinions and build consensus. In addition, Arendt (1998) also viewed public space as a place for political action to pursue mutual goals, not just for political discussion. Lefebvre's 'right to the city' (Lefebvre, 1996) emphasises individuals' basic rights to access not only physical public spaces but also discursive public spheres occurring in those spaces.

Despite providing insights into how public spaces function from their own perspectives, both frameworks are basically connected (Harvey, 2006; Miller, 2007; Parkinson, 2012; Thompson, 2014). For instance, Parkinson (2012) argued that democratic public discourses, debates, and political actions require concrete physical space in order to be realised. Davis's (1992) critiques on the decline of public life in Los Angeles are basically directed at the exclusive design of the streets and neighbourhoods.

Lefebvre's conceptualisation of 'social space' (Lefebvre, 1991) provides theoretical grounds for the link between the physical qualities of public space and social relations and practices. According to Lefebvre (1991), space is produced and reproduced through the triad of 'spatial practices' (everyday acts of using and managing the space), 'representations of space' (conceptual and intended design of space), and 'representational spaces' (how space is valued and experienced as having imaginary and symbolic significance) which are always in flux. Understanding the notions of public space as both physical and social spaces requires an investigation into the constantly changing intersections of physical places, the laws and regulations governing them, and the people who claim them through their use (Miller, 2007).

Nevertheless, Lefebvre's spatial triad lacks reference to the context where space is not produced through conceptual and intended design, as demonstrated in informal settlements. Many public spaces in informal settlements emerge initially as leftover spaces between buildings, and design interventions often come later as part of government upgrading programmes. Therefore, it is important to re-examine the interaction of Lefebvre's spatial triad and their extent in the production of public space in this context to conceptualise the nature of public space in informal settlements.

2.3.2. The dimensions of public space

Public-private demarcation has become blurred as the result of the intrusion of the public into the private sphere and *vice versa* (Brill, 1989). Nowadays, the phenomenon of public spaces owned and managed by private parties, private land claimed and occupied for public (or communal) interests, or publicly owned land with strict surveillance and restriction of the public use are commonplace.

While it is argued that the notion of public space is a relative, not absolute concept (De Magalhaes, 2010; Nemeth & Schmidt, 2011), there are recognisable dimensions that result from the interaction between physical and social attributes of public space. Drawing upon Langstraat and Van Melik's (2013) conceptualisation, this section examines four interrelated key dimensions of public space: ownership, accessibility, inclusiveness, and management of space, to highlight some critical issues that affect the quality of public space.

Ownership

Ownership is about the legal status of a place (Langstraat & Van Melik, 2013; Varna, 2014), which can be classified into public or private ownership. This distinction follows the tradition of economics and liberal political theory, which associated the public with the state and its administrative functions, while the private is the realm of the market (Weintraub, 1995 in Staeheli & Mitchell, 2007). Therefore, public space is associated with sites owned by the state or a public body (De Magalhaes, 2010; Varna, 2014; Varna & Tiesdell, 2010;), while private space is owned by a private actor or body. Nevertheless, today ownership cannot be taken for granted to distinguish public space from private space, as a single dichotomy of public-private ownership does not capture the reality of the complex forms of public space governance (Langstraat & Van Melik, 2013).

To capture the grey area of public space ownership, some authors relate ownership to other aspects, such as operation (Nemeth & Schmidt, 2011), and function and use of the space (Varna & Tiesdell, 2010). For instance, Nemeth and Schmidt (2011) considered the most public space is the place owned by the government and operated by public bodies. However, Varna and Tiesdell (2010), referring to the work of Marcuse (2005), considered the most public place is one owned by a public body, mandated to act in the public/collective interest and that is accountable to elected representatives of the community.

There exist places located in intermediate positions, featuring a mix of public-private characteristics. These places could be state-owned places leased for commercial use, privately owned places used for public functions and public uses (shops, restaurants, etc.), public spaces operated and/or owned by private bodies, and various types of public-private partnerships in public space provision. In the case of cities in the global south, the ownership status of public space is often complicated and ambiguous, as

hinted by Brown (2006, p. 22) that “the definition is independent of ownership, as such space may be in government, private, communal, or undefined ownership”.

There is also a considerable debate on communal ownership and rights, beyond the scope of this literature review, highlighting the blurred boundary between public and private realms within many cultures. Among its key proponents is Elinor Ostrom, who discussed ‘common property’, ‘commons’, and ‘common-pool resources’ – often used interchangeably in common property discourses – to describe ownership and management of resources beyond state and market domains but imply shared access and uses by public and communities (e.g. community forests, grazing land, and fishing grounds).

‘Common property’ usually implies communal ownership through which members of a bounded community have the right to use and benefit from resources and to exclude non-members (Blackmar, 2006). ‘Commons’ refer to systems in which access to resources is difficult to limit, but one’s use does not necessarily prevent simultaneous uses of other users (Ostrom, 2008). ‘Common-pool resources’ refer to resources, which are sufficiently large, allowing simultaneous uses by multiple actors; each person’s use subtracts benefits that others might enjoy, but it is impractical or too costly to exclude potential appropriators (Ostrom, 2008). Ostrom noticed that common property resources in many parts of the world were self-governed by local communities through collective rules and mechanisms negotiated and enforced by the appropriators, resulting in effective resource management (Ostrom, 1990).

Drawing on Ostrom’s argument, some urban scholars suggest that the notion of common property should also extend to urban public space (Blackmar, 2006; Brown, 2006; Brown, 2015; Harvey, 2012). They argued that recognising urban public space as a common property resource will help to protect the space and the right of its users from the state’s and market’s pressures.

Ownership has become one of the major issues in public space debates due to the growing trend of privatisation that creates pseudo-public space (Banerjee, 2001). Although they are supposed to be managed according to the public interest (Blomley, 2011), with the diminishing role of the government in providing public goods and services, ownership and operation of many public spaces, including streets, has been shifted to private actors, giving them a legitimate control over the spaces. Some streets, including those used for traffic movement, are owned and managed by private

actors (Southworth & Ben-Joseph, 2003; Watt, 2003). While some might argue that privatisation of streets can help maintain them in a good condition (Watt, 2003) and allow flexible street design (Southworth & Ben-Joseph, 2003), it can limit the access of particular groups to the streets, for instance, through security checkpoints and road-pricing.

Accessibility

Accessibility constitutes the ability to reach, enter, and use space, which relates both to physical design of the place (Langstraat & Van Melik, 2013; Mehta, 2014; Varna, 2014), and to the mechanisms used to regulate individuals' entry and use, and to confirm its symbolic functions (De Magalhaes, 2010). Regulating access through design and regulations by public authorities and property owners is a key mechanism that often leads to the exclusion of vulnerable groups from public spaces.

Physical access to public space is determined by three 'macro-design' aspects (Varna, 2014):

a) Centrality – connectivity

Well-located and well-connected public space within the local movement pattern that is reasonably accessible will attract users.

b) Visual access

The presence of obstructions blocking visual access into a place will make a public space more exclusive, for example places isolated from the street by large car parks or buildings. Flusty (1997, cited in Varna, 2014 and Carmona, 2010b) described this kind of place as 'stealthy' (camouflaged or obscured by level changes or intervening objects) and 'slippery' (difficult to reach because of contorted, protracted means of access or missing paths).

c) Threshold and gateways

Thresholds and gateways may inhibit physical access to public space. These may be symbolic and passive (e.g. transition between pavement materials or from an open to a roofed place), or physical and active (e.g. gates, walls, fences, or checkpoints).

Accessibility may be reduced because of physical barriers, isolation, or restrictions (Carmona *et al.*, 2003; Varna, 2014; Whyte, 1980;). For instance, the presence of fences and gates enclosing elite housing complexes prevents the public from entering them, and the use of steps discourages wheelchair users, making the place less

accessible. Nevertheless, physically accessible public spaces, with no physical and visual barriers, are not necessarily accessible.

Accessibility can also be reduced by restrictions and policing imposed by public authorities and property owners (Davis, 1992; Carmona, 2010a; Whyte, 1980;). Whyte (1980) criticised the tendency of private property owners to remove ‘undesirable’ people and activities from public space adjacent to their property. In Vietnam, Turner and Oswin (2015) found that police officials often patrol the street to prevent ethnic minority itinerant traders from using the street. In general, ‘street cleansing’ policies implemented in African, Asian, and Latin American cities have been argued as reducing the access of street economy actors to the street (Rogerson & Hart, 1989; Bromley, 2000; Brown, 2006; Asiedu & Agyei-Mensah, 2008; Yatmo, 2008; Bromley & Mackie, 2009).

However, exclusionary public space is not always intentional (Carmona, 2015). It may exist because of the diverse needs of a fragmented society, when personal freedom to access public space has to consider the freedom of others to use public space in a manner reflecting societal norms, which leads to a discussion about the connection between accessibility and acceptable behaviour in public space, reflecting the dimension of inclusiveness.

Inclusiveness

Inclusiveness refers to “the degree a place meets the demands of different individuals and groups” (Langstraat & Van Melik, 2013, p. 435). Varna and Tiesdell (2010, p. 585) referred to the concept of ‘animation’, that is “the degree to which the design of the place supports and meets human needs in public space, and whether it is actively used and shared by different individuals and groups”. For Nemeth and Schmidt (2011) inclusiveness is about ‘uses and users’, describing the kind of activities and behaviours considered appropriate in public space. It “can be measured both quantitatively, by the diversity of uses and users of the space, and qualitatively, by the behaviours and perceptions of the users themselves” (Nemeth & Schmidt, 2011, p. 12). Mitchell (2003) argued that what makes the space public is the appropriation and use of space by a group to fulfil its needs. Inclusive public space is characterised by a wide range of activities performed by many diverse users (Mehta, 2014; Varna, 2014).

However, public space has never been completely inclusive and egalitarian for everybody (Mehta, 2014; Neal, 2010a; Nemeth & Schmidt, 2011). The access and use

of public space for certain groups often predicates limited access for some others, and therefore places that appear more public to some might feel less public to others (Nemeth & Schmidt, 2011). Carmona (2010a) illustrated two forms of space which lack inclusiveness. The first is 'disabled space', which discourages people with physical disabilities (e.g. elderly, little children, wheelchair users, etc.) from accessing the space. The second is 'parochial space', describing a space appropriated by particular social groups, making other groups feel like strangers there.

Lack of inclusiveness is not always a result of the design, but also of societal norms governing public space. For instance, although the Greek *agora* was an iconic historical public space, women, slaves, and foreigners were excluded from political activities there (Low & Smith, 2006; Mitchell, 1995). Nowadays, women and young people have frequently been socially excluded from streets because their presence does not conform to societal norms (Beazley, 2002; Malone, 2002). In conservative societies, the presence of women in public space sometimes contravenes gender norms and traditions. Sur (2014) found that many women in India avoided being alone on the street for fear of being labelled a 'prostitute'. Almahmood *et al.* (2018) observed that although both men and women were visible on Riyadh's sidewalks, religious norms meant that lingering on the street was a male preserve.

Lack of inclusiveness can also result from competition for space. Coexisting activities often lead to conflict and overlapping claims over public space, transforming public space into a 'battleground' (Mackie *et al.*, 2014; Madanipour, 2004). When some users tend to dominate public space, others will feel intimidated, leading to their withdrawal from using such space. In the European context, Madanipour (2004) found that the intensive use of public spaces by teenage gangs, street drinkers, and drug abusers has led to the withdrawal of other residents from the public spaces. Kamalipour and Peimani (2019) observed how mobile street hawkers tend to offer different goods or work as fillers between stationary street traders to reduce conflicts with stationary traders.

Perceptions of safety and fear towards strangers can also make the street less inclusive. Jacob's (1961) 'eyes on the street' which is intended to prevent vandalism on the street, and Newman's (1972) 'defensible space' aiming to protect neighbourhoods from crime, may be used as ways of filling the street with 'normal users' and eliminating 'the undesirables'. Lack of surveillance can result in expropriation of the street for anti-social behaviour (e.g. drug dealing, public

drinking, etc.) that can lead to the withdrawal of the public from public space (Banerjee, 2001; Carmona, 2010a; Madanipour, 2004). For instance, Gough and Franch (2005) found that in Brazilian *favelas*, violence and youth activities were curtailed by concerted action from a wide group, including parents and guardians, neighbours, the church, and police. Thus, the level of inclusiveness of public space depends on how the space is managed to maintain order and safety, but also how the different interests of multiple users can be accommodated.

Management

Management refers to the maintenance and control of a place on a day-to-day basis (Langstraat & Van Melik, 2013), specifically to “the methods by which owners indicate acceptable uses, users, and behaviours” (Nemeth & Schmidt, 2011, p. 11). For Varna and Tiesdell (2010), management is mostly related to ‘control’ and ‘civility’. Control describes any measure to limit individual freedom and political manifestations in public places (Varna, 2014), and ‘civility’ refers to maintaining public space to cultivate a positive and welcoming environment. It has been argued that a place is usually considered public if it is provided and managed by public authorities (Langstraat & Van Melik, 2013; Madanipour, 2003), but associating ‘public’ with state management may be problematic, especially for contemporary public spaces, for two reasons.

First, many places considered as public are controlled and managed by private actors, or a combination of public-private actors, either formally or informally. For instance, the responsibility for maintaining streets is often shared between city authorities, private property owners, and communities. City authorities issue ordinances to regulate pavements and street networks in order to avoid conflict on the use of the street and pavements (Loukaitou-Sideris & Ehrenfeucht, 2009). Communities exercise their control by limiting access and use to particular groups, or performing community surveillance. Private property owners exercise control over certain segments of the pavement in front of their properties (Francis, 1989), either directly such as by chasing away beggars and homeless people, or indirectly such as by planting a flower box, modifying the street facade, setting up furniture, or extending the pavement of their property to the street.

Second, management of public space by the state does not necessarily reflect the quality of a space. Carmona (2010a; 2010b) explained that both over-management

and under-management by the state can lead to the decline of public spaces. Over-management of public space by the state, such as strict surveillance and policing, is often considered destructive for public life (Blomley, 2011), as there may be hidden motives for clearing 'undesirables' from the street, advancing privatisation of public space, or protecting political agendas.

It is also acknowledged that under-managed public space due to the lack of management capacity can impoverish the quality of public space, making it vulnerable to vandalism and other harmful activities. Brown (2006) argued that management of public spaces in the developing world is often unaffordable to many poor urban governments because of the reliance on capital expenditure and ongoing maintenance. Thus communities often step in, and their spontaneous and incremental initiatives may improve the quality of public space, as demonstrated in a low-income neighbourhood in Xalapa, Mexico (Bonilla, 2013), but these initiatives are rarely discussed.

Finally, although management of public space is required to minimise potential outcomes resulting from the tension among different interests so that all users can use the space without any fear and intimidation, it is not value-neutral. Management of public space is based on perceptions of safety and disorder shaped by the interests of various users, which are always contested and negotiated. The critical issue here is whose interests should be prioritised and protected, which reflects social and power relations played out among different stakeholders in the street and public space.

2.3.3. Politics, power, and control in the street and public space

Streets and public spaces are also viewed as as sites of power struggle and of representation (Brown, 2006; Kilian, 1998; Loukaitou-Sideris & Ehrenfeucht, 2009; Madanipour, 2004; Mitchell, 1995; 2003). Their public status and 'the public' who occupy them are defined by the political process of space production (Kilian, 1998; Mitchell, 1995). Control of the street can reflect control of a neighbourhood or district by ethnic or social groups, reflecting the controlling political ideology of a city (Madanipour, 1999). Section 2.3.3 explores the street and public space as a product of multilayered power relations in society. It discusses public space as a site of contested visions and claims, how power is manifested as a control mechanism, and

the concept of territoriality to provide a nuanced understanding of different kinds of spatial claims in public space.

Public space as a site of contested visions and claims

Unlike private space which is usually protected by state regulation of private property, public space is generally open to multiple interpretations (Low & Smith, 2006). This review suggests that these multiple interpretations should be understood as power contestations of intersecting interests and the overlapping claims of actors interacting through social or political relations (as posited by Bierstedt (1950), Foucault (1982), and Kilian (1998)), which helps to understand how public spaces can become exclusionary.

Political geography literature examines two facets of the nature of power: power as domination and power as resistance (Sharp *et al.*, 2000). Power as domination is equated with “attempts to control or coerce others, impose its will upon others, or manipulate the consent of others” (Sharp *et al.*, 2000, p. 2). In this sense, power includes exploitation and subjection at material, symbolic or psychological levels. In contrast, power as resistance refers to the “power which attempts to set up situations, groupings and actions which resist the impositions of dominating power” (Sharp *et al.*, 2000, p. 3). Often seen as power ‘from the bottom’, the discussion of power as resistance has focused on social movements opposing the dominating powers of the state or multinational capital. Power as resistance includes the capability of collective actors to organise social movements, to mobilise resources, to employ tactics and strategies, to defend identities and create solidarities in order to challenge domination and repression.

In the context of public space, the two notions of domination and resistance help understanding of power struggles in public space. Mitchell (1995, p. 115), a Marxist geographer, argued that “public space is the product of competing ideas”, in which public space is constituted through negotiation between two competing visions: those who seek order and control in space to provide safety and comfort for the users, and those who take public space as a place for political movement and ‘unmediated interaction’.

The vision of order and control represents power as domination. Mitchell (1995) relates this vision to Lefebvre’s (1991) ‘representations of space’, in which architects, planners, and city managers impose the power derived from their knowledge,

expertise, and authoritative positions to achieve physical and social order, which corresponds with Bierstedt's (1950) point on the importance of power to control chaos and facilitate order. The state is often considered as the manifestation of power as domination in an institutional sense (Foucault, 1982; Sharp *et al.*, 2000), which is often viewed as negative, as it often constitutes the domination of the state over its citizens, and is associated with lack of rights and freedoms. The state's vision of public order demands public space to be planned and controlled to minimise unexpected events leading to danger, incivilities, and unwanted political activities, resulting in the elimination of 'the undesirables' from public spaces according to the state's vision and political agenda.

In contrast, the vision of public space as a place for freedom of expression epitomises power as resistance, where public space is "marked by free interaction and the absence of coercion by [a] powerful institution" (Mitchell, 1995). This vision corresponds with Lefebvre's (1991) 'representational spaces', which "need obey no rules of consistency or cohesiveness" (Lefebvre, 1991, p. 41), and therefore tolerate the risk of disorder and deviant behaviour displayed by the public. It calls for the role of public space as a symbol of democracy and citizenship, where all groups can represent themselves through the appropriation of the space. Those being excluded from the street and public space – particularly for political activities – resist through protests, demonstrations, or more subtle 'micropolitic' activities, making their claim visible and acceptable (Domosh, 1998; Loukaitou-Sideris & Ehrenfeucht, 2009).

However, Mitchell's notion of power in public space seems simplistic, particularly to investigate power relations in the production and management of public space in an informal setting. It tends to position the state as a dominant actor while consider communities as passive and disempowered. In an informal setting, power relations are complex and cannot be viewed simply as domination of the state and resistance of communities. Domination of the state is not always the case, and communities might play a major role in the production and management processes of public space. In addition, communities are often heterogenous (Guijt & Shah, 1998), making power struggles not only entail tension between the state and communities. Multiple actors within communities with various motives and interests may also be involved in the processes through both vertical and horizontal power relations.

Some literature on the property rights of urban space offers a non-binary and empowering perspective of power in public space by framing the contested nature of

public space as contestation of overlapping rights (e.g. Brown, 2006; Blackmar, 2006; Webster, 2007; Kim, 2012; and Brown *et al.*, 2015). The core argument here is that public spaces are where citizens can exercise their fundamental rights – to speak, gather, make livings, or simply be present in public space. For instance, the appropriation of streets and pavements by informal street traders, despite government's restrictions, can be seen as an effort to claim their rights to make a living (Brown, 2006) or their rights as economic contributors to the city (Brown, 2015; Kim, 2012), rather than a violation of public order.

Tension arises when the exercise of rights and freedoms by individuals, groups, and institutions challenges the freedoms of others (Ruppert, 2006). From a property right perspective, Webster (2007) suggests that as collectively consumed resources, over time urban public spaces can become overused and congested leading to them becoming more excludable and rivalrous. The inevitable tension between 'the right to exclude' (privacy) and 'the right to access' (publicity) is what constitutes public space (Kilian, 1998). To be considered public, any space must operate under certain rules that would paradoxically limit its publicness. The power of exclusion is a mechanism that enables groups to maintain their identity in the public space.

Thus, it would be more useful to think that management of public space is a means to balance collective and individual interests (Carmona *et al.*, 2003). The emphasis is not on the actor who manages and controls it, but on the process through which the right of individuals in using and accessing public space is ensured, the variety of interests are recognised, and conflicts between different interests can be solved (Varna, 2014; De Magalhaes, 2010). Hence, the narrative of 'loss of public space' advocated by some authors can be understood from the perspective of infringing the rights of certain groups to access public space, rather than simply a shift in management or ownership of the space.

Finally, power contestation over public spaces entails politics (Blackmar, 2006) and manifests in space through political processes of decision-making, which determines how public spaces are used and who has access to the spaces. What matters in understanding power is the exercise of power (Kilian, 1998). Foucault (1982, p. 788) emphasised this point by arguing "Power exists only when it is put into action". Examining how politics manifest in the street and public space is critical in addressing inequality and exclusion because without knowing how power comes into being, it will be impossible to understand the effect of power relations on actors and space.

Control as an expression of power in the street and public space

The expression of power in streets and public space is exercised through 'control'. Foucault (1982, p. 788) argued that "the exercise of power is not simply a relationship between partners, individual or collective; it is a way in which certain actions modify others". It comes through various modes of delivery, including social and spatial control, which is put into practice through various mechanisms (Varna, 2014). In the context of public space, the exercise of power will enable power holders to control others' possible actions, behaviours, resources, and even values, which eventually affects how public spaces function.

Power is never without aims and objectives, and power relations are always intentional (Foucault's 'History of Sexuality', 1990; cited in Dreyfus & Rabinow, 2014). Through control, power holders may reduce, limit, or eliminate alternative actions for people or groups (Bierstedt, 1950) in order to either dominate or resist. Control does not only mean repression, or stopping others from doing certain things, but it can also be productive in facilitating action (Sharp *et al.*, 2000) to ensure compliance of others with the interests of power holders.

Control becomes a process through which overlapping claims and conflicts of interest are identified, negotiated, and resolved (Francis, 1989). Lukes (1974) conceptualised three views of power based on the nature of conflict of interest: one-dimensional view, two-dimensional view, and three-dimensional view, which respectively resembles Gaventa's (2006) idea of the forms of power, namely visible power, hidden power, and invisible power.

The one-dimensional view "involves a focus on behaviour in the making of decisions on issues over which there is an observable conflict of (subjective) interest, seen as expressed policy preferences, revealed by political participation" (Lukes, 1974, p. 15). It involves visible power, in which control is attributed to formal rules and regulations, institutions, hierarchies and structures, authorities, and procedures of decision-making (Gaventa, 2006). It assumes that conflicts of interest are observable and open. For instance, city authorities produce codes and manuals to control the design of the street, and zoning regulations are issued to control the types of activities allowed. Everybody is conscious of the control imposed by these regulations, and the conflict of interest is clearly visible when regulations are violated.

The two-dimensional view of power includes the notion of ‘non-decision-making’, in which power can also be expressed through suppression and thwarting of potential challengers (and issues) before they reach the decision-making process, to ensure that their political agendas are achieved (Lukes, 1974). It resembles ‘hidden power’ (Gaventa, 2006), through which concerns and voices of others are excluded and silenced. Power holders may set up the ‘rules of the game’ or create a barrier preventing others from achieving their objectives. For instance, city authorities may require street traders to form registered associations and apply for trading licences to control trading.

The three-dimensional view of power, which Lukes (1974) referred to as more subtle, resembles ‘invisible power’ (Gaventa, 2006). It works by controlling how individuals think and their consciousness, to shape meaning and belief, to determine psychological and ideological acceptance (Gaventa, 2006). This control is amplified through processes of perpetual socialisation of values that are considered right, normal, and acceptable (Gaventa, 2006). Dovey (1999, p. 2) argued that “the more that the structures and representations of power can be embedded in the framework of everyday life, the less questionable they become and the more effectively they can work”.

The influence of invisible power on conceptions of public space is illustrated in Harvey’s (2006) description of the political economy of everyday life in Paris during its redevelopment. Harvey (2006) argued that the spectacle of commodities displayed along the boulevards helped the bourgeoisie to protect their hegemony in politics and economy, as well as secure their privilege to access and control public space by creating an image that the boulevard aligned with bourgeois lifestyles. Nowadays, capitalists (sometimes with support from the state) promote consumerist culture through shopping malls, window displays, and advertisements on billboards in streets and public space to justify their commodification and commercialisation. The exercise of this power is beyond consciousness, and those affected may not notice its impact.

Territoriality as a spatial control mechanism

Space plays a critical role in the exercise of power. Allen (2004) argued that the exercise of power is always spatial, and power relations are mediated and constructed through space (Dovey, 1999). This review examines the concept of territoriality to

understand how spatial control materialises in public space and may lead to contestation and negotiation in public space.

Control often comes in the form of territoriality to claim spaces and maintain them. Territoriality implies perceived ownership of the claimed space (Bell *et al.*, 1996), and involves active participation of actors to demarcate and maintain their territory. Altman (1975, p. 107) defined territorial behaviour as “a self-other boundary regulation mechanism that involves personalization of or marking of a place or object and communication that it is ‘owned’ by a person or a group”.

Karrholm (2007) identified four types of territorial production in public space – territorial strategy, territorial tactics, territorial association, and territorial appropriation – that can co-exist in a particular space, leading to overlapping claims. ‘Territorial strategy’ and ‘territorial tactics’ are associated with an intentional and planned territorial production, through mediated control. The difference between territorial strategy and territorial tactics is that “territorial strategies are always planned at a distance in time and/or space from the territory produced, whereas territorial tactics involve claims made in the midst of a situation and as part of an ongoing sequence (in daily life)” (Karrholm, 2007, p. 441). For instance, the maintenance and regulation of streets and sidewalks reflects the territorial strategy of city authorities, while street traders claim the same sidewalks through territorial tactics by constructing their stalls.

‘Territorial association’ and ‘territorial appropriation’ are the result of regular practices with no actual intention to create any territory (Karrholm, 2007). Territorial appropriation produces territoriality through a repetitive use of the space – for instance, a youth group may claim territory by playing regularly on the street. Territorial association produces a territory which is associated with, but not necessarily owned by, an individual or group due to a certain function or category of users. The segment of pavement in front of a building is often seen as the territory of the property owner.

Territoriality must be stabilised through various means (Karrholm, 2007), such as the design of space to ensure spatial control (Brown, 2006; Varna, 2014). Varna (2014) distinguishes two modes of control through the design of public space: overt measures and covert measures. Overt measures demonstrate obvious means-ends relationships, through which design elements are used to achieve specific objectives.

For instance, city authorities apply a territorial strategy to establish territory on the street using 'sadistic street furniture', gates and fences to prevent unwanted users from using and accessing public spaces (Davis, 1992). Covert measures are subtler, and intentionally use design to seduce people into behaving as expected by the power holder. For instance, the inner plaza of Sony Centre on Potsdamer Platz in Berlin creates an impression that it is an open, non-exclusionary space, with an exhibition of various Sony products inviting people to enter and see or buy products (Allen, 2006).

Another means to stabilise territoriality is management of space, for instance through surveillance. In his concept of 'defensible space', Newman (1972) posited territoriality and natural surveillance as two key elements of defensible space. If territoriality is critical for creating defensible space in an impermeable neighbourhood, natural surveillance is important to reinforce this territoriality. Newman (1972) tended to take a defensive position towards strangers and proposed that residents monitor the street through a community-led approach, as opposed to Jacobs (1961) who incorporated strangers into part of the surveillance mechanism in her 1960s campaigns to save New York neighbourhoods.

Finally, examining the concept of territoriality enables a nuanced understanding of different kinds of spatial claims and multilayered power relations in public space. The process of stabilisation and destabilisation of territory reflects the process of negotiation of power and control in public space (Karrholm, 2007). From a territorial perspective, public space is seen as the result of different territorial productions interacting in a place, while exclusion is caused by both territorial homogenisation and the lack of superimposed territorial productions (Karrholm, 2007).

2.3.4. Public space and power – summary

This review examined a wide range of literature on public space written by scholars from different disciplines; among them are leading philosophers such as Lefebvre; Marxist geographers such as Harvey, Smith, and Mitchell; influential political economists, such as Ostrom; and radical thinkers on urban design such as Madanipour. These debates cover various issues on public space, such as the nature of space, political economy of public space, property rights, privatisation, democracy and social justice, and design of public space; yet they have not extended to the literature on informality.

The review suggests that the nature of the street as a public space needs to be understood both as a physical and social space. As a physical space, the role of public space as a place for various types of sociability is emphasised, while as a social space, representation of various actors in the production and consumption of public space is paramount. Adopting both positions requires an examination not only on the **visible aspects** of the street, such as the design and use of the street, but also **underlying power relations** and social mechanisms that generate them.

Section 2.3.2 further explores how physical and social aspects of public space interact. Examination of four interrelated key dimensions of public space – **ownership, accessibility, inclusiveness, and management** – highlights some critical issues in public space debates. Privatisation, design of space, policing and surveillance, rules and norms, and competition emerge throughout the review as key themes that define social relations among actors and contribute to the contested nature of public space.

Section 2.3.3 suggests that the contested nature of public space reflects multilayered power relations in society. Three notions of **contestation** are identified. First, public space is a result of contested visions, between places of order and control, and places for political expressions and ‘unmediated interaction’, which corresponds to Lefebvre’s representation of space (how space is conceived). Second, public space is a site of overlapping claims and rights, which resembles Lefebvre’s representational space (how space is valued). Third, public space is a result of different territorial productions negotiated through various means of territorial stabilisation and destabilisation, which represents Lefebvre’s spatial practices (how space is used and managed).

Examination of various critiques of public space in Section 2.3 suggests that they make **little reference to the context of the developing world**, indicating two major gaps in the literature. First, most critiques of public space are based on observations of certain forms of public spaces – formal and well-defined public spaces, such as squares, parks, plazas, coffee shops, malls, and playgrounds. They **exclude informal public spaces** which are common in the developing world, such as alleys, spaces between buildings, on riverbanks, and leftover spaces in informal settlements, which emerge without conceptual design. Thus, they are limited in explaining the complex reality of public spaces in the organic form of informal settlements that emerge from a distinct mode of space production and management.

Second, most critiques of public space refer to the normative values of democratic society conceived in the West and emphasise vertical power relations between three actors – the state, civil society and private actors – in a formal political terrain, but **ignore the informal governance processes** of the developing world, as Rakodi (2006, p. 314) argued, “the reality is that much urban space and the lives of many (probably the majority) of urban residents is neither located in the ‘modern’ city nor solely governed by the economic and political power relationships”. With more than half of urban populations in developing cities living in informal settlements (Rakodi, 2006), social and power relations in the production of public space, including horizontal power relations among individuals, individuals and groups, and among groups (Kilian, 1998), are not fully situated in a formal political environment, offering complex institutional arrangements to be explored.

The binary framework of power as ‘domination and resistance’, or, in the context of public space, between ‘order and control’ and ‘unmediated interaction’ is limited to interrogate these complex power relations for its simplistic assumption. To address this gap, therefore, the framework of power contestation as overlapping rights – with their manifestation through territorial claims – was used in this thesis to interrogate power in the production, use, and management of public spaces in informal settlements.

2.4. Understanding informal settlements

Section 2.4. explores debates on informal settlements to give an understanding of the reality of informal settlements, beyond their generalised negative stereotypes. It argues that informal settlements cannot be simply associated with illegality, poverty, and slums. They, and the streets within them, are living spaces full of public life with a distinct mode of space production and management. This section starts with a discussion of informal settlements as a ‘grey space’. It examines the physical and spatial characteristics of informal settlements, and provides a description of public life and everyday practices in informal settlements. It explores the linkage between spatial and socio-political aspects of informal settlements as a setting for the analysis of streets in informal settlements.

2.4.1. Reconceptualising informal settlements

Informal settlements are a global urban phenomenon, often associated with rapid urbanisation in developing countries (Gaverneur, 2015). Although informal settlements are a common phenomenon, especially in the developing world, the reality on the ground shows that informal settlements are often misunderstood. Consequently, they have received diverse responses from societies and city authorities, ranging from rejection, eradication or relocation of the population, to ignorance, tolerance or acceptance. Section 2.4.1 discusses how informality has been redefined to challenge its negative connotations.

Informal settlements are often referred to by locally specific names which refer to varying characteristics. For instance, the term 'informal settlement' may refer to the *favelas* in Brazil, urban *kampung* in Indonesia, *colonias populares* in Mexico, or unplanned settlements in Tanzania. This variation reflects the heterogeneity of informal settlements and their cultural and institutional settings. For instance, in Tanzania, many informally built settlements now have land titling so are no longer technically 'informal', but they retain their original layout, and are called 'unplanned settlements' to distinguish them from the planned settlements approved by the government. In Indonesia, the term urban *kampung* – in which *kampung* literally means village – is associated with backwardness, underdevelopment, and low-class, which is often used to disparage living conditions in the settlement (Setiawan, 2010). The evolving debates and broad conceptions of urban *kampung* are covered in detail in Section 4.2.

Despite many regional variations, there is a commonality among informal settlements; they are often associated with pejorative connotations. The term 'informal' is often used interchangeably with 'illegal', 'irregular', 'disorderly', 'squatter' or 'slum', which creates negative stigmatisation of informal settlements and their residents and blurs their reality (Dovey & King, 2012; Lombard, 2014). UN-Habitat used the term 'informal settlement' interchangeably with 'slums' to describe any group of houses built on illegally occupied land, or housing that does not comply the current formal building and planning regulations, which generally includes residential areas lacking security of tenure, basic services, or compliance with formal procedures and building and planning regulations (UN-Habitat, 2003).

This stigmatisation of informal settlements, to a large extent, is derived from the traditional view of informality, seeing formality and informality as a binary dichotomy. Emerging in the 1970s, the term 'informal' was initially used to describe economic activities which do not fit under a formal category (AlSayyad, 2004; Roy, 2005). Later, it is also used to refer to various urban phenomena situated outside government's regulatory framework. Under this view, informal settlements are often considered as outside the normality of urban considerations (i.e. planned, legal, and institutional).

This binary view of formality and informality has been challenged in recent years. The reality on the ground shows that urban informality, including informal settlements, is pervasive and part of everyday life, especially in the developing world. Complications inevitably arise, as it is difficult to distinguish between what is formal and what is informal. For instance, not all types of settlements perceived as informal are necessarily illegal (Roy, 2005), neither are they all slums or squatter settlements (Dovey & King, 2011; 2012). They are not completely unplanned or undesigned, as some informal settlements may have been informally organised with 'formal' street plans and lot layouts (Dovey & King, 2011). Informality has largely been so integrated with the urban context economically, spatially and socially, that it should not be considered as an isolated mode of urbanism.

Reconceptualisation of urban informality does not necessarily reference formality (Bunnell & Harris, 2012; McFarlane, 2012; Roy, 2009a; Roy & AlSayyad, 2004; Yiftachel, 2009). This reconceptualisation argues that informality is a distinct way of life, a form of subaltern urbanism, and a mode of production of urban space and practice of doing things (McFarlane, 2012; Roy, 2011; Roy & AlSayyad, 2004). Yiftachel (2009) views urban informality as a phenomenon of 'grey space', a domain (including land, housing, immigration and economy) situated partially outside the authority of the state and city plans, positioned "between the 'whiteness' of legality/approval/safety, and the 'blackness' of eviction/destruction/death". Grey spaces are neither entirely integrated and included, nor evicted or eliminated in urban society and space (Yiftachel, 2015).

Formality and informality are viewed as provisional, transactional, and negotiable (McFarlane, 2012; Roy, 2009b; Yiftachel, 2009; 2015). Informality is not simply a set of activities which lies beyond a regulated environment, but may also result from deliberate actions by the authorities (Roy, 2005; 2009b). Yiftachel (2009; 2015)

describes this mechanism as the grey space coming 'from above', in which powerful and well-connected groups can evade formal regulations, laws, and plans; as opposed to the grey space emerging 'from below' when marginalised groups take advantage of the shortcomings of the formal system. For example, having political influence, cultural and economic capacity, and a close relationship with local political offices can protect middle and upper-middle income groups from eviction and enable them to access unauthorised provision of basic services (Durrand-Lasserve & Royston, 2002; Hackenbroch & Hossain, 2012).

The decision to 'whiten' (to condone or approve) or 'blacken' informality (to criminalise or eliminate) is a matter of negotiated values. As Roy and AlSayyad (2004, p. 5) wrote, "If formality operates through the fixing of value, including the mapping of spatial value, then informality operates through the constant negotiability of value". Through the calculation of advantages and disadvantages of informality to the interests of the state, government may designate some informal settlements as authorised and legal while others as unauthorised or illegal through planning and policies. This is the process of 'civil stratification' (Yiftachel, 2009), where urban planning defines categories for those occupying grey spaces, either to be streamlined, criminalised, or left in uncertainty.

Thus, binary classifications are insufficient to portray the complexity of informal settlements. Factors which are considered marginal, informal, or illegal from the binary viewpoint are subject to political negotiation and may be tolerated when they are instrumental to the state's agenda. The reconceptualisation of urban informality as a grey space provides an alternative perspective to understand informal settlements not merely from their negative sides. Stigmatisation towards informal settlements often does not necessarily portray the reality; rather it reflects the failure to understand the real nature of informal settlements and the socio-spatial processes that produce them.

2.4.2. The spatial structure of informal settlements and their streets

The complexity of the physical and spatial structure of informal settlements, especially at micro-spatial scales, remains under-researched (Dovey, 2012; Lombard, 2014; Kamalipour, 2016; Kamalipour & Dovey, 2020), and their spatiality is often

unmapped (Dovey, 2012). Therefore, this review highlights a rather limited discussion on the physical and spatial structure of informal settlements.

Across cities, the morphology of informal settlements is diverse, influenced by a range of factors; yet there are some commonalities. Informal settlements are typically dense, characterised by an organic and irregular spatial pattern which is often accompanied by a lack of basic services and low quality of housing, although it is not always the case. They are generally located in marginal areas with poor environmental quality (Wekesa *et al.*, 2011). They are also associated with overcrowding with a minimal size of dwelling unit. Moreover, informal settlements also often suffer from a lack of sufficient open space, circulation space, and green areas. However, they are relatively walkable, transit-oriented, and car-free (Dovey, 2015).

The formation process of informal settlements may explain why the spatial pattern of many informal settlements appears to be irregular and the quality of basic services and housing is often low. Durand-Lasserve and Royston (2002) identified three forms of informal settlement: squatter settlements, unauthorised land developments, and rooms and flats in dilapidated buildings. Dovey and King (2011) distinguished three modes of formation for informal settlements with an emphasis on the process of growth, which are *settling* on unclaimed land, *inserting* into abandoned urban space, and *attaching* to the existing formal structures of cities. These modes share a commonality: they are not preceded by any initial design and plan and are driven by the slow accumulation of scarce resources.

Unlike the development of a formal settlement, an informal settlement is typically started by the occupation of land (legally or illegally), then followed by the construction of buildings, infrastructure provision, and then regularisation, and legalisation (UN-Habitat, 2012), depending on the decision by authorities on whether to recognise, tolerate, or eliminate the existence of informal settlements. The land is typically occupied and built sporadically, or subdivided illegally without following planning standards; buildings are often constructed with scrap materials using a self-help mode (Minnery *et al.*, 2013; Sengupta, 2010; Tunas & Peresthu, 2010; Ward *et al.*, 2011), leading to a low quality of housing; and infrastructure is built incrementally by following the existing irregular development pattern.

Variations in the type of settlements, the length of existence, topographical features, infrastructure conditions, and management approaches can result in significant variations in the spatial and physical patterns of informal settlements. For instance, informal settlements that have been developed over a long period, such as Kibera in Nairobi, Dharavi in Mumbai, and many urban *kampung* in Indonesian cities, have become large mixed-use districts equipped with complex social and spatial systems. Many formerly informal settlements in Lima, Peru, resulting from illegal land subdivisions have a distinct, organised network of wide streets, which is different from the labyrinthine streets in Dharavi, Mumbai. Many informal settlements have been transformed into well-serviced neighbourhoods with varying levels of formality when the authority shows supportive attitudes towards them, as observed in Indonesian *kampung* of Surabaya and Yogyakarta (Dovey & King, 2011) and *favela* of Nossa Senhora de Fa'tima, Brazil (Amin, 2014).

Despite this variation, streets appear as a key element of the socio-spatial structure of informal settlements that support the social life of inhabitants. Lupala (2002) found that public space, such as courtyards, informal squares, streets and footpaths in informal settlements in Dar es Salaam are used for social activities as well as income-generating activities. Their irregular and maze-like patterns provide the distinct character and identity of informal settlements, as well as reflect the history of each settlement. They seem mysterious, impenetrable, and disorienting for outsiders, but permeable for residents (Dovey, 2015). Dovey and King (2012) argued that the visual appearance and the organic network pattern of informal settlements can present aesthetic beauty, picturesque scenes, and nostalgia for the inhabitants and visitors. This distinct spatial pattern also helps informal settlements maintain their unique character and identity through territorial control derived from the lack of connectivity to the wider urban system, turning them into residential enclaves.

Informal settlements have undergone physical transformations; yet little has been understood about how these places work after the transformations, although there is now an emerging body of research in this area (Dovey & King, 2011; Hillier *et al.*, 2000; Kamalipour, 2016; Kamalipour & Dovey, 2019; Kamalipour & Dovey, 2020; Raharjo, 2010). Many temporary houses which were initially built using temporary materials have been upgraded into permanent houses, and street networks have been expanded to connect the entire neighbourhood. Some of these transformations result from gradual self-help and self-management by residents. They produce, transform,

use, manage, and give meaning to their places through their own ideas and initiatives. Although the spaces may seem chaotic, they have a certain spatial order that is often sophisticated and efficient, based on certain logics which are not easily realised by outsiders. They are typically adaptive and physically flexible, allowing extension and modification to support different uses and spillover of domestic activities into the street (Tonkiss, 2013).

Other transformations result from government interventions, such as regularisation and settlement upgrading programmes. Here the improvement of the street quality and open space often becomes the focus of the programme. The street is often upgraded through street paving to improve mobility and cleanliness of the neighbourhood. In some cases, the street pattern may also need to be redesigned, for example when an informal settlement is totally upgraded and formalised into vertical housing. However, some studies show that street upgrading can also result in negative impacts, such as encouraging through traffic, making some streets noisy and less safe, as demonstrated in the Kolkata Slum Improvement Project (UN-Habitat, 2012). In addition, formalisation and upgrading programmes that focus only on facilitating mobility often lead to the separation of residents from the street, resulting in less flexible and productive open space (Dovey, 2015). This is partly because streets and other open spaces in informal settlements are undervalued and often seen only as residual spaces.

As a key element of the physical structure of informal settlements, streets play a significant role in shaping the individual and collective experiences of residents (Amin, 2014). However, there is still little known about how they work, are produced, used, and the actors involved in their production and management; this requires an investigation into residents' everyday practices.

2.4.3. Public life and everyday practices in informal settlements

Public life in informal settlements is very rich, consisting of a set of individual and collective activities in the everyday life of residents, which becomes part of their tactics for survival. Dovey and King (2012) described public life in informal settlements as presenting nostalgia, the quest for authenticity, and bringing elements of the sublime for outsiders, creating a unique combination of feeling, between fear and pleasure. The discussion of public life and everyday practices in informal

settlements entails both an understanding of residents' behaviour, and of their relationship with physical settings and social and power structures. This review highlights the rather limited discussion on the public realm of informal settlements.

Public life in informal settlements mostly takes place in the street and other open spaces, implying particular dependence on and significance of the street in the daily life of informal settlements. As private spaces inside home are restricted and designated public spaces are rare, residents often transform ordinary streets and open spaces between buildings in their neighbourhoods into places for social gathering and domestic life.

For instance, Sheuya (2009) observed the appropriation of blocked road segments in an informal neighbourhood in Dar es Salaam for residents' domestic and commercial activities. Charman and Govender (2016) observed the use of street space in South Africa for various businesses and services. In the City of the Dead, Cairo, people squat in and amongst the Mausoleums, where certain buildings form a focal point of particular religious significance. In the urban *kampung* of Surabaya, Bawole (2009) showed that the public life of the residents mostly occurs around public facilities and infrastructure, such as taps and wells, guard posts, food stalls, mosques, and sports fields. McFarlane *et al.*'s (2014) work on sanitation and informality describes streets in Mumbai's informal settlements as displaying the scene of everyday struggles for water and sanitation. Okyere *et al.* (2017), investigating the dynamic of public life in an informal quarter in Accra, Ghana, found that open streets and squares offer more opportunities for economic and social activities compared to enclosed space.

Temporal aspects may determine the type of users and activities taking place. For instance, in the *kampung* of Surabaya, women tend to interact with each other in the open space in the morning, while children use the spaces for playing in the afternoon, and youths gather there in the evening (Bawole, 2009). In Accra, open spaces are predominantly used for economic activities in the morning and afternoon, especially by women doing home-based economic activities, and for social activities in the evening (Okyere *et al.*, 2017). Dovey (2015) argued that the capacity of public space for domestic and economic activities could determine the level of sociability and productivity of informal settlements. In some places, the occurrence of cultural and religion-based festivities may change the use pattern of public spaces in informal settlements, because the street and other open spaces are being used for cultural celebrations or religious processions.

Use of and access to public space is often contested by different social groups and individuals due to the scarcity of space and limited resources. Competitions, negotiations, and conflict resolution over public spaces are often taken for granted in the everyday life of residents in informal settlements. Hackenbroch and Hossain (2012) described the everyday struggle and negotiation over the use of streets and public spaces in the *bosti* (informal settlements) of Dhaka, where local political leaders and religious committees had appropriated public spaces and charged fees for access to the spaces.

Informal practices and politics are often involved when accessing and using public spaces in informal settlements. Especially for most of the poor in informal settlements, for whom accessing and using public space is an everyday struggle; the rationality behind informal practices and politics is often based on the dynamic of social and power relations in the community (Amin, 2014). Political negotiations and practices of clientelism with local authorities and influential actors are often used by residents to secure their interests (Hackenbroch & Hossain, 2012; Hossain, 2011; McFarlane & Desai, 2015). Historical territorial claims and collective contribution to maintain spaces are often used as a basis to establish entitlements to the spaces and delegitimise claims of others; while verbal abuse, violence, and unilateral access restrictions are sometimes imposed to defend territorial rights to these spaces (McFarlane & Desai, 2015).

Social structures and the level of social cohesion in the community are also crucial (Durand-Lasserve, & Royston, 2002; Gaverneur, 2015; Winayanti & Lang, 2004). The rights of residents over land, property and services are defined by a complex network of formal and informal actors, including city authorities, property owners, regional political leaders, local residents, community organisations, NGOs, religious leaders, and gang leaders. These often conflicting forces negotiate arrangements to meet the residents' needs and regulate the potential for change (Amin, 2014). The imbalance of power relations between internal and external actors can generate conflict in informal settlements, in which some groups dominate while minorities are vulnerable to exploitation (Lombard, 2015; McMichael, 2015; Rigon, 2015). In contrast, Amin (2014) noted how in a Brazilian *favela* strong social cohesion, and well-functioning and organised residents' actions have successfully transformed their settlement into a recognised and serviced neighbourhood, improved its image and attracted tourists.

Finally, this review suggests that informal settlements are sites of complex socio-spatial interactions where authentic informal urbanity is manifested. Understanding public life and residents' everyday experiences in informal settlements will help explain their attachment to places and power struggle for survival.

2.4.4. Informality and streets – summary

This thesis adopts a position that views informal settlements as a result of incremental space production and subject to political negotiation. Here, informal settlements are viewed both as a material product resulting from a practice of constructing houses and a result of community struggle for recognition and survival. This position **rejects the homogenising stereotypes** that associate informal settlements with illegality, poverty, and slums, and which create misleading images about informal settlements. Rather, it requires a nuanced examination of how spatial and social processes of informal settlement interact (Lombard, 2014).

Section 2.4.2 explores how the physical and spatial structure of **informal settlements has incrementally evolved**, in which streets appear as a key element of the structure. Many informal settlements have been consolidated and become well-serviced neighbourhoods with complex social systems and their streets have been upgraded. However, it is clear that the existing literature on informal settlements rarely discusses how streets in informal settlements function and their relationship with residents' life.

Section 2.4.3 suggests that **public life in informal settlements** is rich, yet underexplored. Streets seem to play a key role in facilitating public life in informal settlements, but the space where public life is concentrated has not been widely documented. In general, the account of power affecting the spatiality of public life in informal settlements is rarely discussed, although the use of and access to the street in informal settlements often becomes a practice of power struggles.

2.5. Concluding remarks – summary, gaps, and frameworks

The literature review has examined a wide range in the body of literature to frame this research, including urban design and development literature, public space literature, political geography literature, and informality literature – which are not

usually connected. These literary works were structured into three broad themes: the street, public space, and informal settlements, to establish the argument that the street is one kind of urban public space that is critical to urban residents' experience of the city, including those in informal settlements; yet the distinct context of informal settlements – spatially, socially, and politically – could nuance how their streets are conceived as public space.

Section 2.2 explores the historical transformation of urban streets and the debates on their economic, social, and political roles to highlight the contested roles of urban streets. From the literature review, it is clear that urban streets have become increasingly exclusionary. The domination of vehicular traffic has put other social, economic, and political functions of the street under pressure, and the growing trend of privatisation and surveillance in urban streets has made them less public, especially for the most vulnerable groups of the population. Essentially, this reflects the failure to understand the nuanced significance of different places and space for different groups within the public realm, particularly the social and symbolic meanings for vulnerable and marginalised communities.

Section 2.3 examines various notions and critiques of public space to provide a theoretical basis for the understanding of the street as public space. This section suggests that power is a key theme in the production and interpretation of public space. The contested nature of public space results from power contestation working through three layers of power relations: visions, rights, and territorial productions.

Section 2.4 examines the notion of informal settlements to provide an understanding of the setting of this research. It is clear that the streets in informal settlements are crucial for public life and the survival of these vulnerable groups. Nevertheless, their creation, use, and management are still underexplored.

The literature review has identified **three major gaps**:

First, there is a lack of discussion of the **role of ordinary streets** in the organic urban form of informal settlements in the developing world – little is known about their economic, social, and political roles. This gap highlights the limitations of the existing literature on streets and public space to narrow geographical and cultural settings (European and North American), defined spatial settings (monumental public spaces in city centres) and certain types of public space (formal public spaces).

Second, it is clear that the **physical and spatial structure** of informal settlements and its relationships with community life are understudied. Informal settlement literature has mostly concentrated on non-spatial issues, and the discussion of the spatiality of public realm of informal settlements remains peripheral in the literature. Little is known about how places are produced, used, and managed in informal settlements, while the focus of 'public life' has not been widely documented.

Third, there is a tendency to overgeneralise, or ignore the account of **power and its relation to public space and informal settlements**. In public space studies, power contestation tends to be framed as a tension between the state, civil society, and private actors, while power is rarely examined to explain the spatiality of informal settlements. The literature review suggests that power is a key underlying mechanism that permeates various aspects of public space and informal settlements. There is a need for a situated analysis to examine complex institutional arrangements and power relations in the production, use, and management of public space in informal settlements.

Throughout the literature review, the need to link the notions of physical space and social processes has been emphasised (e.g. Brown (2006), De Magalhaes (2010), Gehl & Matan (2009), Harvey (2006), Langstraat & Van Melik (2013), Lefebvre (1991), Lombard (2014), Miller (2007), Parkinson (2012), Varna (2014)) as key to the understanding of how streets function as a public space and as an element forming informal settlements. The literature review highlights three important aspects that frame the structure of the analysis chapters – also reinforced later by the data obtained from the field – through which the linkage between physical spaces and social processes was further interrogated. These three aspects are:

1) Spatial structure

Spatial structure of the street has been mentioned by some authors as a feature that can influence the capacity of the street as a conduit for pedestrians and vehicles (e.g. Grammenos & Lovegrove (2015), Kostof (1992), Marshall (2005), Moughtin (2003), Southworth & Ben-Joseph (2003)), how the street is used for other activities (e.g. Gehl (1987), Hass-Klau (1998), Southworth & Ben-Joseph (2003)), and how it has been used to facilitate certain planning agendas and ideologies (e.g. Kostof (1992), Lynch (1981), Mumford (1961), Southworth & Ben-Joseph (2003)). Spatial structure also determines the degree of accessibility of the

street as public space (Langstraat & Van Melik, 2013; Mehta, 2014; Varna, 2014), and reveals the spatial logic of informal settlements (Dovey & King, 2011). Based on these works, this study examined the spatial structure of the street through both the two-dimensional street network and the three-dimensional streetscape, as the literature review suggests.

2) Use

How the street is used has been of the concern of some debates presented in the literature review (e.g. Appleyard (1980), Biddulph (2012), Brown (2006), Bromley & Mackie (2009), Drummond (2000), Gehl (1987), Jacobs (1961), Mehta (2013), Moudon (1991), Oranratmanee & Sachakul (2014), Stevens (2007), and Whyte (1980)). It indicates the quality of the street as a public space, particularly its inclusiveness, and becomes a representation of public life in informal settlements. Investigation of street use was conducted through an examination on the type of street activities, their intensity, spatial and temporal patterns, and users.

3) Management and control

This aspect – along with ‘ownership’ – is mentioned explicitly by Langstraat and Van Melik (2013) as one of the key dimensions of public space, while Nemeth and Schmidt (2011), Varna and Tiesdell (2010), and Varna (2014) associated it with ‘control’. The literature review demonstrates how the issue of management and control of the street has stirred the current debates over privatisation of the street, surveillance, and exclusion of marginalised and vulnerable groups from the street and public space (e.g. Brown (2006), Coleman (2004; 2005), Fyfe & Banister (2006), Koskela (2000), Roberts (2008)), and is central to define power relations in respect to spatial claims (e.g. Jacobs (1961), Karrholm (2007), Newman (1972)). The literature review suggests that management and control is associated with actors; norms and rules; control, policing, and surveillance; planning and programmes; conflict and competition; and negotiation; which were used to interrogate the concept of power as overlapping rights.

These concepts are translated into Chapters 4, 5 and 6 in the fieldwork analysis below.

3.0. Methodology

3.1. Introduction

Previous research on streets, public spaces, and informal settlements provides invaluable insights on various methods and techniques to study streets in informal settlements. This research adopted a methodology based upon being in the informal settlements, observing life between buildings, and interviewing various street users and key actors involved in the production, use, and management of the streets. This chapter explains these research methods and techniques and their justification. It firstly discusses the position of this research, followed by an explanation of the mixed-methods approach as the research strategy. It then explains the research design and the fieldwork process, before detailing the approaches to data collection and analysis that combined the visual and mapped analysis with more conventional social science techniques. It concludes with a discussion of the ethical issues encountered during the research.

3.2. Research paradigm

The position of a research study within the continuum of research paradigms underlies all important decisions adopted in the research, and justifies how the research is conducted and how the meaning is constructed from the data gathered. Denzin and Lincoln (2005, p. 183) defined a paradigm “as a basic set of beliefs that guide action”. More specifically, a research paradigm is a term used to describe “a cluster of beliefs and dictates that for scientists in a particular discipline influence what should be studied, how research should be done, and how results should be interpreted” (Bryman, 2016, p. 630). A paradigm permeates various facets of scientific research, but it is primarily about the researcher’s views and beliefs about the nature of reality (ontology), the nature of knowledge (epistemology), and how to inquire and gain knowledge of the world (methodology) (Denzin & Lincoln, 2005; du Toit, 2015).

Scholars differ in what comprises the research paradigm and the terminology used. Guba and Lincoln (2005) discussed five dominant paradigms, namely positivism,

postpositivism (critical realism), critical theories, constructivism, and participatory research. Du Toit (2015) highlighted four prominent paradigms in planning studies, namely positivist, interpretive, critical social science, and pragmatism. Zukauskas *et al.* (2018) mentioned four main trends of research paradigms, namely positivist (or postpositivist), interpretivist (or constructionist), pragmatist, and critical. Saunders *et al.* (2012) and Bryman (2016) clarify the epistemological and ontological positions of different genres in scientific research, in which positivism, realism, and interpretivism are three dominant epistemological positions, while the ontological position can be divided primarily into objectivism and subjectivism/ constructionism (or constructivism).

Most research is located between the two extremes of the paradigm continuum. At one end is positivism which assumes that reality is real, external to and independent of the researcher's values (Bryman, 2016; Saunders *et al.* 2012; Zukauskas *et al.*, 2018), and that reality should be studied objectively according to the principles and procedures of the natural sciences. The positivist paradigm often focuses on finding regularities and causal relationships for generalisation (du Toit, 2015; Guba & Lincoln, 2005). At the opposite end is interpretivism, guided by assumptions that reality is subjective and socially and locally constructed (Bryman, 2016; Saunders *et al.* 2012). Reality is inseparable from the researcher's views and personal values. Interpretivism acknowledges multiple interpretations of social reality that is constantly changing, and seeks nuanced understandings of social reality by focusing on the details of a situation (Zukauskas *et al.*, 2018).

This research adopted a 'critical realism' approach that sits between positivism and interpretivism. Critical realism assumes that reality is real, yet imperfectly and probabilistically apprehendible (Guba & Lincoln, 2005). It rejects universal claims to truth (Denzin & Lincoln, 2005) and acknowledges that the social world is always a partial interpretation of what is observed and sensed (Silva *et al.*, 2015). Critical realists go beyond identifying observable regularities and patterns, by investigating the underlying structures and mechanisms that generate the patterns and phenomena being observed (Bhaskar, 2008; Denzin & Lincoln, 2005). Another key feature of critical realism is the appreciation of the context in which generative mechanisms work (Bryman, 2016). Understanding of the context is crucial because it helps to understand the conditions that promote or impede the work of generative mechanisms in producing the observed reality.

The adoption of critical realism in this research is underpinned by the nature of this research. Firstly, it assumed that the street is an observable reality. As a physical element, its physical attributes, such as form, design, pavement materials, and network patterns are external to the observer. Activities taking place on the street are also real and observable. The physical attributes and the use of the street can thus be assessed in an objective manner to identify patterns, without any concern of the effect of the observer's values on the analysis. This assumption reflects key principles of critical realism pertaining to the existence of an external reality and the objective process of inquiry.

This research also views the role of the street as socially constructed. The distinct historical, social, and institutional contexts of informal settlements, particularly in the developing world, affect the physicality, use, and management of the street, which are still underexplored. In addressing this knowledge gap, this research sought an alternative interpretation and explanations of the street in informal settlements. It was not limited to analysing the pattern of the design and use of the street; it went beyond such a positivistic framework by examining the politics and power that was believed to form an underlying mechanism in the creation, use, and management of the street.

As this study is mainly qualitative (see Section 3.3), it is also important to acknowledge the researcher's positionality that may have affected the research. The researcher's background as a junior lecturer at the Urban and Regional Planning Department, Gadjah Mada University in Yogyakarta, who often sent students to map *kampung* as part of their coursework, provided a personal motivation to study *kampung* streets. The mapping shows something special about *kampung* streets beyond their messy look, which seem to be more than just spaces for circulation. This motivated the researcher to further investigate three interrelated aspects of *kampung* streets: the spatial structure, use, and power relations.

Having ever lived and worked for nine years in Yogyakarta, the researcher has been familiarised with Javanese culture and traditions, which gives an advantage to understand the social and cultural contexts of Yogyakarta. This position also provided the researcher with an advantage to approach *kampung* communities and key informants as they tend to respect and be more open to university staff. The researcher's position as an outsider, lacking the experience of living in Yogyakarta's

kampung, on one hand may have limited the researcher's understanding – particularly at the beginning of the research – of the daily life, social and political systems, and their relationship with the spatial structure of *kampung*. On the other hand, residents seem to be more prepared to share sensitive information, such as information related to conflict and political contexts of the neighbourhood to outsiders. The researcher's familiarity with urban design and planning theories may also have affected the researcher's view and interpretation of the phenomenon observed in *kampung*.

3.3. Research strategy

An appropriate strategy is required in conducting research to ensure that the research plan can be executed and address the research questions and objectives. Bryman (2016, p. 32) defines research strategy as “a general orientation to the conduct of social research”, which in general can be classified into quantitative and qualitative research. Quantitative research is associated with measurement, emphasising quantification in the collection and analysis of data. In contrast, qualitative research emphasises the use of other non-numerical data such as words and images to explore meanings, perceptions, and processes of the phenomenon under study. The goal of qualitative research is “to develop holistic, comprehensive descriptions of systems, theories, and processes, as well as identifying factors and working hypotheses that warrant further research” (Brodsky *et al.*, 2016, p. 13). Drawing on urban design analyses, the research also used mapped data to supplement the qualitative data.

This research adopted a mixed-methods approach, with more emphasis on qualitative analysis. The employment of mixed methods allows the researcher to offset strengths and weaknesses of each approach and take benefit from both qualitative and quantitative pieces of evidence to support findings (Anderson, 2016; Yin, 2014), and to “incorporate greater contextual understanding of influences on the subject matter that we study” (Connel, 2016, p. 121). In this research, the results from quantitative analysis serve as empirical evidence to support interpretation of qualitative data in order to produce a more comprehensive understanding of the street in informal settlements. For example, the use of the street can be described through qualitative

analysis (pictures, words, etc.), but quantifying the number of users can provide a more complete picture of the reality.

3.4. Research design

The choice of research design plays a significant role in a research study. Research design is defined as “a logical plan to maximise the validity of research findings” (du Toit, 2015, p. 61). The term ‘research design’ is often confused and used interchangeably with ‘research method’, but there is a distinction between them. Research design provides a framework that guides the collection and analysis of data, while the research method is a technique for data collection and analysis (Bryman, 2016). Thus, the research design will determine the appropriate techniques and methods used for data collection and analysis. This section provides a description and justification for using a case study design in this research, the approach taken in terms of geographical scale, and a brief description of the selection of cases.

3.4.1. Case study

This study adopted a case study research design. Case study research is concerned with the complex nature of the social phenomenon in question. It aims to provide an in-depth understanding of the situation through an intensive, accurate, and complete exploration of the case being studied (Hancock & Algozzine, 2006; Marczyk *et al.*, 2005). In social science research, case study is useful as it is often employed to explore complex social phenomena while retaining the holistic and meaningful characteristics of real-life events (Yin, 2014).

Yin (2014) explained that there are three conditions in which the employment of case study research is appropriate. Firstly, the case study is appropriate when the research questions are more explanatory, such as the “how” and “why” questions. Secondly, the study focuses on contemporary events and not historical ones. Thirdly, the researcher has little or no control over behavioural events that operate in their natural settings. Additionally, Yin (2014) also emphasised two aspects in the design of the case study, distinguishing it from other types of research design: 1) the in-depth engagement with the real-life context, and 2) the boundaries between phenomenon and context which are not clearly evident.

According to the conditions presented above, the case study approach was considered suitable for this research for the following reasons:

- 1) This study is exploratory in order to explain the role of streets in informal settlements and their relation to morphological, social, and political aspects of informal settlements, which required a thorough investigation on 'how communities use the street' and 'how they manage the street'.
- 2) The street is very dynamic, influenced by situational settings of time, place and location. The transformation of the urban setting physically and socially, particularly in informal settlements, affects the design, use, and management of contemporary urban streets.
- 3) The design, use, and management of the street in informal settlements is not under the control of the researcher. The researcher can only observe and interrogate but cannot manipulate behavioural events taking place.
- 4) The role of the street in informal settlements is influenced by many interrelated factors, and therefore must be studied in its real-life context. The distinct spatial, socio-cultural, and political context of informal settlements serve as a natural setting for the behaviour of marginalised communities in creating, using, and managing the street.

3.4.2. Selection of cases

In case study research, the selection of the case is crucial to ensure richness of information is obtained. The 'case' is a bounded entity that is intensively examined in the study, and serves as the unit of analysis (Bryman, 2016; Gerring, 2006; Yin, 2014). Although a case could be spatial and non-spatial, the spatial boundaries of a case are often more apparent (Gerring, 2006), and therefore the case is often associated with a location (Bryman, 2016).

This research is located in the city of Yogyakarta, Indonesia. The combination of its history, distinct morphology, and socio-cultural and political dynamics makes Yogyakarta a particularly interesting location for this research. Yogyakarta has undergone a long physical, socio-economic, and political transformation, from the beginning of the Sultanate era and Dutch colonisation, to the present-day (see Section 4.3). It results in a historic emphasis on harmony and design of streets reflected in the formal layout of the Sultan's palace and city centre, with large numbers of organic

settlements (*kampung*) throughout the urban area. This mixture has become an integral part of the urban fabric and shaped urban development dynamics in Yogyakarta.

Urban *kampung* were chosen as the case for study as they are usually associated with informality in Indonesia in academic literature (Dovey & Raharjo, 2010; Patton & Subanu 1988; Setiawan, 2010; Winayanti & Lang, 2004). They are clearly defined informal settlements with socially accepted boundaries which often conform to administrative boundaries. Despite the variety of historical, economic, morphological, socio-cultural and political dynamics of urban *kampung*, they demonstrate two common features associated with informality, namely an irregularity of spatial structure, and the practices of informal urbanism in the everyday life of *kampung* residents.

This study followed a multiple case study design approach that allows a comparative analysis between cases in order to engage with diverse characteristics of urban *kampung*, and hence increase its representativeness (Gerring, 2004). Considering the resource constraints, only two urban *kampung* in Yogyakarta were selected for study. However, two cases are considered useful because they can provide more substantial analysis and are more robust in supporting the conclusion of the study compared to a single case study (Proverbs & Gameson, 2008; Yin, 2014).

The two cases studies were selected after an analysis of a range of urban *kampung* in Yogyakarta, based on the following criteria:

- 1) The selected *kampung* should demonstrate **contrasting characteristics** relevant to the research objectives, representing two different settings of informal settlements, in relation to their historic, morphological, economic, social, and political contexts. One case selected (Kampung Keparakan) is a more stable *kampung* that has a prolonged history, more regular morphology, and a higher degree of formality. The other one (Kampung Kricak) is a more dynamic *kampung* that emerged more recently, whose tenure status is still vague, which has undergone change through redevelopment and an influx of new occupants.
- 2) **Clearly pronounced dualism** between the urban *kampung* and the surrounding city: the cases should have the characteristics of a typical urban *kampung* associated with informality, clearly articulated in their physical structures and socio-economic activities.

- 3) **Dynamic and high intensity** of outdoor street activities: the cases should demonstrate sufficient outdoor activities on the street, so that the dynamics in the use and management of the street can be observed.
- 4) **Accessibility and availability of data**: the cases are accessible for data collection in a limited time.

The case selection followed a multi-stage process. Prior to the start of the fieldwork, seven *kampung* in different locations across the city with different socio-economic issues were identified as potential cases based on available information on the internet. Afterwards, a tour of each *kampung* was undertaken, resulting in four being shortlisted: Kampung Keparakan, Kampung Terban, Kampung Gondolayu, and Kampung Kricak. During the visits, informal interviews with local residents were also conducted. Following the visits, and taking into consideration the availability of secondary data, two urban *kampung* were selected based on the established criteria: Kampung Keparakan, representing a more stable community, and Kampung Kricak representing a newer, more dynamic community. The comparison of the two case studies is provided in Table 3.1.

It is important to note that *kampung* are neighbourhood units that exist through the social construction of their residents (Guinness, 1997; Sullivan, 1992), rather than areas limited by administrative boundaries set by authorities. Therefore, although Kampung Keparakan and Kampung Kricak differ in size, they are considered appropriate for comparison because they are well-defined communities with a shared identity representing their respective communities.

Table 3.1 Comparison of Kampung Keparakan and Kampung Kricak

	Kampung Keparakan	Kampung Kricak
Background/ History	<ul style="list-style-type: none"> • Extension of a former residential area of the servants of Kraton (Sultan's palace) • The land was given to the servants by the Sultan • Later on, migrants came and occupied the land on the riverbank 	<ul style="list-style-type: none"> • First settled by squatters in the 1950s–1960s • In the 1960s, the government removed homeless people from the street and housed them in barracks in an institution adjacent to the site • A decade later, these people were evicted from the institution, occupied the site and built it into a settlement
Location	<ul style="list-style-type: none"> • In the city centre, about 1–2 km from the city centre • Located on the riverbank of <i>Code</i> 	<ul style="list-style-type: none"> • At the city border, about 4–5 km from the city centre • Located on the riverbank of <i>Winongo</i>

	Kampung Keparakan	Kampung Kricak
Size	<ul style="list-style-type: none"> • Large • The study area consists of 7 RWs (<i>Rukun Warga</i>, a larger urban neighbourhood unit), and 20–30 RTs (<i>Rukun Tetangga</i>, the lowest level of urban neighbourhood unit) 	<ul style="list-style-type: none"> • Relatively small, like a pocket settlement, especially the initial settlement built by the squatters • The study area consists of 9 RTs, which are distributed in 3 RWs
Topography	Flat	Relatively flat, with slight variation near the river
Density	High density in the informal part, and medium to low density in the formal part	From medium to low density
Streets	<ul style="list-style-type: none"> • Complex and interconnected street network • Network pattern is more regular and obvious • In the informal part, the street looks labyrinthine, with no space between the street and the building • The streets in the informal part are partly accessible for motorcycles 	<ul style="list-style-type: none"> • Simple street network, not really well-connected • Network pattern is less regular; • There is space between the street and the building, and houses are more scattered • Despite being narrow, most of the streets accessible for motorcycles
Land tenure	Predominantly individually owned land, some state-owned land (on the riverbank), and a small part of rented land owned by an individual landlord (<i>ngindung</i>)	Predominantly rented land (<i>ngindung</i>), some individually owned land, state-owned land (on the riverbank), and Sultan ground
Housing tenure	Mostly owned houses, through buying and self-help construction	Owned houses through self-help construction, and some rented houses
Power dynamics	<ul style="list-style-type: none"> • Despite government policies to regulate the settlement and construct a new street along the river affecting some houses, residents seem to be able to resist 	<ul style="list-style-type: none"> • Residents are still prone to relocation; • A government plan to construct a new street as part of the efforts to regulate the settlement will affect houses along the river, but residents seem to be unable to resist

3.5. Fieldwork

The fieldwork in this study was conducted during January to April 2018. In general, the process can be split into two phases: 1) observational phase, and 2) interrogative phase. These two phases are complementary.

a) Observational phase

The observational phase focused on recording visible phenomena that exist on the streets. It included mapping neighbourhood structures (e.g. street networks

and important buildings, macro land use, etc.), mapping activities, and noting types of street users, in order to capture the general pattern of street morphology and uses. The observational phase often became a starting point to collect information that was later analysed and evaluated as an input to proceed to the interrogative phase.

b) Interrogative phase

The interrogative phase focused on exploring intangible aspects of the street, and elaborating information obtained during the observational phase. It includes seeking meanings, motives, and underlying factors behind the design and use of the street, and investigating power dynamics in the use and management of the street through interviews and questionnaires with key informants, government officials, and residents.

Employment of research assistants

Due to the large scope of work and study areas, research assistants were employed to help the fieldwork. Four students from the researcher's university (Gadjah Mada University), who were trained in conducting surveys and data collection, were recruited to help in both phases, to conduct the mapping and administer questionnaires. The employment of research assistants was helpful, to overcome the time constraint by making data collection more extensive, and reduce potential suspicion over research activities undertaken in the two case studies. Since Yogyakarta has been well-known for its reputation as a student city, it is not unusual to find students conducting surveys and data collection in *kampung* as part of their coursework. The researcher assistants could all speak *Javanese*, the local language spoken by the majority of *kampung* residents in Yogyakarta.

To ensure that the researcher and the research assistants shared the same understanding about the research, a detailed explanation about the study was provided and training given to the research assistants before the mapping and questionnaire surveys were undertaken. They were provided with a list of items that needed to be mapped, and each question in the questionnaire was clarified. Afterwards, two pilot surveys were carried out, and their results were discussed with the researcher. At first, research assistants worked in pairs, until they were confident to conduct surveys and mapping independently. During the pilot surveys, research assistants were instructed to record what they saw during observations and what

they heard from respondents with video and voice recorders, so that the researcher could clarify any confusion that emerged during the surveys based on their data. Meetings with research assistants were organised regularly to check progress and discuss any issue related to the research.

3.6. Data collection methods

A case study requires a considerable amount of detailed, comprehensive information (Marczyk *et al.*, 2005), and therefore relies on multiple sources of evidence to reach a conclusion (Yin, 2012; 2014). This study employed various methods and techniques to collect data and information, as explained below.

3.6.1. Documents and secondary data

Documents and other types of secondary data are potential sources of data in social research (Bryman, 2016; Yin, 2014). Although documents are not always accurate and may contain bias, in a case study, documents are important to provide specific details to corroborate information from other sources (Yin, 2012). In this study, the use of documents and secondary data was directed primarily to understand historical, social, economic, and political contexts of the study areas, and the power dynamics in the management of streets in informal settlements. The following types of documents and secondary data were collected:

- Previous studies in books, journal articles, and research reports
- Planning and policy documents, particularly at the local level of Yogyakarta, pertaining to street management and *kampung* development and management, (e.g. Mayor's Decree on the designation of city street sections, planning documents of 'City without Slums' and river settlements development programmes);
- Articles in newspapers, books, local medias, and internet.

Secondary data also provided significant information about events taking place on the street in the two case studies, such as a cultural parade and *Eid* celebrations, which were not observed directly by the researcher.

3.6.2. Observation and mapping

Field observation is a data collection technique commonly used to study streets and public space in their real-world settings. It relies on the capability of the researcher to capture information based on what he/she has seen, heard, or sensed (Yin, 2012). Although observation and mapping to a certain extent are rather similar, they differ in the way they record information. Observation is more open-ended, while mapping is more focused on the spatiality of the object being studied. In this study, observation and mapping complement each other, and both were used simultaneously.

In conducting observations and mapping, the researcher usually acted as a complete observer, without participating in the activities being observed, and the people being observed were not aware of the researcher's activities. This strategy aimed to minimise the 'observer effect' when the presence of the observer may affect the behaviour of those being observed (Saunders *et al.*, 2012). During observations, the researcher usually walked casually through *kampung* streets, or sometimes sat in an unobtrusive position while recording the data immediately through the following techniques:

1) Spatial mapping

Spatial mapping was utilised to help in understanding the spatial and locational settings of streets and the settlements being studied. Spatial mapping focuses on capturing information about the structure of the settlements, including street networks, land use, key public facilities, and landmarks within the settlements. Given the availability of spatial maps of informal settlements, this study used an aerial image of the study areas as a starting point. The aerial image was then redrawn as a base map, and taken to the study areas to be completed through observation. As the researcher and research assistants walked through *kampung* streets, the streets were mapped, and their characteristics (e.g. width, pavement, type of traffic) were documented.

2) Activity mapping

Activity mapping as a data collection tool to study public space has been used in a number of studies (e.g. in Appleyard & Lintell, 1972; Gehl, 1987; Whyte, 1980). This technique is typically used to document interactions between people and place, and their characteristics and locations in a given time and place. In this research, the technique was employed to document all outdoor activities taking place in the street

in the time of observation. These activities were recorded as observed, plotted on a plan of the areas being studied to mark their locations (Figure 3.1), and later combined with information from interviews and questionnaires to be coded into four emerging categories: ceremonial, social, economic, and private and domestic activities (as discussed in Chapter 5). The categories were not pre-coded, rather they emerged from the data. Activity mapping was conducted four times a day (morning, noon, afternoon, and evening) during weekdays and weekends to see the spatial and temporal patterns of street use, as well as the intensity of street use (Gehl & Svarre, 2013).



Figure 3.1 Results of activity mapping
Source: Fieldwork, 2018

Activity mapping was performed by the researcher and research assistants simultaneously in every observation period, as a separate data collection exercise. Study areas were divided into several sections. Each research assistant was responsible for conducting observations and mapping in certain section(s). The walk route was planned beforehand to ensure that every single street and alley was observed, in order to obtain more representative samples of outdoor activities in *kampung* streets. Activity registration forms (Figure 3.2) recording non-spatial attributes of the activities, such as details of activities and number of people involved, accompanied activity maps. The maps and the forms were linked through a code number given to every activity plotted in the maps. As the researcher and research assistants walked down the route, outdoor activities were mapped and registered.

Figure 3.2 Activity registration form
Source: Fieldwork, 2018

It is also important to acknowledge the limitation of this method. This method only captured the activities that were encountered at the moment of observation. As the observer walked through the street, the activities that may have occurred behind him were left out of documentation. However, as Gehl and Svarre (2013; p. 26) suggested, it is important not to be distracted by what is going on behind, because the point is “to capture one single picture of the moment rather than several.”

Counting is a method that can be used to study the pattern and characteristics of public life in the street (Gehl & Svarre, 2013). It provided quantitative data to complement the qualitative data obtained from the activity mapping to better understand the pattern and characteristics of street uses and users. Counting was employed by registering the number of street users engaging in observed activities according to their social attributes (such as gender and age), and the results were recorded in activity registration forms.

4) Photography

Photography is frequently used to document and illustrate situations in public space where the interaction between people and their built environment takes place (Gehl & Svarre, 2013). It is used to capture information that cannot be represented through text alone, and provides more explanatory power to the facts presented. Photography was used in this study to document and illustrate activities being observed.

5) Field notes

Taking field notes during an observation is a method of systematically documenting detailed information in real time that cannot easily be documented using more traditional methods (Gehl & Svarre, 2013). Field notes record detailed summaries of events being observed which are considered relevant to the study, and may include the researcher's personal reflections on them (Bryman, 2016). They act as a detailed database about events, behaviours, and their social settings that can be retrieved later for further analysis (Yin, 2014). They are also very helpful for formulating a reflexive account of fieldwork and theoretical elaboration (Bryman, 2016).

During the fieldwork, field notes were taken by the researcher on every visit to the study areas. It is important to take notes and compile them as soon as possible to retain the information accurately (Silverman, 2015). Therefore, the abridged version of the field notes was often taken when in the field, while the full version was developed later.

3.6.3. Interviews

Interviews are a very useful tool used to understand someone's impressions, or experiences about particular things being studied (Proverbs & Gameson, 2008). In this study, interviews were used to capture detailed information regarding perceptions, motives, experiences, and power dynamics in the creation, use, and management of *kampung* streets. They were also used to elaborate and crosscheck information obtained from the observations. Interviews also provided insights into how residents use *kampung* streets beyond what was observed.

Semi-structured interviews were employed in this research. The flexible format of semi-structured interviews allows researchers to understand how their respondents construct reality and think about situations being studied, and not just to provide the

answers following the researchers' own construction of reality (Yin, 2012). Semi-structured interviews also provide the opportunity to 'probe' answers, encouraging informants to elaborate their responses (Saunders *et al.*, 2012). To maintain the focus of interviews, a list of questions was prepared as an interview guide (see Appendix 1), without preventing any elaboration required to explore further information.

In total, semi-structured interviews were conducted with 22 key informants (Table 3.2), selected because they could give information into how the street was created, used, and managed. Key informants were categorised into two groups:

- 1) **Internal key informants** are from the neighbourhoods and provided relevant information related to the streets in the neighbourhood due to their direct interactions with everyday life in the neighbourhood. They included:
 - i) Community leaders (RT/RW leaders)
 - ii) Senior residents
 - iii) Heads of community organisations.
- 2) **External key informants** are not from the neighbourhoods but have knowledge and may influence the creation, use, and management of streets. They included:
 - i) Local authorities (Heads of 'kelurahan')
 - ii) Government officials
 - iii) Staff from other related agencies (e.g. KOTAKU).

Table 3.2 List of key informants

No	Informant	Gender	Role of informant	Date of interview
1.	Informant 1	Male	Head of Kelurahan Keparakan	January 30, 2018 February 20, 2018
2.	Informant 2	Male	Head of RW 07 Keparakan	January 30, 2018
3.	Informant 3	Male	- Head of RW 08 - Head of LPMK Keparakan - Senior resident	February 2, 2018
4.	Informant 4	Male	Head of RW 09 Keparakan	February 3, 2018
5.	Informant 5	Male	Head of RW 10 Keparakan	February 6, 2018
6.	Informant 6	Male	- Head of RW 12 Keparakan - Coordinator of BKM Keparakan	February 21, 2018 March 13, 2018
7.	Informant 7	Male	Head of RW 13 Keparakan	February 16, 2018
8.	Informant 8	Male	City Coordinator of KOTAKU Yogyakarta	March 12, 2018
9.	Informant 9	Male	Urban Planner KOTAKU Yogyakarta	March 12, 2018

No	Informant	Gender	Role of informant	Date of interview
10.	Informant 10	Male	Social Safeguarding KOTAKU Yogyakarta	March 12, 2018
11.	Informant 11	Male	Head of Section of Roads and Bridges Improvement, Department of Public Works and Settlements, The City of Yogyakarta	March 14, 2018
12.	Informant 12	Male	Head of RT 56 Keparakan	March 17, 2018
13.	Informant 13	Female	Head of Kelurahan Kricak	March 27, 2018
14.	Informant 14	Male	Head of Kelurahan Bener	March 28, 2018
15.	Informant 15	Male	- Head of RT 13 Bener - Senior resident	April 16, 2018
16.	Informant 16	Male	- Head of RT 14 Bener	April 26, 2018
17.	Informant 17	Male	- Head of RT 15 Bener - Senior resident - Landlord	April 20, 2018
18.	Informant 18	Male	- Head of RT 16 Bener	April 14, 2018
19.	Informant 19	Male	Treasure of RT 16 Bener	April 14, 2018
20.	Informant 20	Male	Head of RT 26 Bener	April 13, 2018
21.	Informant 21	Male	Head of RT 39 Kricak	April 28, 2018
22.	Informant 22	Male	Senior resident	April 17, 2018

Although the majority of key informants were neighbourhood community leaders (RT/RW leaders), they represented various stakeholders and could provide information from multiple perspectives. Among these key informants were long-standing residents, a landlord owning a large tract of *kampung* land, and coordinators of the Community Empowerment Council (LPMK) and Community Self-help Organisation (BKM).

Throughout this thesis, the terms 'informant' or 'interviewee' are used to refer to responses from key informants.

3.6.4. Questionnaires

Questionnaires were used as a data collection tool to explore information, both factual information and opinions, from *kampung* residents about the use and management of *kampung* streets. The questionnaire was divided into eight themes derived from the literature review as listed below:

- Observed information and respondent's personal details
- Use of the street
- Inclusiveness of the street

- Accessibility
- Management of the street
- Perception of the street
- Conflict and relations
- Final remarks about problems, challenges, and suggestions in using and accessing *kampung* streets.

The detailed questionnaire is given in Appendix 2.

Under each of these themes both closed-ended and open-ended questions were developed. Closed-ended questions were used to capture information that would likely have certain patterns of variation (Kitchin & Tate, 2013) – respondents’ social background, housing and land tenure, frequency of activities, perception of safety, etc. Responses to closed-ended questions can be described quantitatively and thus compared (Bryman, 2016), allowing easier cross-case analysis. Open-ended questions were used to explore more complex issues that require elaboration, such as motives, problems, and conflicts related to the use and management of the street. Open-ended questions encourage respondents to answer in their own terms and allow unexpected answers to emerge, which are useful for exploring new areas of knowledge (Bryman, 2016).

Stratified sampling was employed as a sampling strategy, meaning that the study population are stratified into different categories based on certain criteria and samples are selected from each of the resulting strata (Bryman, 2016). In this research, respondents were stratified based on their neighbourhood units. Samples were selected to represent each neighbourhood unit, but their genders, socio-economic profiles, and housing and land tenures were considered in the selection to represent the diversity of residents (see Table 3.3). Questionnaires were distributed to 237 households in both *kampung*: 157 households in Kampung Keparakan (during March 2018) and 80 households in Kampung Kricak (in April 2018). More respondents were interviewed in Kampung Keparakan as it is bigger in size and population in comparison to Kampung Kricak. This number was considered sufficient as statisticians suggest a minimum sample size of 30 in each sample category to result in a nearly normal distribution (Saunders *et al.*, 2012).

Table 3.3 Distribution of respondents by gender, age group, and housing tenure

	Kampung Keparakan	Kampung Kricak	TOTAL
Gender			
Male	81	44	125
Female	76	36	112
TOTAL	157	80	237
Age group			
18-25 y.o	0	1	1
26-35 y.o	16	6	22
36-58 y.o	86	43	129
58-64 y.o	24	17	41
above 64 y.o	31	13	44
TOTAL	157	80	237
Housing tenure			
Owned	136	63	199
Rented	21	17	38
TOTAL	157	80	237

The questionnaires were completed by the interviewer in face-to-face meetings, usually at the residents' homes. The researcher or research assistants asked questions directly to the respondents and administered the answers into questionnaire sheets. This approach was adopted for its higher response rates and opportunity to clarify complicated questions (Saunders *et al.*, 2012). It also provided the opportunity to seek the elaboration of answers, particularly for open-ended questions.

The thesis uses the term 'respondent' when referring to data or responses to the questionnaire.

3.7. Data processing and analysis

Data processing and data analysis are two important steps performed simultaneously during and after the fieldwork. Various data collection tools employed in this research resulted in a large volume of data, which were analysed through various techniques. However, raw data from the fieldwork were often not straightforward for analysis, and thus had to be processed prior to the analysis. This section explains the process of data preparation and data analysis performed in this study.

3.7.1. Data processing

Data processing is a step in which raw data from the fieldwork are prepared so that they can be easily analysed. This process may involve categorising raw data, reconstructing them, transforming data into other media, or converting them into other formats (Marczyk *et al.*, 2005; Saunders *et al.*, 2012).

Spatial and activity maps from the observations were redrawn by computer using graphic software (CorelDraw), which allows users to draw objects in separate layers. Spatial properties of *kampung* (e.g. buildings, street network, landmarks, land uses) and streets (e.g. width, type of traffic, etc.), and observed activities were redrawn in different layers to ensure that certain information can be extracted and highlighted, or be juxtaposed into composite maps enabling spatial relationship analysis. The assembly of layers from the map is essential for the role of mapping in knowledge production as it produces new ways of seeing the city (Dovey *et al.*, 2018).

Interviews were transcribed and reproduced as word-processed documents. This task was time-consuming but provided an opportunity for reflexivity because the interviews had to be listened to carefully. Transcripts of these interviews were mostly in Bahasa using the actual words spoken by the interviewees, except when cited in this thesis. This was for two reasons. First, translating all interview transcripts into English is a lengthy process. Second, some words, phrases, and expressions used by the interviewees cannot be translated into English without compromising their full meanings, which may affect the analysis if translated too early.

Quantitative and qualitative data were separated. Questionnaire data were entered into a spreadsheet file, and responses from open-ended questions were extracted and moved into word-processed documents for qualitative analysis, while other data were exported to SPSS for quantitative analysis. Similarly, data containing the number of people involved in street activities were re-tabulated for aggregate calculation.

3.7.2. Data analysis

Data analysis requires creative and critical thinking that helps to find clues, link information, and interpret results to develop a relevant narrative to address research objectives (see Figure 3.3). It is an iterative process that involves the examination and

re-examination of data as data collection progressed, and continues after the end of data collection.

A choice of research strategy and research design guided the analysis. As multiple case study research, cross-case analysis was consistently performed throughout the analysis, as suggested by Yin (2012). Findings from individual case studies were synthesised to search for patterns across them. The mixed-methods approach adopted in this research entails a combination of qualitative and quantitative methods in the analysis as applied in this research.

Qualitative analysis

Qualitative analysis is a very personal process (Dawson, 2007). The researcher's personal judgement, often influenced by background knowledge, moral values, and personal beliefs, may affect the outcome of the analysis. The lack of standardised procedures to analyse qualitative data (Bryman, 2016; Kitchin & Tate, 2013) makes the result of qualitative analysis subjective.

The general approach adopted in this research was to combine various methods of analysis for different aspects of *kampung* streets to gain deeper understanding of the streets (Figure 3.3), as Kitchin and Tate (2013) suggested in qualitative analysis. This triangulation is important in case study research to reduce bias and reach a more accurate conclusion of the subject being studied (Bryman, 2016; Mills *et al*, 2010). In general, there are two types of qualitative analysis employed in this research: spatial analysis and thematic analysis.

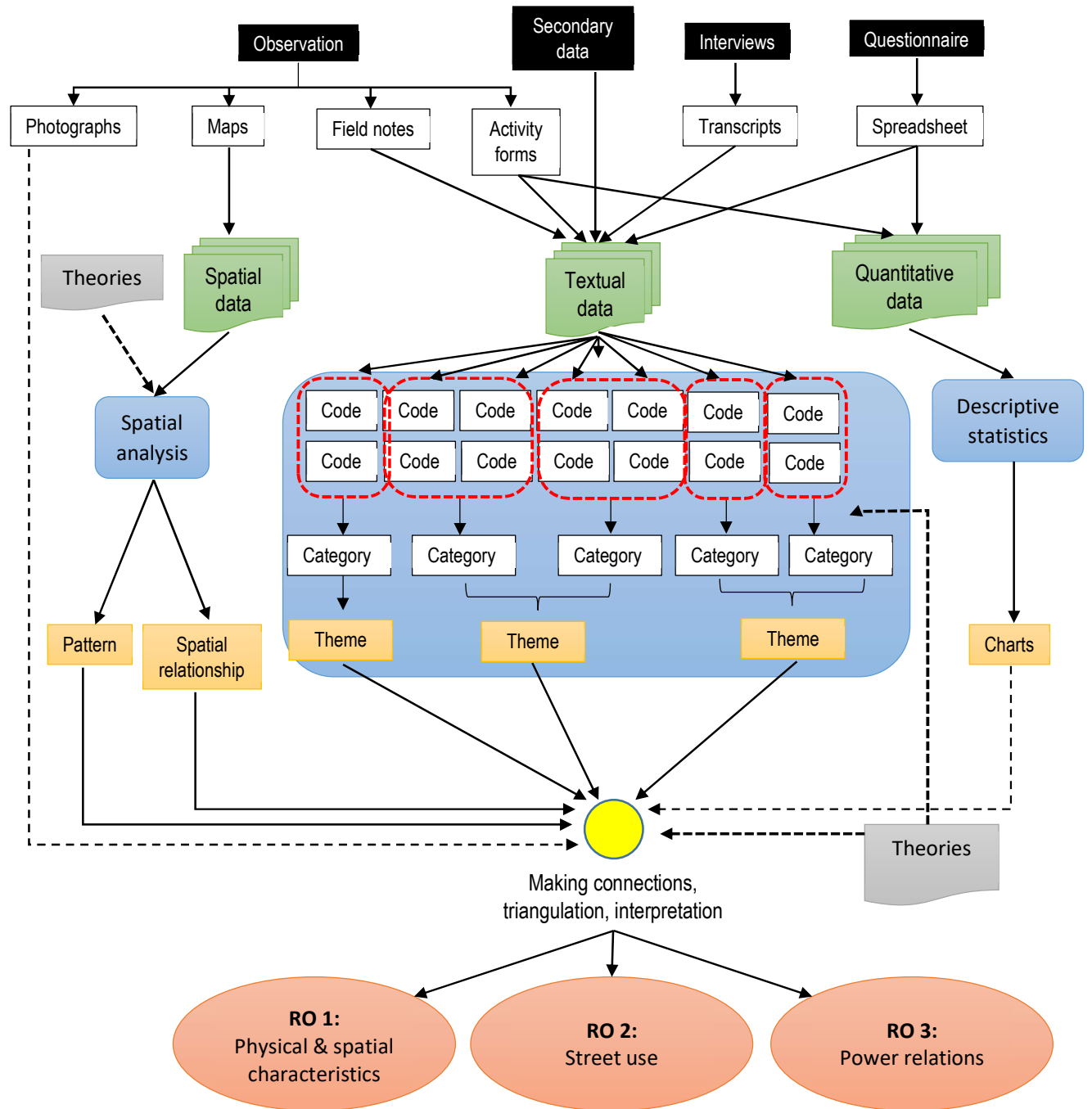


Figure 3.3 The process of data analysis to address research objectives

1) Spatial analysis

Spatial analysis was used to analyse spatial data and associated non-spatial data. Spatial analysis includes a wide range of operations, from simple mapping and

visualisation of location and patterns to more complex operations, such as network analysis and spatial modelling (Kitchin & Tate, 2013). It is more deductive, in which variables derived from relevant theories guide the analysis. In this research, spatial analysis was used to analyse spatial characteristics of the street and the spatial pattern of street uses.

Visualisation techniques were applied to analyse network patterns. The street network was highlighted by removing other information from the map. As the network became visible, the pattern and geometrical properties of the street network in each case study could be assessed, enabling a comparison across case studies. This description was then linked to the contextual information of each case study to find a substantive explanation of the observed pattern.

Another spatial analysis operation undertaken in this research is 'overlay', which involves the process of analysing multiple data layers together for a specified location or area (Wang & vom Hofe, 2007). Overlay was used to classify *kampung* streets, identify activity patterns, and find spatial relationships between the streets and activities. Overlaying physical attributes of the street, such as street width, types of traffic, and its relative position in the network, revealed the hierarchical structure of *kampung* streets (see Section 4.5.1). Juxtaposing all observed activities in a single map showed the spatial pattern of street activities, while adding other layers, such as the street hierarchy and land use, into the map enabled an investigation on the relationship between activities and the street.

2) Thematic analysis of qualitative data

Thematic analysis refers to a systematic approach to qualitative data analysis in which data are analysed by themes (Bryman, 2016; Dawson, 2007; Mills *et al.*, 2010). This analysis is highly inductive as the themes emerge from and are grounded in the data (Dawson, 2007; Mills *et al.*, 2010; Saunders *et al.*, 2012). Thematic analysis was used in this study to analyse textual data from interview transcripts, field notes, answers from open-ended questions of the questionnaires, and qualitative descriptions of observed activities from activity registration forms (Figure 3.3).

The starting point of thematic analysis is 'coding', which is key to finding themes. Coding entails reviewing textual data and giving labels/codes to passages that contain relevant information about the research focus (Bryman, 2016; Mills *et al.*,

2010). Coding helps the researcher to move from document analysis to theorising as the data are reorganised from their original sources to become a list of codes (Bazeley & Jackson, 2013).

The coding process was fluid. It started with detailed codes derived directly from the data, and worked up to broader categories using NVIVO software. This approach helps to create an awareness of the richness of the data and focus on the data rather than on the researcher's preconceptions, without jumping to conclusions too early (Bazeley & Jackson, 2013). The initial coding tended to be descriptive. Codes were generated as each passage from some early texts was read, and started having a clear structure as the coded text built up. During the process, the codes were constantly refined to avoid repetition and inconsistency.

The next step was to move from description to abstraction, by identifying relationships and patterns between codes. Related codes from initial coding were merged to form new broader categories that represent more general concepts, while too general codes were divided into sub-categories. Some detailed codes were placed under general codes as sub-categories. This process was repeated until a few core themes were attained, around which all other categories were integrated, while looking for theoretical connections to interpret them.

The final stage focused on developing narratives based on the emerging themes and categories. Core themes were linked to the three research objectives (outlined in Section 1.5) to see how they could contribute to addressing the research objectives. Original texts were revisited to re-contextualise identified themes and categories for cross-case analysis. Finally, the connection between themes, categories, theories, contexts, and research objectives provide the basis for constructing a coherent narrative.

Quantitative analysis

Quantitative analysis was less dominant in this study. It was used to complement findings generated by qualitative analysis by providing measurable evidence. Descriptive statistics, which are used "to describe the data collected in research studies and to accurately characterize the variables under observation within a specific sample" (Marczyk *et al.*, 2005, p. 209) were employed for this purpose using SPSS and Excel, in which 'frequency distribution' was the focus of the analysis. Diagrams, such as bar charts and pie charts, were created to display the distribution

of quantitative data, such as responses to closed-ended questions of the questionnaire and the characteristics of people involved in street activities, because they can help readers interpret and understand the data more easily (Bryman, 2016).

3.8. Ethical issues

This section discusses ethical issues arising during the study and the measures taken to ensure that this research follows ethical principles, meaning that there is no harm to participants, informed consent, avoiding invasion of privacy and deception in the research (Bryman, 2016). The ethical issues discussed here emerged in different stages of the research. It is important to mention that this study had gained ethical approval from the Ethics Committee of Cardiff University prior to the start of the fieldwork.

Seeking access to data sources

As this study relied greatly on primary data, gaining access to the study areas and key informants was vital. However, seeking access to data sources can raise ethical issues in relation to the legality of the research activities undertaken and potential harm and inconvenience to participants and the researcher (Saunders *et al.*, 2012). These issues were particularly important during this study due to the status of the researcher as an outsider entering the territory of tight-knit communities and the involvement of observations of street activities during evening time, which could both lead to suspicion towards the researcher. Therefore, it is important to ensure that access to data sources is granted legitimately and to minimise potential refusal and risks to the researcher.

In doing so, this study followed procedures implemented by the Yogyakarta City Authority to apply for a permit to undertake research in its territory. This application involved a long and complex bureaucratic procedure, as it required the researcher to submit the application to different levels of government administration, from the provincial level to the sub-district (*kelurahan*) level. This application took a long time because it could not be processed simultaneously. A recommendation letter issued by the upper level of administration is a requirement for the application submitted to the lower level. Those letters were taken to the study areas as a proof of authorisation to undertake research activities.

The study also sought to avoid discomfort when approaching key informants by giving a brief introduction to the researcher's identity and the study objectives before the interview. Working hours and Islamic prayer times were considered in choosing interview times. Most interviews with key informants from *kampung* residents were conducted in the afternoon, when the informants were already back from work, and usually ended before sunset to allow for prayers. There were a few exceptions when some informants declined to give an interview straightaway and offered another time at their convenience.

Informed consent

In social research, it is important that participants are treated with respect of their individual autonomy as research subjects. This respect entails obtaining their agreement to participate voluntarily without physical or psychological coercion, based on full and open information, particularly about the nature and consequences of the research they are involved in (Christians, 2005). In this study, informed consent from participants was sought explicitly whenever possible and practicable. However, as different types of participants were involved, informed consent was obtained through various ways.

Verbal consent was obtained from government officials during interviews. This consent followed a recommendation letter issued by their institutions to respond to the request for interviews. In dealing with key informants and questionnaire respondents from *kampung* residents, verbal consent was also employed. It was considered that the use of written consent in which informants and respondents need to sign a consent form may seem daunting and could potentially create uneasiness. Therefore, as an alternative, before the interview, they were given a brief explanation about the research and its purpose and an information sheet containing the research outline and the researcher's contact details, to help them decide whether or not to participate in the research. Interviews only proceeded when the informants were willing and comfortable to participate, and permission to record the audio of the interviews was requested.

When observing and documenting the behaviour of street users it was not practicable to obtain written or verbal consent. However, observations took place in a public setting, where the activities observed were displayed publicly with no risk of harm to

individuals or intrusion on their privacy, and all were anonymised. In this situation, individual consent would not be meaningful or necessary.

However, the presence of the researcher as a stranger walking around the *kampung* and doing observations sometimes attracted attention and questions from residents. In this case, an explanation about the study and its methods was provided verbally. Local leaders in *kampung* (RT/RW leaders) were also informed about the research taking place in their areas and their permission was sought before conducting the observations to minimise suspicion and refusal from local residents. To ensure that participants understood the information about the study and the consequence of the responses, all interviews, questionnaires, and information regarding the research were delivered in Bahasa.

Maintaining privacy and confidentiality

Ethical considerations also have to be maintained relating to data privacy and confidentiality during the reporting stage of the research (Saunders *et al.*, 2012). Codes of ethics suggest that people's identities need to be protected to avoid unwanted exposure that can cause harm and embarrassment (Christian, 2005). In order to maintain data privacy and the confidentiality of participants, information gathered from informants and questionnaire respondents has been anonymised in this research. Identifiable persons, including children, in the photos used in this thesis have also been blurred to protect their identities. Furthermore, this study exercised utmost care to ensure that no personal information of informants or respondents is disclosed, or used for purposes except those agreed with participants.

Despite the efforts made to ensure confidentiality of information, there were some ethical dilemmas during the research in relation to confidentiality and anonymity. In qualitative research, presenting field notes and excerpts from interviews while preventing people and places from being identified is often challenging (Bryman, 2016). For instance, the names of the two study areas, their locations, and neighbourhood units were not anonymised because they provide important geographical and social contexts to the analysis being developed.

There is also a potential breach of 'internal confidentiality' (Tolich, 2004), when the identity of research participants is identifiable by connected persons. Key informants were referred to in this study by their positions in the community (e.g. RT/RW

leaders, senior resident) or their general occupational titles (e.g. head of *kelurahan*, government official), instead of codes. Although their names remain confidential, this practice opens a possibility for participants' identity to be traced, especially by those familiar with the participants and study areas. Nevertheless, this information is needed to support and justify the narrative being constructed. For instance, interview excerpts about government policies in street management, or the politics involved at the city level can be considered credible when they come from government officials. Altering this information or replacing it with codes can potentially alter the original meaning of the data (Kaiser, 2009) and compromise the credibility of the excerpts.

3.9. Concluding remarks

This chapter has outlined the methodological framework adopted in this research, providing justification for the choice of research strategy, research design, and methods for data collection and analysis. **Critical realism** enabled the researcher to view the street both as an external reality that can be studied objectively, and a social fact constructed in particular contexts. A **mixed-methods** approach was identified suitable to capture the complex reality of the street in informal settlements, with more emphasis on qualitative analysis. The adoption of a **case study** research design, in which **two contrasting urban kampung** in Yogyakarta – **Kampung Keparakan** and **Kampung Kricak** – were selected as cases, allowed for in-depth examination of various aspects of the street and its relationship with residents in two different settings of informal settlements. The employment of various data collection tools, such as field observations, semi-structured interviews, and questionnaires allowed data corroboration to increase the validity of the research.

4.0. Context: Kampung Keparakan and Kricak

4.1. Introduction

This chapter provides an overview of the setting of the research – the urban *kampung* in Yogyakarta, Indonesia – in order to understand the context of this study. It begins by discussing Indonesian urban *kampung*, their characteristics, and their relationship to informal settlements. It then introduces Yogyakarta, the city where this study is situated, and provides a brief historical and morphological background of the city, and the typology of existing *kampung* in Yogyakarta. Afterwards, a discussion of politics and governance of urban *kampung* is presented, followed by a more detailed explanation of Kampung Keparakan and Kampung Kricak, which are the specific geographical focus of the study. Finally, an analysis of the physical and spatial characteristics of streets in both *kampung* is provided.

The chapter shows that urban *kampung*, particularly in Yogyakarta, are diverse in their locations, tenure, and socio-economic conditions; yet they share two key characteristics: an organic development pattern, and a hybrid of urban–rural lifestyle. *Kampung* management in Yogyakarta is shaped by a combination of influences from the city authority, the Sultanate, and communities. A cross-case analysis from the two case studies suggests that the process of land occupation is a key factor determining the spatial characteristics of *kampung* streets.

4.2. *Kampung* and its connotation of informality in Indonesia

A *kampung* is a typical urban settlement that is integral to Indonesia's urban development process. It is estimated that around 70–85 percent of urban populations in Indonesia live in urban *kampung* (Ministry of Housing, 2009). Section 4.2 explores the meaning of *kampung* and its relationship to informal settlements. It first outlines the origin of the word '*kampung*', then explores how it was used in the colonial period, its meaning in present-day Indonesia, and how the negative image of *kampung* and their connotations of informality still remain.

The word '*kampung*' is commonly used in Southeast Asia to describe a particular kind of residential area, although with variations in different locations across the region. It is believed to originate from a Malay term, which means 'village' used to refer to rural settlements in Malaysia (Sullivan, 1986). Nowadays, *kampung* in Malaysia display a variety of characteristics typically figured as 'urban' (Thompson, 2004). In Indonesia, the word '*kampung*' may refer to two different types of settlements (Setiawan, 1998). Outside Java, particularly in Sumatra, it is used in the same way as its original meaning, to denote a village or rural settlement, while in Java it is more often applied to a type of urban settlement (Sullivan, 1986).

In the urban context, the word '*kampung*' is often used with negative connotations, associated with backwardness, and an underdeveloped, substandard, and unhealthy environment. The Dutch colonial authority used it to describe messy native indigenous settlements, as Silver notes:

In the mind of the Dutch authorities the *kampung* represented a lower-class urban settlement with the following attributes: a lack of modern amenities such as water and sewer connection or electricity; land relationships which were governed by traditional law or *adat*; buildings which relied on informal construction methods (predominantly using bamboo); very high density development; and an intermingling of homes and workplace (Silver, 2008, p. 61).

In the same vein, Rudolf Mrazek summarised the Dutch view of *kampung* as providing a 'source of danger':

Fires and epidemics start there ("flies, mosquitos, rats, fleas, stench, etc.") and spread beyond the *kampong's* limits; thieves come from there. It would not do, at the same time, just to push the *kampong* away, to sweep it beyond the town's limits (Mrazek, 2002, p. 68).

Because of this negative image, during the colonial era, *kampung* were excluded from the colonial urban structure, which focused on residential areas and European quarters. However, as urban development expanded, indigenous settlements were gradually incorporated within the existing structure of the city; yet the negative images of *kampung* remained. The colonial authorities targeted *kampung* with interventions labelled as 'improvement projects', which according to Kusno (2016) were crucial to prevent threats to colonial power. While these interventions sought to improve living conditions in the colony, they confirmed the colonialists' marginalisation of *kampung*. In 1909 Tillema, a Dutch pharmacist and social reformist, compiled the *Kromobland*, a report on public health and living conditions in Indonesia, arguing that the problem in the native settlements should no longer be

ignored. Mrazek argued that Tillema's works had contributed to negative images of *kampung*, which were seen as "strictly polarized in clusters of 'there' and 'here,' 'before' and 'after.' 'Before' and 'there' is chaos. Or, at least, messy and smelly space, of *kampung*, the 'native quarters.' After' and 'here' . . . is the domain of the Dutch, of colonial pipes and dikes" (Mrazek, 2002, p. 56). *Kampung* were portrayed as the antithesis of the ideal modernisation of colonial settlements.

More recently, the meaning of *kampung* has expanded to explain a housing phenomenon in urban areas – self-built settlements constructed by communities (Setiawan, 2010). This meaning now implies a settlement which is organic, spontaneous, and incremental, evolving over many years without following planning and building standards and regulations (Supriatna & Van der Molen, 2014). This process is closely related to Indonesia's post-independence urbanisation, which saw mass migration of rural people to cities, especially in Java, to seek income-earning opportunities and better living conditions. Unfortunately, many rural-urban migrants lacked access to the resources to afford existing housing, and built their houses from non-permanent materials on marginal land, such as unoccupied land on the riverbank and sides of railways, which lacked legal tenure. Over time, these locations formed irregular settlement patterns and turned into *kampung*; their numbers grew, and eventually they became densely populated and overcrowded.

However, it is still hard to generalise the characteristics of *kampung*. Although, it is generally accepted by Indonesian scholars that *kampung* refers to high-density, organic and spontaneous urban settlements, without legal titles, and inhabited by populations with mixed socio-economic profiles, they may also take various forms and locations. Patton and Subanu (1988) classified urban *kampung* into two categories. One is the consistently poor, overcrowded, and centrally located *kampung*, and the other one is the less crowded, peripheral, and typically higher-income *kampung*. Despite this variation, negative images of urban *kampung* remain.

Setiawan (1998) identified some problems in the academic literature in defining and describing *kampung* which contribute to these negative images. First, *kampung* tend to be described through their negative aspects, such as their messiness, irregular pattern, lack of basic urban infrastructure and services, and poor building conditions. Second, the existing literature tends to be biased focusing only on a particular type of *kampung*, mostly those which are located in the inner city and occupied by the poorest residents. Third, *kampung* tend to be viewed from a dichotomous perspective: urban–

rural, legal-illegal, formal-informal, and modern-traditional. Thus *kampung* are often perceived as settlements of rural people located in urban areas, developed in informal and perhaps illegal ways, illustrating traditional ways of living. Finally, many descriptions of *kampung* perceive them as static entities and often ignore the fact that *kampung* are dynamic and have undergone changes over time to adapt to challenges to their existence.

The physical attributes of *kampung* are complemented by a complex social system. Studies from Sullivan (1986; 1992) and Guinness (1997) of *kampung* communities in Yogyakarta indicate that *kampung* exist both through their physical features and through the social constructions of their residents. Sullivan (1992) argued that, as a community unit, *kampung* are viewed more as an assemblage of interrelated social networks, rather than as a group of people limited by neighbourhood boundaries set up by administrative authorities. *Kampung* residents share communal identities and develop mutual cooperation and solidarity. Membership of the *kampung* is maintained through participation in communal events at the neighbourhood level and through maintaining social ties with neighbours (Sullivan, 1992). Common activities in *kampung* include sharing facilities and space, doing community work, and taking care of neighbours' children while parents go to work. Guinness (1997) noted that *kampung* are socially constructed through the self-identification of their residents as '*wong kampung*' or *kampung* people, distinguishing them from those of 'streetside' (middle class) residents.

Kampung communities are also sustained by the capability to resist threats and adapt to external pressures through the situated practices of everyday life and complex networking. Despite often being viewed as an informal and ordinary space, their interaction with two forces, capital and the state, sustains their continuation (Kusno, 2015). A *kampung* exists by "constituting a life of its own and producing multiple forms of emergent and residual practices" (Kusno, 2015, p. 60). In a study on Kampung Taman Sari in Bandung on the relation between *kampung* and the state, Reerink (2015) concluded that *kampung* enjoyed a high degree of autonomy to regulate their own community life, and that Indonesian municipal governments fail to exercise full control over *kampung*, and are unable to develop, standardise, and regulate *kampung* to conform to government policies. A similar situation was found by Winayanti and Lang (2004), studying Kampung Penas Tanggul in Jakarta, showing that the ability of *kampung* communities to mobilise the community's resources

outside market and government domains, and to assemble their own networks with NGOs to access urban services, is crucial for the continuation of *kampung* communities. These studies indicate the presence of unique and complex social systems and practices that regulate and enable communities in *kampung* to sustain their existence.

To sum up, *kampung* represent urban informality in Indonesia, but they are not necessarily slums. They represent two sides of the socio-economic structure of the city, between traditional and modern, formal and informal, and legal and illegal activities (McGee, 1996; Setiawan, 2010). The term *kampung* can cover various types of urban settlements located in various parts of the city, with various qualities of physical environment, inhabited by people from various socio-economic groups (Setiawan, 1998). What *kampung* have in common with other types of informal settlements is their organic, spontaneous, and incremental formation process and spatial patterns that allow flexible and mixed uses of space, and their distinct social systems and practices that regulate, control, and maintain the existence of community life.

4.3. The city of Yogyakarta

This section provides an overview of the city of Yogyakarta, Indonesia – a brief introduction of the city’s history, its morphology, and various types of *kampung* that exist in Yogyakarta. It highlights the central role of Yogyakarta Sultanate and its strong influence in the existence of Yogyakarta *kampung*.

4.3.1. Yogyakarta – a brief history

The city of Yogyakarta is well-known for its reputation as an important centre of Javanese culture and a historical city in Indonesia that has survived numerous socio-political events. Yogyakarta has existed since the eighth century, when it became a territory under the ancient Hindu-Buddhist Mataram Kingdom, whose legacy can still be witnessed nowadays through several notable monuments, including the Borobudur and Prambanan temples. Yogyakarta then suffered a number of conflicts, wars and natural disasters that led to its devastation, abandonment, and capture by

other kingdoms, until it again gained prominence under the Islamic Mataram Kingdom, a powerful kingdom ruling areas in central Java during 1587–1755.

The Yogyakarta Sultanate

The history of present-day Yogyakarta started in 1755, when Dutch colonialists intervened in a political conflict, escalated into civil war, between two claimants for the throne of the Islamic Mataram Kingdom, *Sunan Pakubuwono II* and his sibling Prince *Mangkubumi*, through the Treaty of *Giyanti* signed in February 1755. The treaty divided the kingdom's territory into two parts and granted each conflicting party half the kingdom. The north-eastern part of the kingdom was ruled by *Pakubuwono III*, the successor of the deceased *Pakubuwono II*, who inherited the old Mataram Palace in Surakarta as the centre of his kingdom. The south-western part was granted to Prince *Mangkubumi*, who located the capital of his newly created kingdom in Yogyakarta, where he became the first ruler of Yogyakarta Sultanate, adopting the title of *Sultan Hamengkubuwono I* (Sultan HB I). He moved his family to Yogyakarta and began construction of the new capital in 1756.

Sultan HB I ruled the Yogyakarta Sultanate for almost 40 years, allowing him to lay the foundation of the spatial structure and socio-political and economic system of the newly constructed city. Along with the construction of the Sultan's palace (the *kraton*), he planned and constructed the city around the palace, following cosmological principles and the defensive needs of the city (Suryanto *et al.*, 2015). A number of important elements and landmarks were also constructed during his reign, such as the great mosque, *Beringharjo* market, *alun-alun* (the square), the *Tamansari* water castle, and *Tugu Golong Gilig* (a cylindrical column that became the icon of the city). Under the rule of Sultan HB I, Yogyakarta enjoyed economic and political prosperity, and was considered a major centre of political power in Java (Setiawan, 1998), which was relatively independent of pressure from European colonialists (Ricklefs, 2008).

Yogyakarta during colonial period

Following the death of Sultan HB I and internal conflicts among the elites, Yogyakarta faced a crisis that would lead to its independence from colonial rule being significantly curtailed (Ricklefs, 2008). The Dutch colonial authority was successful in forcing Sultan HB II, who declined to cooperate with the Dutch, to step down from his throne. The colonial authority also imposed new treaties that led to a significant part of the

Sultanate's territory being annexed by the Dutch and its power being reduced (Ricklefs, 2008). In June 1812, British forces – who had invaded Java in 1811 – attacked Yogyakarta and took over the palace. The event left the Sultanate devastated and the Sultan's power and influence diminished. However, after the Treaty of Paris in 1814, the British returned Java to the Dutch, and Dutch colonialists continued intervening in the internal affairs of the Javanese Sultanates, including the succession and city development in Yogyakarta.

The conquest of Yogyakarta and the annexation of its territory had triggered local struggles against the Dutch colonialists. Yogyakarta then became a major centre of military operations for independence, including the Java War in 1825–1830. However, after defeat in this war, and with limited territory remaining, the Sultanate was completely ruled by Dutch colonialists, except for a few affairs related to ritual establishments (Ricklefs, 2008; Setiawan, 1998). The development of Yogyakarta was then directed to support Dutch economic and political power, such as the establishment of The Fort of Vredeborg and several European quarters and offices, which continued until the Dutch colonialism collapsed in 1942 after the invasion of Japanese military.

Yogyakarta after independence

After Indonesia proclaimed independence on August 17, 1945, Yogyakarta maintained its prominence in the history of the nation, particularly during the Indonesian War of Independence in 1945–1950. The Yogyakarta Sultanate declared its support for the new republic soon after its proclamation, and agreed to join the republic. Later, the Sultan of Yogyakarta, HB IX, provided vital support to the newly formed Indonesian government. He offered to transfer the Indonesian capital to Yogyakarta when the Dutch and Allied military forces occupied Jakarta in 1946 in their attempt to re-establish their authority over Indonesia. Yogyakarta became the capital of Indonesia for two years until the Dutch finally occupied Yogyakarta in 1948. During this critical period, the Sultan allowed the use of the Sultanate's assets to support the operation of the new capital, including the use of his palace as a hideout for the Indonesian military during a major offensive to retake Yogyakarta from the Dutch in March 1949. The Sultan also allowed the use of some buildings in the palace complex as classrooms for the newly established Gadjah Mada University, which later was granted a significant piece of land by the Sultanate for its main campus.

Because of its significant contribution, Yogyakarta was granted a privileged status as a 'special region' in 1950, with the city of Yogyakarta as its capital and the Sultan as the head of the region, making it the only recognised monarchy in Indonesia.

Capitalising the uncertain political situation resulting from political and economic crises in Indonesia since the late of 1950s, in 1966 General Soeharto came to power and started his authoritarian regime, with supports from the military, known as the 'New Order' regime. Soeharto prioritised achieving and maintaining political stability and economic development in his political agenda, particularly by using military's powers and bureaucratisation of civil society to control political and societal dynamics up to the lowest level of administration, which became prominent features of the New Order regime. The repressive style of governance enforced by the New Order regime was considered successful in achieving economic progress and political stability, but left only little room for dissent in policy-making and policy implementation.

During the New Order era (1966–1998), Yogyakarta experienced massive modernisation, with major infrastructure projects carried out during this period, including construction of an airport, bus terminals, ring roads, luxury hotels and shopping malls. Several new universities were also established in Yogyakarta, following the establishment of Gadjah Mada University in 1949, attracting students from all over Indonesia, especially from eastern Indonesia. In 2012, with the enactment of the Act No. 13 about the exceptional status of Yogyakarta Sultanate in the administration of local governance in Indonesia, the customary privileges of Yogyakarta Sultanate and the Sultan were officially recognised, along with the exceptional status of its territory.

4.3.2. Morphology of the city and its *kampung*

Yogyakarta is the capital of the Special Province of Yogyakarta, which covers an area of 32.5 square kilometres (km²). The Sultan's palace is situated in the middle of an imaginary axis linking an active volcano called Mount Merapi in its north, and the Indian Ocean in its south (Figure 4.1). Three main rivers flow through the city from the north to the south towards the Indian Ocean, namely River Gajahwong, River Code, and River Winongo. For decades, locations along these rivers have become the

sites of most of the densely populated *kampung*, including the two selected case studies of this research.

Many believe that the capital's location was selected by Sultan HB I for its strategic value. Subanu (2008) has argued that the location minimises the risk of natural hazards from the volcano and the ocean, and has an abundant supply of water to support agriculture. The three rivers flowing through the city also serve as defensive mechanisms to protect the city from enemies (Sumintarsih & Adrianto, 2014). However, it is also believed that the site was chosen by the Sultan based on religious and philosophical principles that represent harmony of the microcosm and macrocosm of the universe. This is manifest in the original rectilinear structure of the city (Suryanto *et al.*, 2015; Widiastuti, 2013), which has been well-preserved, around which the city has further developed.

Based on the philosophical principles of harmony, the Sultan established his palace in the middle of two sources of supernatural power in the Javanese tradition, Mount Merapi and the South Sea (i.e. Indian Ocean) to symbolise the principle of *Manunggaling Kawulo Gusti* (the unification of man and God's power) (Suryanto *et al.*, 2015; Widiastuti, 2013). The Sultan was considered as a chosen king blessed with divine power (Widiastuti, 2013). He also arranged three important buildings, namely the *kraton* (the palace), *Tugu Golong Gilig* (to the north of the palace), and *panggun Krapyak* (a cube-shaped building to the south of the palace used by the Sultan as a hunting lodge) to form a philosophical axis symbolising the journey of human life (Figure 4.1). This axis, which is coincident with the imaginary axis, is highlighted through several straight streets connecting the three buildings, which are regarded as a sacred corridor by the Sultanate.

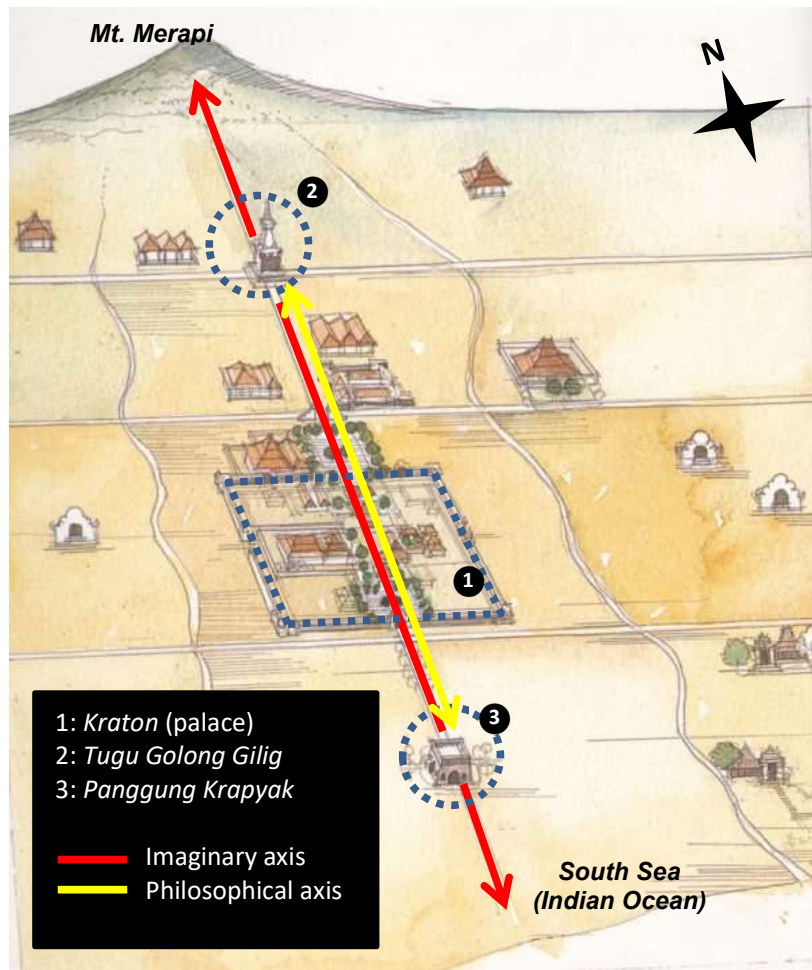


Figure 4.1 The original structure of the city of Yogyakarta

Source: Author's construct, based on Widiastuti (2013) and Suryanto *et al.* (2015)

The territory of Yogyakarta Sultanate was divided into four concentric layers (Figure 4.2) that represent a social hierarchy in society (Suryanto *et al.*, 2015; Widiastuti, 2013). In the centre of the territory is an area consisting of the palace and royal compounds where the Sultan and his royal family lived, and residential areas for his royal servants and guards that serve the day-to-day operations of the Sultanate. This area is known as *Jeron Beteng* (inside the fortress), as it is clearly marked by the defensive walls (known as *baluwarti* fortress) that enclose it. The second layer is an area called *Nagara* (royal capital) where other important aristocrat families and high-rank royal officials as well as foreigners resided. The third layer is an area called *Nagaragung* (great royal capital) where common people lived and agricultural land that provided a food supply for the Sultanate was located, and the last layer is called

Mancanegara (remote territory), that is countryside which was loosely controlled by the Sultanate.

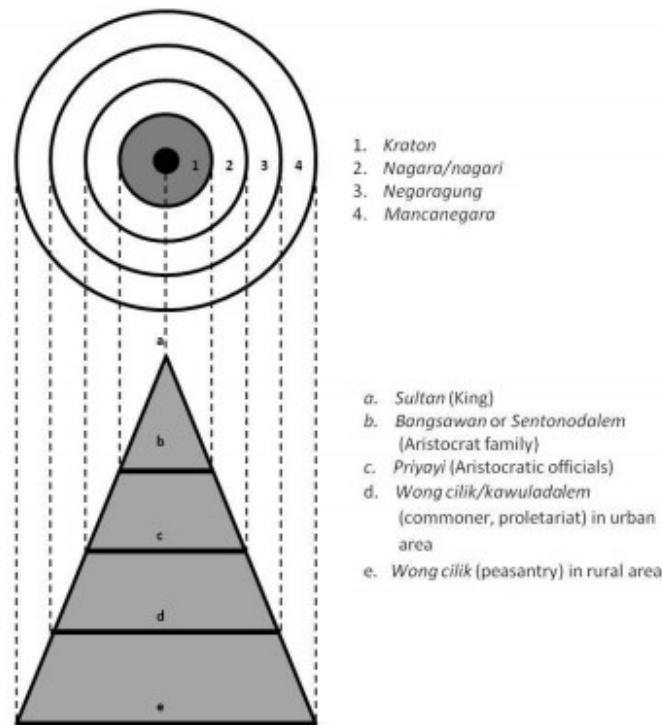


Figure 4.2 Spatial structure and hierarchy of early Yogyakarta

Source: Widiastuti, 2013

The early growth of the city started from the area inside the defensive walls where many people were living around the palace. Gradually, residential areas grew outwards filling the area inside the walls and then spread outside the walls, initially concentrating around the philosophical axis. The growth started from around the north *alun-alun*, spread along *Malioboro* Street to the north up to *Tugu Golong Gilig*, and reached *panggung Krapyak* in the south direction (Sumintarsih & Adrianto, 2014). Afterwards, the city spread to the east and west directions following the development of streets and other supporting infrastructure.

The dominant political influence of the Dutch colonial authorities also played a major role in shaping the spatial structure of Yogyakarta. Physical development of the city during the colonial period supported the interests of the Dutch colonialists in exploiting the colony. A number of strategic facilities and infrastructure were constructed during this period, such as roads and railway stations. The first railway

station, *Lempuyangan* Station, was built in the northeast of the city in 1872, while the main railway station, *Tugu* Station, was built later in 1887 in the north of the Sultan's palace.

The Dutch also built a number of military and government facilities to maintain their hegemony over the Sultanate. For instance, a military fort and several government offices, including the Governor Residence, were set up near the north entrance of the Sultan's palace to supervise and control the Sultan's activities (Abdullah *et al.*, 1985; Subanu, 2008; Suryanto *et al.*, 2015). The colonial government then encouraged Chinese merchants to occupy the area around the colonial complex, which later grew into a commercial centre known today as *Malioboro* Street (Subanu, 2008) with a Chinese quarter in the north of the palace (Marsoyo, 2012). The Arabs occupied areas around the mosque, known as *Kampung Kauman*, as well as formed an Arab quarter in an area known as *Sayyidan* (Figure 4.3). Meanwhile, many local people continued inhabiting the area called *kampung* that grew along the riverbanks and behind commercial districts along major streets.

Furthermore, to accommodate the rapidly growing number of Dutch settlers in Yogyakarta, the colonial authorities built several new European quarters, such as in *Bintaran*, *Jetis*, and *Kota Baru* areas (Figure 4.3), which contributed to the further expansion of the city. These European quarters resemble the layout of European towns, with wide and geometric streets and public amenities, contributing to the unique character of the urban fabric in Yogyakarta.

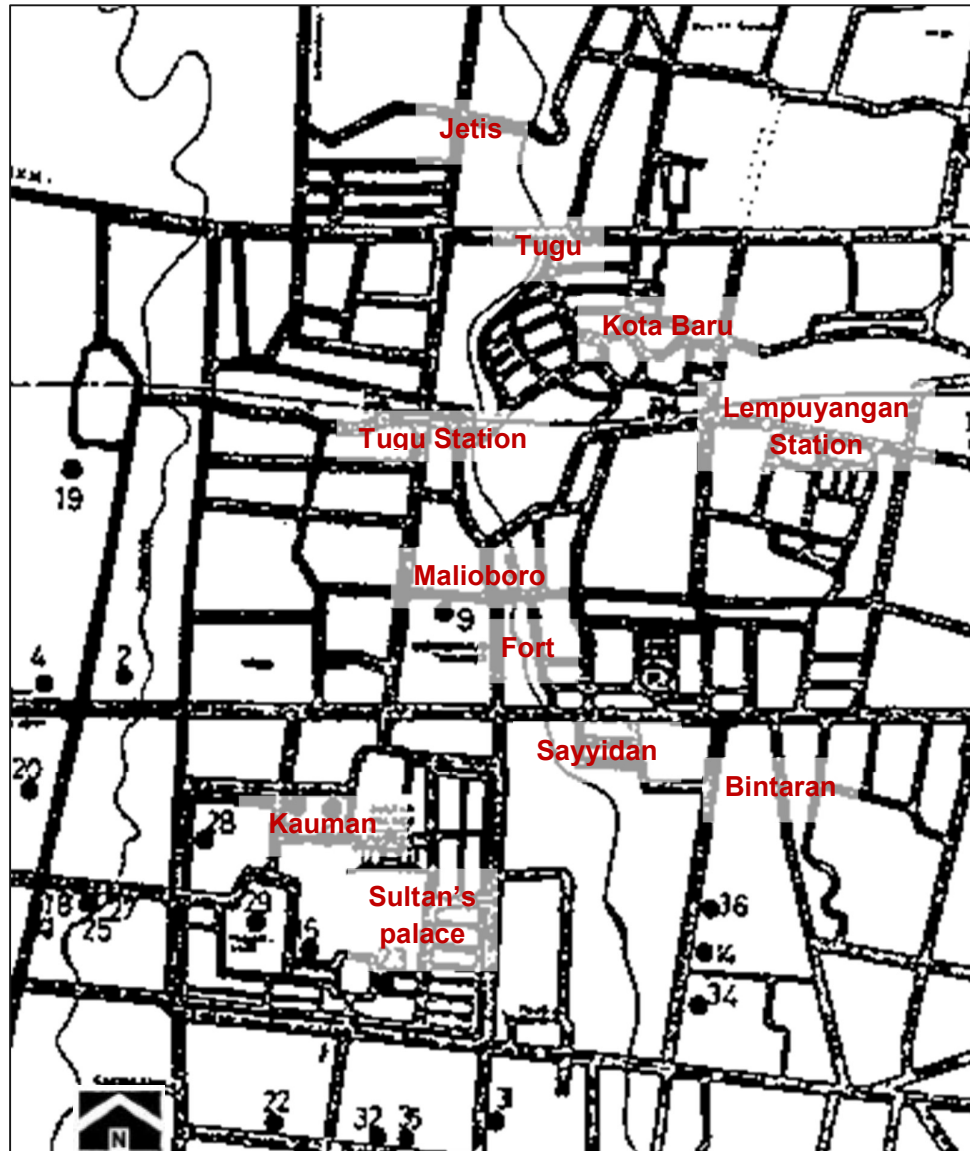


Figure 4.3 Important places marking the expansion of Yogyakarta during pre-independence era

The economic boom of the 1980s–1990s, along with the growing reputation of Yogyakarta as a student city and a tourism destination, attracted investments, especially in property development. Commercial areas sprung up along the main roads, such as along *Solo Street*. New universities and colleges were established, and new campuses were built. Houses surrounding the campuses were converted into student housing, and many were upgraded into multi-storey buildings. This development trend also pervaded the densely populated *kampung* around the

campuses, transforming *kampung* and providing economic opportunities for *kampung* residents.

4.3.3. *Kampung* typology in Yogyakarta

It is evident from the observations conducted during the research that *kampung* constitute a large proportion of the urban settlements in Yogyakarta, yet their characteristics are not homogenous. Initially, *kampung* in Yogyakarta were often associated with the indigenous settlements of certain groups and professions related to the Sultanate. Some of them were located inside the defensive walls, while others were located outside the walls. However, as the city expanded, new residential areas emerged in different parts of the city while old settlements evolved, resulting in various types of urban *kampung*. The change in government attitudes towards *kampung* also results in various degrees of tenure security. Therefore, the term *kampung* in Yogyakarta can include urban settlements in various locations, with various physical features and tenure statuses, and inhabited by people from various socio-economic backgrounds (Setiawan, 1998).

Patton and Subanu (1988) divided *kampung* in Yogyakarta into two types: 'central' *kampung*, and 'peripheral' *kampung*. Central *kampung* were described as consistently poor and overcrowded, packed with semi-permanent housing with unclear land tenure. They usually occupied land in marginal locations near activity centres, such as riverbanks, abandoned Chinese cemeteries, and along railways, and became favourite destinations for rural migrants. Central *kampung* were often deemed problematic by the city authorities. In contrast, peripheral *kampung* occupied larger tracts of land farther from activity centres. They were usually less crowded, with better-quality houses, and inhabited by higher-income residents, and were not considered as primary destinations of rural migrants.

However, the *kampung* typology of Patton and Subanu (1988) no longer describes the situation and dynamics of *kampung* today. Due to the expansion of the city, the peripheral *kampung* have undergone significant densification because of an influx of rural migrants. Meanwhile, the central *kampung* have evolved and been improved with more permanent structures and better social and economic conditions. Both types of *kampung* have also been incorporated into urban policy by the city

authorities. Therefore, this typology rather overgeneralises the complex reality of *kampung* in Yogyakarta.

A more detailed typology was proposed by Setiawan (1998), who classified *kampung* in Yogyakarta into four types. First are the 'traditional' *kampung*, which were established at the beginning of the city's formation and are historically related to the Sultanate. They are located near the Sultan's palace, both inside and outside the defensive walls. They can be easily distinguished from other types of *kampung* by their names, which show three general toponymic patterns (Setiawan, 1998; Sumintarsih & Adrianto, 2014). Some traditional *kampung* were named after the Sultanate's princes and aristocrats, such as Kampung *Suryatmajan*, *Pujokusuman*, *Dipowinatan*, *Cokrokusuman*, and *Mangujayan*. Some *kampung* were named after particular professions of the Sultanate's functionaries (*abdi dalem*) which the *kampung* were designated for, such as Kampung *Pajeksan* for the prosecutors (*jeksa*), *Siliran* for the lamplighters (*silir*), *Gerjen* for the tailors (*gerji*), and *Ngrambutan* for the hairdressers (*rambut*). Some others were named after the Sultanate's military units housed by the *kampung*, such as Kampung *Patangpuluhan*, *Wirobrajan*, *Bugisan*, *Prawirotaman*, and *Mantrijeron*. Traditional *kampung* are more established and secure from eviction as their existence is protected for their historic and cultural values.

Second are the 'riverbank' *kampung* located along Yogyakarta's rivers. Setiawan (1998) argued that these *kampung* sparked controversy because they were associated with the issues of illegality and informality, and often became the target of upgrading and eviction by the authority. Third are the 'urban-fringe' *kampung*, which resulted from urbanisation of rural settlements on the city periphery. Fourth are the 'squatter' *kampung*, developed by squatters occupying vacant land, such as abandoned Chinese cemeteries, railway embankments, and other vacant land owned by the government or the Sultanate. However, although the *kampung* typology by Setiawan (1998) mixed up criteria, such as the location, history, and settlement process of the *kampung*, the classification provides a more accurate picture of the diversity of *kampung* in Yogyakarta.

Kampung in Yogyakarta can also be distinguished based on their geographical locations, which conform to some types of informal settlements in the typology of informal settlements developed by Dovey and King (2011). The most obvious location is on the waterfront. The riverbanks of the three main rivers flowing in the city are

common locations for *kampung* in Yogyakarta. Waterfront *kampung* usually began with the invasion of vacant land on the riverbank by squatters, which later grew and transformed into larger and more mature settlements. The second location is inside the defensive walls of the Sultan's palace. *Kampung* inside the defensive walls are different from other types of *kampung* because they are enclosed, protected, and maintained as part of the heritage of the Sultanate. The third type is *kampung* along railway lines, such as Kampung *Badran*, which emerged because of encroachments into the buffer zone along the railway lines. The fourth type is the pocket *kampung* inside city blocks, which are scattered around the city. They are usually surrounded by formal structures of government institutions, commercial buildings, or formal residential areas, which hide them from the public gaze, and many of them have been authorised.

Another typology of *kampung* can be based on their settlement processes. This typology is particularly important to understand the diversity of tenure status of *kampung* in Yogyakarta. In general, there are three types of *kampung* according to their settlement processes. First are the 'traditional' *kampung*, which developed from the designation of particular areas by the Sultanate to house its functionaries, with their more secure position being situated on the Sultanate's land. Second are *kampung* that began with informal occupation of vacant land by squatters, which grew into larger settlements. This is the most common type of *kampung* in Yogyakarta. Many *kampung* of this type have been authorised, but there are still some with ambiguous tenure, particularly those located on marginalised land owned by the government, such as along the riverbanks, like Kampung *Keparakan*. The third type is *kampung* that started from informal land subdivision by formal landowners, such as Kampung *Kricak* studied in this thesis. The land where the *kampung* were built may belong to individual landowners or the Sultanate, and they vary in their tenure status, depending on the agreement between the occupants and the landowners.

4.4. Politics and governance

Section 4.4 outlines aspects of Yogyakarta's politics and governance that influence *kampung* development and management. It reviews the governance and political structure of Yogyakarta; the dynamic relationships between *kampung*, the state, and the Sultanate; and land tenure system in Yogyakarta. It argues that *kampung*

management in Yogyakarta is shaped by three forms of governance: the statutory system of the city authority, the traditional system of the Sultanate, and community governance.

4.4.1. Governance and political structure of Yogyakarta

This section provides an overview of Yogyakarta's urban governance and political structure, from the city to the community levels, to clarify the relationship between three forms of governance – the state, the Sultanate, and community – in *kampung* governance. It argues that, although *kampung* are no longer recognised as formal administrative units of the city, they are governed by a political system that allows the state to control, the Sultanate to intervene, and communities to participate in *kampung* development and management.

Dualism in Yogyakarta's political structure

The structure of local government at the city level in Indonesia resembles the structure of the national government, reflecting a democratic and decentralised system of government. In Yogyakarta, a mayor, who is directly elected for a maximum of two five-year terms, governs the city administration. The mayor holds the executive power and runs the local administration and policy-making of the city with the assistance of several technical departments. A legislative body, the Regional House of Representatives, also known as *Dewan Perwakilan Rakyat Daerah* (DPRD), whose members are elected through a legislative election, exists at the city level to oversee the performance of the executive government, and be responsible for drafting and passing regional laws and approving government budgets.

However in Yogyakarta, as the only Indonesian city under the administration of a royal monarchy with a longstanding history and tradition, the influence and political power of the Sultan and the Sultanate apparatus in the city administration and development is eminent, resulting in complex and sometimes ambiguous politics and power structures in the city. The cultural belief positioning the Sultan as the supreme leader and the centre of political power and socio-cultural activities has been ingrained in Yogyakarta society (Suryanto *et al.*, 2015), yet the Sultanate's institution was not formalised after independence and remained as a cultural and ceremonial symbol. Instead, Yogyakarta adopted the modern bureaucratic structure imposed by the national government (Setiawan, 1998), despite the importance of the Sultan and

the Sultanate's institution being acknowledged by the newly established Indonesian government through its special status. Consequently, there was an ambiguity and dualism of political power in Yogyakarta, between formal institutions dominated by the ruling parties and bureaucrats, and the traditional institutions of the Sultanate and its apparatus.

The power of Yogyakarta Sultanate was officially formalised in 2012, when the national government enacted Act No. 13, about the exceptional status of the Yogyakarta Sultanate in the administration system of local governance in Indonesia. This act acknowledged the privilege of the Sultan and the Sultanate's institutions. For instance, unlike in other regions, the law states that in Yogyakarta, the succession of the head of the province is according to the Sultanate's tradition, implying that the reigning Sultan is the hereditary governor of the province, who is not bound to the period of position. This law also recognises the customary right of the Sultanate to govern land in its territory, including in the city of Yogyakarta.

Structure of kampung governance

The structure of local governance in Indonesia (Figure 4.4) creates a distinct set of organisational relationships that both define how bureaucracies work at the city level, and define how local residents participate in planning and development at community level (Beard, 2002). At the city level, cities are subdivided into smaller administrative units called **kecamatan** (districts). According to the Local Governance Act No. 23, 2014, *kecamatan* is the lowest level of formal city administrative units. It is led by a civil servant, called **camat**, appointed by the mayor. *Kecamatan* are responsible for the delivery of three broad functions: governmental, developmental, and social communal (Sullivan, 1992). These include, but are not limited to, carrying out public administration at the district level; coordinating community empowerment activities; coordinating efforts to maintain public order, peace, and security; coordinating the enforcement of regulations; maintenance of infrastructure and public facilities; and implementing government programmes at the district level. To be able to perform these functions, *kecamatan*, like other technical city government departments, have been delegated authority to manage funds allocated from the city government budget, and may approve or reject development programmes proposed by communities in their territory.

A *kecamatan* is further subdivided into smaller units called **kelurahan** (sub-districts). They are also led by civil servants, called **lurah**, who are appointed by the mayor after usually being recommended by the *camat*. The Local Governance Act No. 23, 2014 has slightly changed the position of *kelurahan* and their relationship with *kecamatan* within the structure of local governance. Before the implementation, *kelurahan* were directly linked to city government and maintained coordinating relationships with *kecamatan*. In the new structure, *kelurahan* is placed as part of and connected to *kecamatan* through hierarchical relationships, in which *lurah* have become subordinates of *camat*. As a consequence, the main functions and power of the *kelurahan* have been significantly reduced. *Kelurahan* now mainly serve as an intermediary to connect communities and city government (*kecamatan*), and are no longer authorised to manage funds for development programmes proposed by communities.

Furthermore, at the community level, each *kelurahan* is further subdivided into smaller groups of neighbourhood units that consist of a number of households. The larger of the two units is referred to as **rukun warga (RW)** which means harmonious residents, and the smaller unit as **rukun tetangga (RT)**, which means harmonious neighbours. Both units are led by local residents, usually unpaid volunteers elected through a community consensus-building process. Those who are elected as RT/RW leaders then appoint a number of local residents to assist them in the management of the neighbourhood, who will be in charge of matters such as security, religious matters, youth affairs, etc. Most affairs at the neighbourhood level become the responsibility of RT leaders, while RWs function mainly to coordinate RTs and connect communities to *kelurahan*. Since *kampung* are no longer formally recognised as administrative units of the city, RTs and RWs are the two units that deal with most of the issues in *kampung* communities.

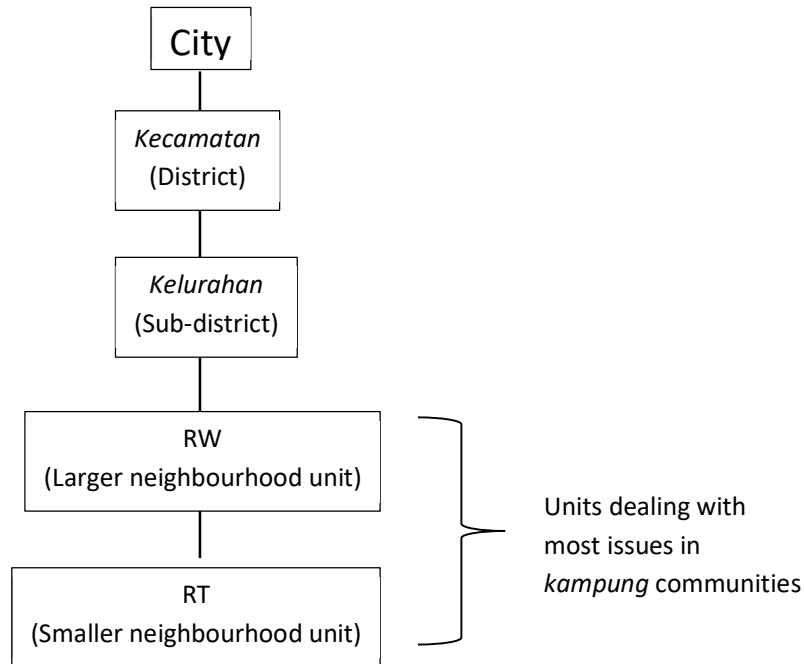


Figure 4.4 The current structure of local governance in urban areas of Indonesia

The current structure of neighbourhood governance has a long history, but has undergone some restructuring in order to conform to socio-political dynamics in Indonesia. It was originally inherited from the neighbourhood administrative system established during the Japanese occupation of Indonesia (1942–1945), when traditional communities were strengthened to assist the Japanese war effort through the formation of *aza* (or *azazyookai*) and *tonarigumi* (Sullivan, 1986). During that period, the two neighbourhood units were used to enforce civil order, organise labour, and spread propaganda. Impressed with the effectiveness of *aza* and *tonarigumi* in organising communities, Indonesian authorities, particularly in Yogyakarta under the Sultanate, absorbed the system into their civil-administrative apparatus in 1946, as *rukun kampung* (RK) and *rukun tetangga* (RT) respectively, without changing their basic organisational structure (Guinness, 1981). Their main function was to help the government, although they were designed to become self-adaptive informal units outside the state as legally defined. At that period, *kampung* were acknowledged as an administrative unit of the city, and *kampung* chiefs were responsible for civic order in their areas.

During the New Order era, the neighbourhood system was used to fulfil the socio-political agenda of the power elite. The RK/RT system was replaced by the RW/RT

system in 1983, but adopted in Yogyakarta since 1989. As a consequence, *kampung* were no longer recognised as administrative units of the city. Some scholars argued that the system became an extension of government's New Order regime to control the population, not to serve the people (Sullivan, 1992). *Kampung* communities under *rukun kampung* (RK) were restructured and divided into different spatial territories, the *rukun warga* (RW), which weakened the existing social ties, organisations, and cohesiveness within grassroots communities. All the elected members of RW and RT must be approved by the *lurah* and subsequently report to the mayor. Although *kampung* communities may have benefitted from the system of a more organised administration, the RT/RW system limited opportunities for participation in urban development because access to urban resources and decision-making was largely controlled by the state.

More recently, as Indonesia has extended democratisation and decentralisation, *kampung* communities have been given greater space to participate in the urban development process. Despite the state's power to control *kampung* communities through the formal administrations of *kecamatan* and *kelurahan*, RT and RW leaders have been given authority to organise communities and mobilise resources to initiate and manage development projects in their areas, although they are still required to consult *kelurahan* and *kecamatan*. Many development programmes and delivery of government services are also managed by *kampung* communities.

4.4.2. *Kampung, the state, and the Sultanate*

This section discusses *kampung's* relationships with the state and the Sultanate that shape their unique identity and influence their management. To provide a wider perspective of the relationship between the state and *kampung*, it is important to first introduce the history of government interventions in Indonesian informal settlements, before discussing *kampung's* relationships with the state and the Sultanate in the context of Yogyakarta.

History of government interventions in kampung and informal settlements

Government interventions in *kampung* reflect the state's attitudes towards *kampung*. Before the collapse of the New Order regime in 1998, *kampung* policies and programmes were focused on addressing the negative stigmatisation of *kampung*, but with their improved image urban *kampung* are often seen as a solution for housing

problems, and are therefore incorporated into Indonesian urban policies (Setiawan, 2010). Government interventions, targeting communities and the built form of *kampung* are often regarded as a type of formalisation, though not legalisation, of *kampung*. This section presents a brief review of various interventions in *kampung* at various scales in Indonesia. It shows the historical shift in the government's attitude towards *kampung*, and emphasises the significant position of street transformation in the constellation of government interventions.

Although *kampung* had existed since the early colonial period, not until the early twentieth century were *kampung* interventions initiated as the strategy of colonial authorities to protect colonial power (Kusno, 2015). With the rapid increase of the indigenous population in towns, *kampung* extended close to the European enclaves, where the streets, which were seen as a symbol of modernity and colonial power, were overwhelmed by the stated 'unhygienic behaviour' of native residents and the messiness of vendors from *kampung* (Kusno, 2016; Mrazek, 2002). Therefore, the colonial authorities saw *kampung* as a source of danger. Inspired by the work of Henrik Tillema (see Section 4.2), interventions by colonial authorities sought to improve the physical environment of indigenous quarters (known as *kampung verbetering*). Technical terms such as *assaineering* and *gezondmaking* (associated with sanitation, drainage, and slum clearance) were increasingly used in discussions on managing *kampung* (Mrazek, 2002). Streets soon became the focus of interventions (Silas, 1983). The aim was to obtain clean and hygienic streets and improve street geometry, as the problem of cities was seen as the problem of *sloordig straatmarkering* (sloppy street marking) (Mrazek, 2002).

This technical colonial approach to improve the physical environment of *kampung* inspired Indonesian authorities to launch a similar programme in 1969 called the Kampung Improvement Programme (KIP). KIP was extensively implemented in major cities such as Jakarta and Surabaya (Muta'ali & Nugroho, 2016), and focused on infrastructure upgrading, including improvements to roads and footpaths, and installation of water, drainage, and sanitation facilities. Road and path improvements were mainly intended to address connection and accessibility problems through street widening and street paving (Silas, 1983). In Yogyakarta, KIP was never carried out as a comprehensive city-wide intervention as in Jakarta and Surabaya due to lack of funds (Setiawan, 1998).

Although KIP was considered broadly successful for its wide coverage, cost-effectiveness, and collaborative approach (Muta'ali & Nugroho, 2016), the programme has also been criticised. A comprehensive study on the implementation of KIP in Surabaya during 1969–1982 shows that the physical improvement and street transformation did not always result in positive outcomes (Silas, 1983). For instance, street widening that allowed cars access to *kampung* streets created less safe and less secure environments while producing more noise and air pollution, and less than one percent of *kampung* residents, those who own cars, benefitted from the project. Moreover, the upgrading has made the use of *kampung* streets more public, leading to confusion over responsibility for the maintenance and cleanliness of streets. Consequently, residents started to build fences to minimise disturbances from the street, which ironically limited their social interactions with neighbours.

A more radical approach adopted by the government to manage and upgrade the urban *kampung* is through urban renewal projects, by introducing higher-rise development in the urban *kampung*. This approach gained popularity in Indonesia at the beginning of 2000s and has been implemented in several Indonesian cities, and was eventually adopted by the national government in 2006 under 'The 1000 Towers' project (Kusno, 2012). Implementation of this project requires the dense and impoverished settlements to be entirely transformed and redeveloped into vertical housing in the form of walk-up flats (known as '*rusun*' or '*rumah susun*') where residents will be relocated. Although the project fell apart at the national level less than three years after its start, the construction of walk-up flats by local authorities continued. For instance, until 2011, six walk-up blocks of flats had been constructed in the city of Yogyakarta (Swasto, 2012).

The redevelopment of urban *kampung* inevitably changes the pattern of the use of space by *kampung* residents. Social interactions and activities that used to occur on streets and other public space in *kampung* are now limited to internal corridors, or around the stairs within the building (Swasto, 2014). Although on every floor of the flats, formal spaces are designated for social activities, those spaces are rarely used by the residents. Instead, some residents socialise in informal space on the ground floor, close to the entrance and communal facilities, or they will go back to the places which used to be their gathering places before the flats were constructed (Swasto, 2014), indicating their strong attachment to the land in their initial settlements. A simulation using Space Syntax performed by Prayitno (2013) also shows that

residents' behaviour in using space and their lifestyles do not fit into the new setting of the vertical *kampung*, and potentially hinder social interactions and lead to the loss of communal *kampung* values.

Therefore, despite interventions from the government which aim to provide better living conditions for *kampung* residents, their effectiveness is limited. Many interventions focus largely on the improvement of the physical infrastructure and visual aesthetics of *kampung*, while ignoring the important relationship between *kampung* residents and their built environment. Here, a careful understanding of *kampung* streets, as a component that has often been the focus of state interventions, will contribute to provide better solutions for the management of urban *kampung*.

Kampung in Yogyakarta: relationships with the state and the Sultanate

Kampung in Yogyakarta have undergone social and political changes since their formation that shape their unique history and identity. At the time the Yogyakarta Sultanate was founded, *kampung* were already an integral part of the original city's structure and seen as an extension of the Sultanate. However, no special administration had been applied to urban *kampung* because they were not considered as a source of taxes for the Sultanate (Sullivan, 1986). Then, during the colonial period, *kampung* were marginalised as the result of European dominance, which started the stigmatisation of *kampung*.

After independence, *kampung* in Yogyakarta had dynamic relationships with the state. In the 1980s they became the subject of urban conflict when the government intended to clear the settlements along the Code riverbank and turn them into green space. The conflict finally abated after a campaign led by Romo Mangunwijaya, an academic and priest, convinced the government to cancel their demolition plans. This incident became the beginning of the shift of city government policy towards managing *kampung*, after which a number of *kampung* upgrading programmes, by both central and local governments, were implemented in Yogyakarta.

Nowadays, *kampung* have been incorporated into Yogyakarta's official urban policy. An interview conducted with a government official revealed that there is even a commitment from the city government to discard violent eviction from their policy towards informality, as the interviewee conveyed: "Yogyakarta is different from other cities. Here, there is nothing called [violent] eviction. [...] Surely, this decision is from

the mayor, and also from the governor [the Sultan]" (Source: Interview government official, 2018).

Although *kampung* management in the city of Yogyakarta is formally under the jurisdiction of the mayor, the influence of the Sultan in the decision-making on urban policies in Yogyakarta is apparent. As the head of the province, the respected cultural leader, and owner of large tracts of land in Yogyakarta where many *kampung* are situated, the political agenda of the Sultan plays a key role in determining the direction of urban policies towards *kampung*. The Sultan is perceived as the protector of the vulnerable by people in Yogyakarta, providing vulnerable groups living with ambiguous land tenure with the hope of gaining security from potential eviction by the city authority. This creates a unique political terrain regarding *kampung* management in Yogyakarta which does not exist in many parts of Indonesia.

4.4.3. Land tenure in Yogyakarta

The land system in Yogyakarta is unique and complex, stemming from its long history and tradition which has influenced the development of urban *kampung*. Although Indonesian government issued the Basic Agrarian Law in 1960 as the main reference to regulate the land system, the law was not implemented in Yogyakarta until 1984 when Sultan HB IX adopted it. Before the adoption Yogyakarta used the traditional land system inherited since the establishment of the Sultanate.

According to tradition, all land in the Sultanate's territory belonged to the Sultan and land tenure was based on the distribution of land by the Sultan. In general, Sultan land can be distinguished into two categories: *keprabon dalem* land and *dede keprabon dalem* land. *Keprabon dalem* land is dedicated specifically for the Sultanate's use to symbolise the existence of the Sultanate. Its ownership is strictly reserved for the Sultanate for an unlimited period. This land originally included the land inside the fortress (*Jeron Beteng*), and some pieces of land outside *Nagara*, such as the land allocated for royal cemeteries. *Dede keprabon dalem* land is Sultan land that can be used for other purposes under the grant of the Sultan.

Dede keprabon dalem land was distributed to different beneficiaries, and within *Nagara* to nobles and functionaries in the Sultanate (Widiastuti, 2013). This distribution was mainly based on social hierarchy and their relationship to the Sultan. In addition, the Sultan also granted the right of use to foreign communities, such as

the Dutch, Chinese, and Arab societies. In *Nagaragung*, the Sultan allocated the land to princes, the nobility, and some high-rank officials as their appanage. They were responsible for the administration of the land, and were given a right to raise taxes, on behalf of the Sultan, from those occupying and cultivating the land. In *Mancanegara*, the Sultan appointed an administrator, called *bupati*, to manage his land. *Bupati* administered the land directly under his jurisdiction, but was obliged to deliver taxes to the Sultanate as evidence of loyalty to the Sultan.

Socio-political dynamics taking place in Yogyakarta affected the status of the Sultan's land, limiting the Sultan's power to distribute his land to indigenous people. The Sultan lost most of his land in *Mancanegara* (Setiawan, 1998) to the Dutch, who later governed this land directly under the Dutch colonial authorities using the colonial act. In 1870, the Dutch introduced an agrarian policy aiming to slowly reduce the Sultan's control over land in Yogyakarta. This policy abolished the appanage system in *Nagaragung*, which provided an opportunity for people, especially foreign capital, to rent land for a longer period. In 1914, the Sultan issued *anganggo* right, the right to utilise land, which later was commonly granted to people in the urban area who used the land for housing and economic activities (Widiastuti, 2013). This later influenced the spatial distribution of urban settlements in Yogyakarta (Section 4.3.2).

In 1918, there was a reorganisation of the land system in Yogyakarta through a regulation called the Sultanate's *Rijkblad* No. 18, stating that all land having no proof of ownership and not under the administration of the colonial land act belonged to the Sultanate (Suyitno, 2007). After the issuance of this regulation, land tenure in Yogyakarta was restructured. The Sultan granted *anganggo* right, hereditary right of use without having to pay taxes, to rural people. He also delegated his right of ownership in *Mancanegara* to village communities as communal ownership.

Another important land reform took place in 1925, when the Sultan granted right of ownership, known as *andarbe* right, of land that was already in use to individuals and agencies. This right allowed urban people, who previously were only granted the right to occupy and utilise, to own property. Based on these regulations, any land that was not assigned any right and not under the administration of the colonial act was classified as Sultan Ground that can be used with permission from the Sultan. This system remained in effect after independence.

These land reforms later contributed to the growth of urban *kampung*, their marginalisation, and complex land tenure. Land in strategic locations was allocated to the colonialists and wealthier citizens, leaving marginal land to the urban poor. With right of ownership, land could be built on, subdivided and leased to individuals, contributing to *kampung* densification. Newcomers occupied Sultan Ground informally without authorisation from the Sultan, assuming that it was vacant land free to use, later leading to overlapping claims over the land.

After independence, the Sultan retained ownership of land that belonged to the Sultanate. The special status of Yogyakarta entailed autonomy to control its land matters. In 1954, the provincial government of Yogyakarta issued a bylaw that promoted the right of use (*angango* right) granted to rural people to right of ownership (*andarbe* right). Thus, land with rights of ownership was withdrawn from Sultan land. In 1960, the Indonesian government issued the Basic Agrarian Law (BAL) to regulate the land system in Indonesia, but it was not implemented in Yogyakarta until 1984. However, the status of the customary land under the Sultanate is not regulated by BAL, resulting in ambiguous and overlapping land tenure in Yogyakarta between statutory land tenure regulated by BAL and customary land tenure administered by the Sultanate. The status of Sultan land was eventually clarified with the enactment of the Act No. 13 on the exceptional status of Yogyakarta, on September 3, 2012.

However, due to the poor land administration of Sultan land, the enactment of Act No. 13, 2012, has become problematic, particularly regarding the use of Sultan Ground (Sultan land that has not been transferred to any party). Although the Sultan can allow the use of Sultan Ground with his permission, in fact, large tracts of Sultan Ground have been occupied and used by people formally and informally. On one hand, the ownership claim made by the Sultanate over various sites in Yogyakarta since the enactment of the act is seen as an attempted dispossession that can lead to conflict. On the other hand, Sultan Ground can be a practical solution for tenure insecurity of low-income residents occupying land without authorisation, as observed in many *kampung* in Yogyakarta.

4.5. Research settings

This part provides an overview of the two study areas (Figure 4.5), Kampung Keparakan and Kampung Kricak Kidul-Sidomulyo (referred to here as Kampung Kricak). As mentioned in Section 3.4.2, the two *kampung* were selected to represent the diverse characteristics of the urban *kampung* in Yogyakarta. This section compares the two *kampung*, highlighting similarities and differences through analysis of their historical, locational, and socio-economic settings, based on a literature review, observation and key informant interviews.

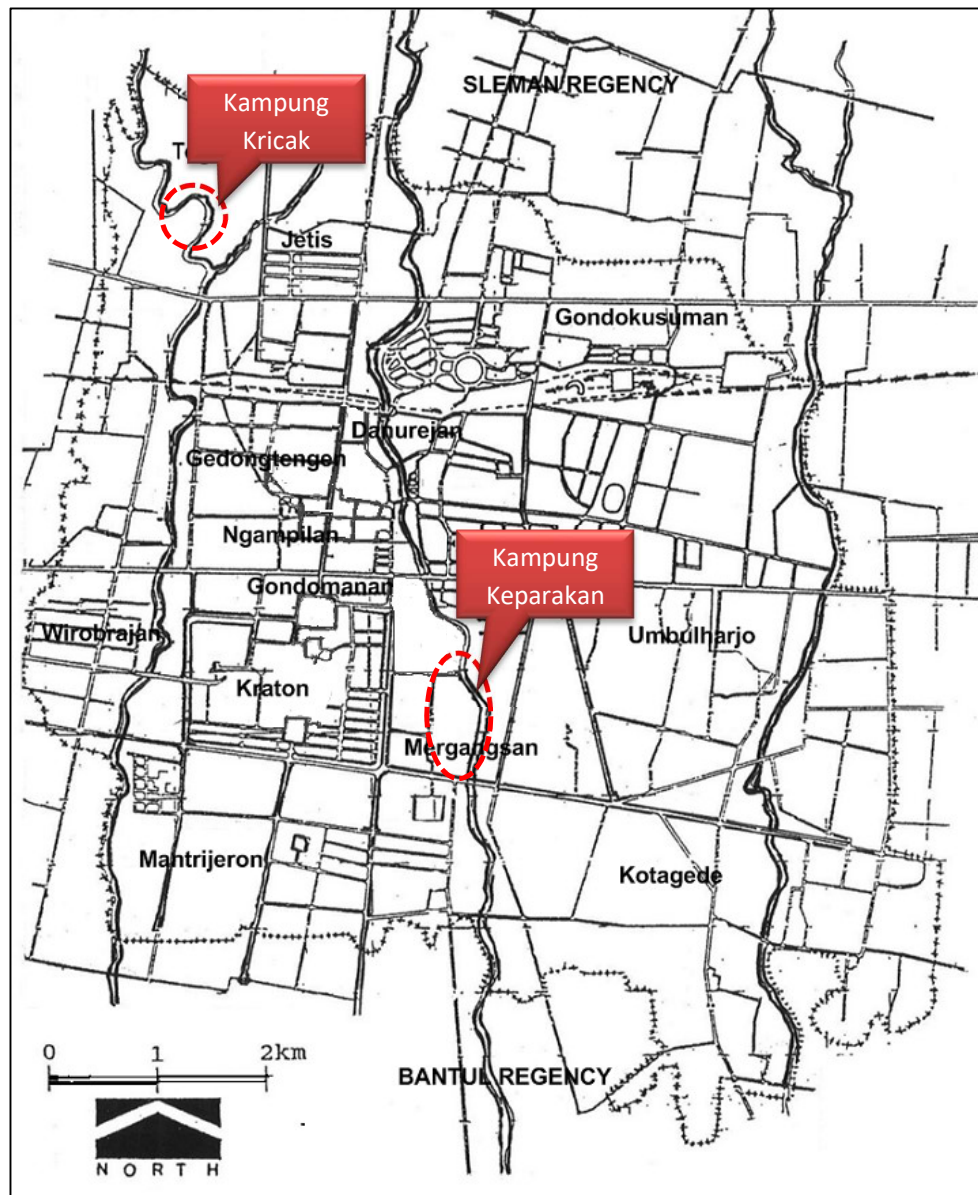


Figure 4.5 The locations of Kampung Keparakan and Kampung Kricak

4.5.1. Kampung Keparakan

Kampung Keparakan represents a more stable and central *kampung* in Yogyakarta, that emerged as an extension of a former traditional *kampung* of the Sultanate's servants, and later grew after squatters invaded the surrounding vacant land. The stability of Kampung Keparakan results from its prolonged history, formalisation of land titles, and the presence of home-based industries that support the livelihoods of its residents.

Origin

The history of Kampung Keparakan can be traced back to the history of Yogyakarta's Sultanate. According to a senior resident in Kampung Keparakan, based on the story passed down through generations, Kampung Keparakan used to belong to Yogyakarta Sultanate. The name of 'Keparakan' originated from a term in the Sultanate tradition, '*abdi dalem keparak*', which refers to the closest servants of the Sultanate who are responsible for serving the daily needs of the Sultan and his royal family in the palace. Kampung Keparakan started when the Sultan allocated a piece of his land to his servants, the '*abdi dalem keparak*'. That land was later occupied by the servants, and the *kampung* was later named as Kampung Keparakan. The area of this initial Kampung Keparakan was only about a half of the area of today's Kampung Keparakan (it is known as *Keparakan Lor*, meaning North Keparakan).

Later on, Kampung Keparakan was extended to include the area to the south, known as Kampung Mangunjayan, named after Prince Mangunjaya, a member of the royal family of the Sultanate who used to live there. The area around his residence was later called Kampung Mangunjayan. However, the name of Kampung Mangunjayan was not widely known to the public. For no clear reason, the name of Kampung Mangunjayan was soon changed to Kampung Keparakan (known as *Keparakan Kidul*, meaning South Keparakan).

Kampung Keparakan grew into a larger residential area. During the 1970s, migrants from rural areas around Yogyakarta, mostly from Gunung Kidul and Kulonprogo, came to the city. In 1976 a new bus terminal was built near the *kampung*, which replaced the old one; the locality became a centre for business and economic activities, and Kampung Keparakan became a place where migrants lived. Many migrants ended up occupying the state's land on the riverbank, including the bank adjacent to the existing residential area of the Sultan's servants in Kampung

Keparakan, gradually transforming the vacant riverbank into a large informal settlement, which was later incorporated into the existing settlement. During the 1980s–1990s, a home-based leather industry producing bags, sandals, and other handicrafts emerged in the *kampung*. The presence of this home-based industry has attracted more people to live in this *kampung*.

Geographical and administrative location

Kampung Keparakan is a typical urban *kampung* situated in the city centre of Yogyakarta, Indonesia, which has been developed into a large and dense settlement over a long period. It is located on the riverbank of Code river, in Kelurahan Keparakan, Kecamatan Mergangsan, just about 1–2 km from the city centre of Yogyakarta (Figure 4.5). It covers a large area along the riverbank of Code that consists of seven RWs, namely RW 7, RW 8, RW 9, RW 10, RW 11, RW 12, and RW 13 (Figure 4.6).

Kampung Keparakan is relatively flat. In the middle of the *kampung* a street runs from north to south dividing the *kampung* into two parts, the east and west parts, not only spatially, but also socially and economically (Figure 4.7). The east part of the *kampung* demonstrates characteristics that are more informal. It is denser, more irregular, and the housing is of poorer quality. In contrast, the west part of the *kampung* looks more formal, with a more regular street pattern and bigger plots and housing in better condition.

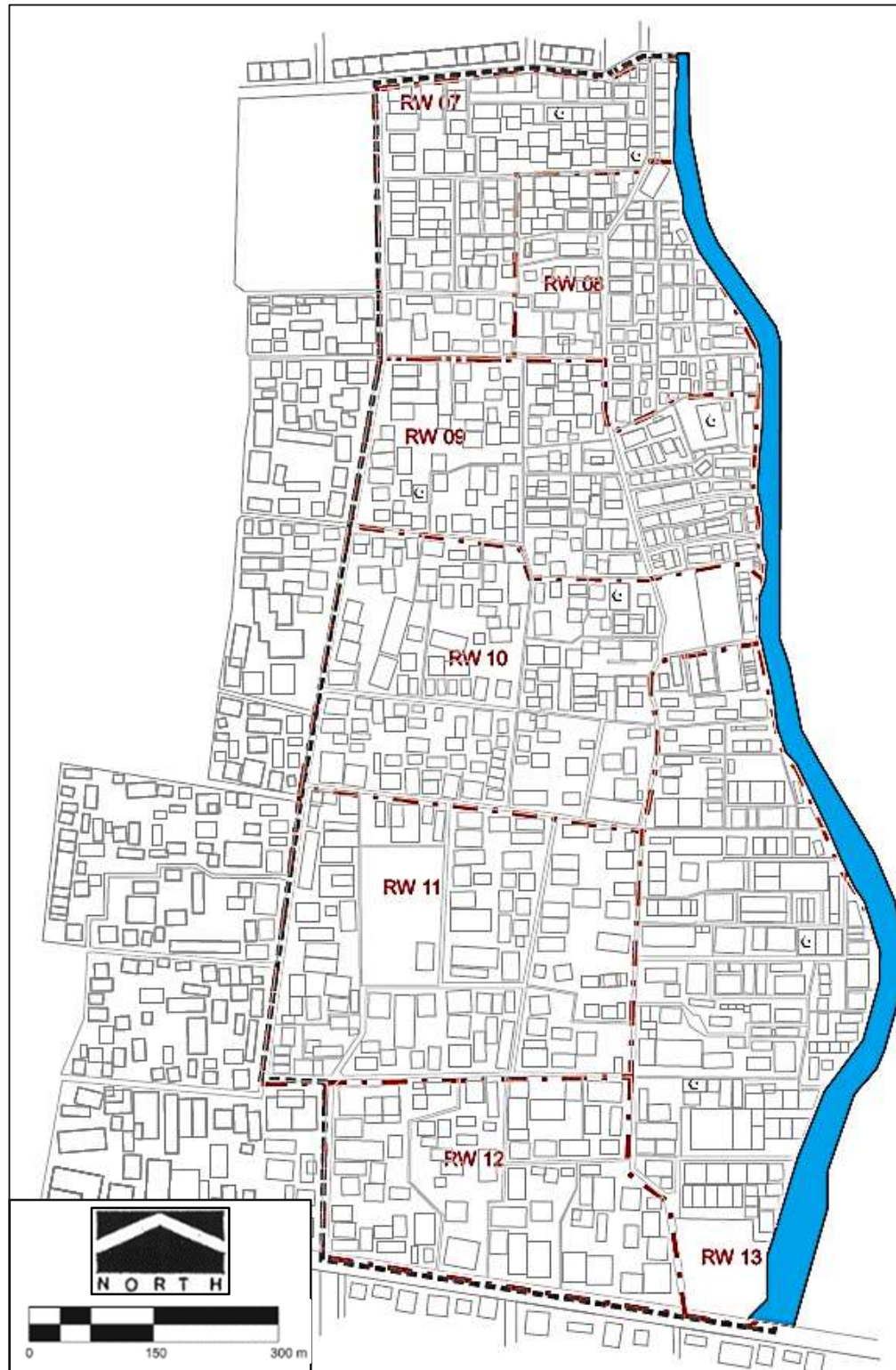


Figure 4.6 Administrative division of Kampung Keparakan

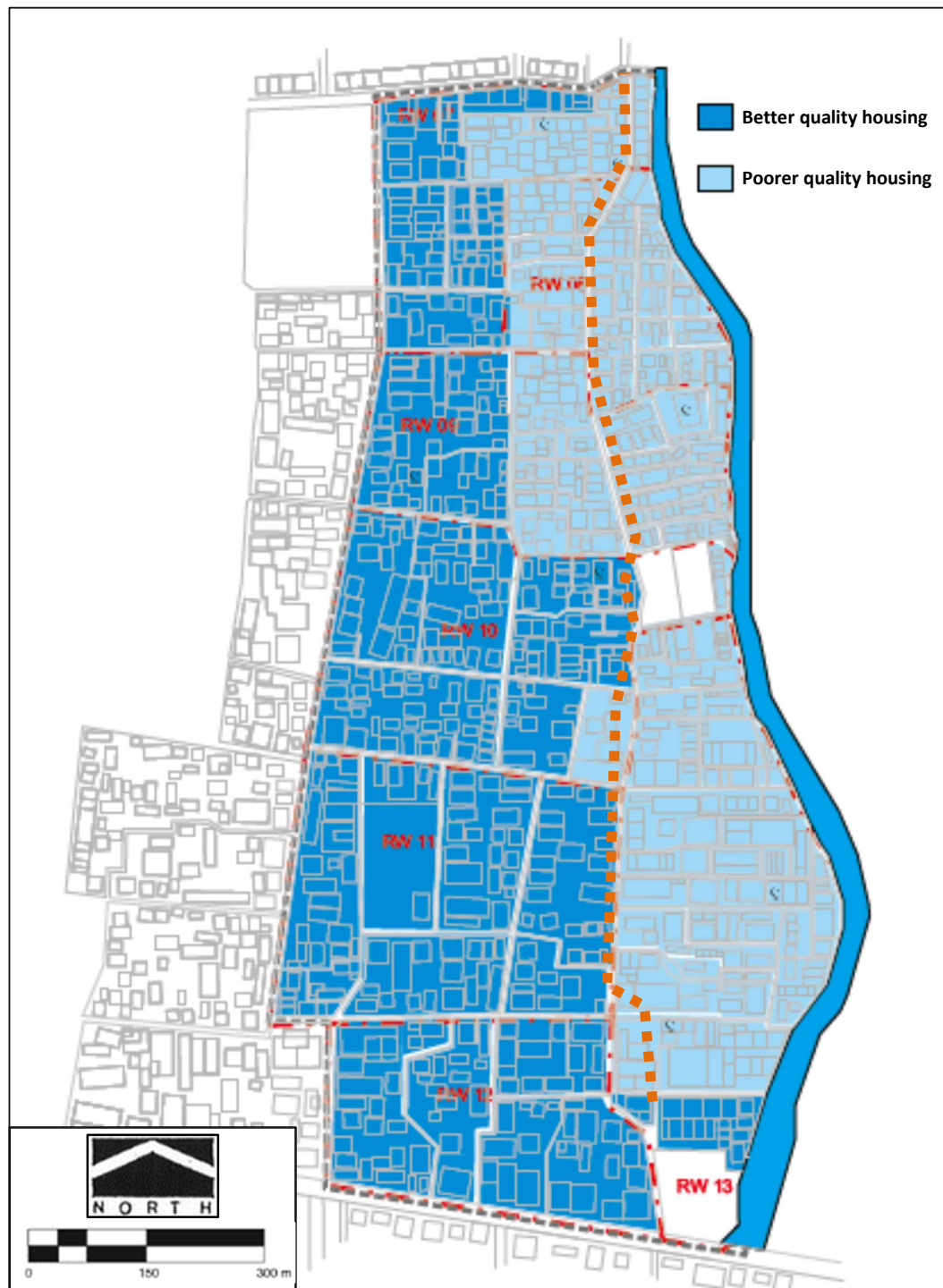


Figure 4.7 Socio-economic delineation of Kampung Keparakan

Source: Fieldwork, 2018

Socio-economic profile

Residents of Kampung Keparakkan come from various origins and backgrounds. There are still a few native residents who have lived in Kampung Keparakkan for many years, while the majority of residents are migrants who have never lived in other cities before coming to Yogyakarta for economic opportunities or marriage. Most of the migrants come to Keparakkan to reside permanently. Many of them have lived in Keparakkan for more than 30 years, and identify themselves as Keparakkan people. Due to its close proximity to several higher education institutions, there are a number of students who come from various regions in Indonesia and stay in several boarding houses owned by local residents. Nevertheless, as one informant noted, students coming from eastern Indonesia (especially from Papua) are less likely to be welcomed because they are often regarded as troublemakers.

Residents of Kampung Keparakkan engage in various occupations. Some residents, especially of the formal part of the *kampung*, may be civil servants or formal employees in private companies. In the informal part, residents usually work in the informal economy or are own-account workers running businesses at home. Other residents work for the business run by their neighbours.

A number of home-based industries exist in Kampung Keparakkan, and of particular note is the grouping of leather craft industries which have existed since the 1980s. These industries produce sandals, jackets, bags, and belts, and other leather goods, both for the local market, but also for local tourists and export to various countries, such as Japan, Germany, and Korea. Kampung Keparakkan has thus grown into an important handicraft centre in Yogyakarta, which provides employment for many residents of Kampung Keparakkan, and attracts domestic and foreign tourists to Kampung Keparakkan for shopping and to see the handicraft production. There are also a significant number of traditional food industries, particularly in Keparakkan Lor, that produce traditional food and cakes, such as *bakpia*, chicken nuggets, *tempe*, and tofu for sale from local street stalls and in the nearby city centre.

Tenure system

Various types of land tenure status exist in Kampung Keparakkan because of government interventions to formalise informal settlements. The majority of the residents, especially in the western part of the *kampung*, hold formal land titles. Access to the land is obtained through inheritance or purchase from former owners.

Other residents, especially in the less-affluent eastern part along the river, hold legal land titles because of a government formalisation scheme in the 1990s. However, many residents occupying land on the riverbank still live with ambiguous land tenure. According to the law, the riverbank is formally owned by the state, but the residents claim ownership of land and buildings with no legal tenure. Access to the land is obtained through appropriation of the vacant land, or purchasing the land on the informal land market. In addition, a few households in RW 13 reside on rented land formally owned by individuals.

Access to basic services

All households in Kampung Keparakkan are able to access basic services provided by the government and the community. Connection to electricity is provided by *Perusahaan Listrik Negara* (PLN – State Electricity Company) and has reached the entire settlement regardless of land tenure. Residents in the formal part of the *kampung* enjoy piped water provided by *Perusahaan Daerah Air Minum* (PDAM – Municipal Drinking Water Company). Many residents in the informal part have to rely on communal wells and communal bathrooms/toilets provided through earlier upgrading projects in Keparakkan.

4.5.2. Kampung Kricak

Kampung Kricak represents a more dynamic and newer *kampung* in Yogyakarta, located at the city border. It is an example of a *kampung* that began with informal land subdivision by individual landlords who leased the land to tenants. This practice creates a complex system of land tenure and social dynamics as a result of an influx of migrants.

Origin

Kampung Kricak was formerly reputed to be a centre of urban poverty and crime. It was first settled by squatters in the 1950s–1960s. Although there are several versions of the origin of the name, the most widely believed is related to its history in the 1960s, when the area along River Winongo became a place where people collected gravel (*kricak* literally means gravel, or small stones) for road and building construction. At that time, stone crushing became one of the main sources of livelihood in that area, and due to low qualifications and limited economic

opportunities many residents relied on meagre earnings as stonemasons while many young people were unemployed. Eventually, this situation led to a number of social problems and crimes in the area, including gambling, drunk people, and burglary. The situation was exacerbated as more migrants moved into the area.

Kampung Kricak was later named *Kricak Kidul*, meaning South Kricak, when a rural area in the north of Kampung Kricak was incorporated in the administrative boundary of the city of Yogyakarta and then named as *Kricak Lor*, meaning North Kricak. However, the name of Kricak Lor does not exist today, as that area was renamed using its former name, Jatimulyo. The decision to rename it might be related to the intention to avoid the negative images attached to Kampung Kricak.

The Kampung Kricak referred to in this study was called Kampung Kricak Kidul until the 1980s, when it was divided into two administrative areas. Prior to the division, Kampung Kricak Kidul consisted of two RT's, namely RT 90 and RT 91. After the division RT 91 was later named Kampung Sidomulyo while RT 90 remained as Kampung Kricak Kidul. The area of Kampung Sidomulyo used to be vacant land owned by four people living in that area. In the 1960s, the government removed homeless people from the street and housed them in barracks in an institution adjacent to the site. A decade later, these people were evicted from the institution as the government argued that they wanted to make use of the land on which the barracks stood, so these people had to move elsewhere. The government paid 10,000 rupiah (approximately 0.54 British pounds in today's conversion) to each affected family as compensation, but this was too small even by the standards of that time to enable them to access alternative accommodation.

These evictees later accepted an offer to rent land from two landowners who owned land adjacent to the institution, while a few of them decided to occupy the state's land on the riverbank across the river. Those who rented the land paid a very small rent, ranging from 1,500 to 3,000 rupiah annually (approximately 0.08–0.16 British pounds in today's conversion) at the beginning of their tenancy, depending on the plot size. This practice is known as *ngindung*.

Over time, the settlement grew, accommodating many homeless migrants and the descendants of the ex-barrack residents. One informant told a story of his parents starting their relationship in the barracks, who took him to Kampung Sidomulyo to live there when the government took over the land. Despite his parents having passed

away, the informant continues living in Kampung Sidomulyo as he married a daughter of the landlord and raises his family in Kampung Sidomulyo until now. Moreover, a few of the residents who used to rent land were eventually able to buy the land from the landowners after their economic conditions improved, and decided to reside permanently in Kampung Sidomulyo, while others continue living on the rented land.

Geographical and administrative location

Kampung Kricak is a small pocket urban *kampung* located on the riverbank of Winongo at the city periphery, about 4–5 km to the north of the city centre (Figure 4.5). It is located in Kecamatan Tegalrejo, and covers the area of Kampung Kricak Kidul in Kelurahan Kricak and Kampung Sidomulyo in Kelurahan Bener. Kampung Kricak consists of nine RTs, of which four RTs are part of Kampung Sidomulyo (i.e. RT 13, RT 14, RT 15, and RT 26), and five RTs are situated in Kampung Kricak Kidul (i.e. RT 34, RT 35, RT 36, RT 39, and RT 41) (Figure 4.8), after a series of neighbourhood subdivisions taking place in both *kampung*. The topography of Kampung Kricak is relatively flat, with a slight undulation near the river.

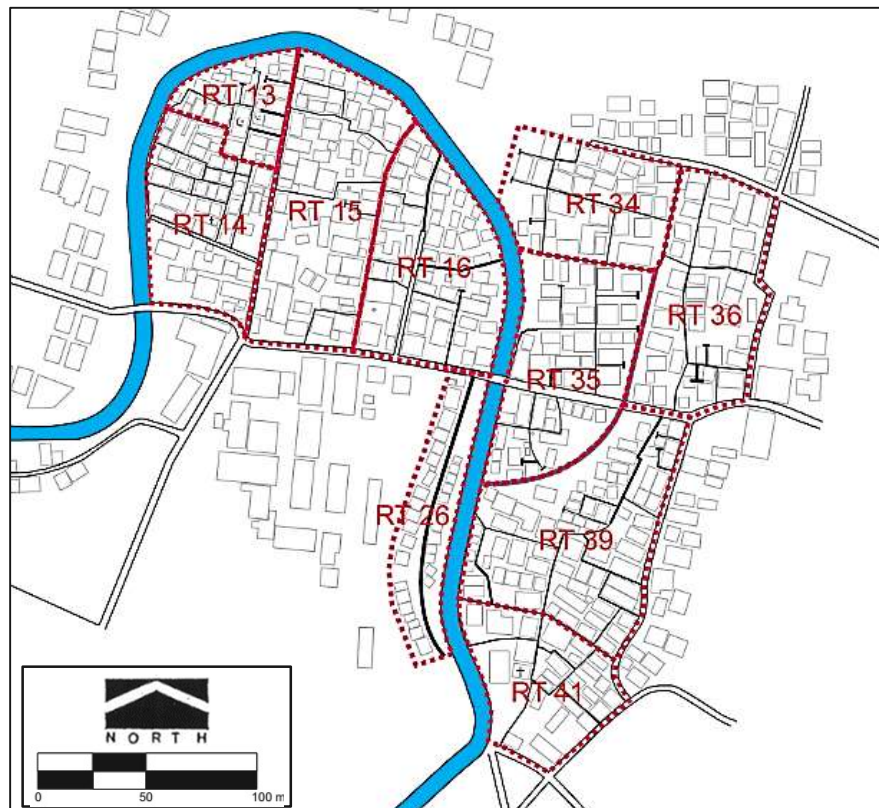


Figure 4.8 Administrative division of Kampung Kricak

Socio-economic profile

Kampung Kricak has a mixed socio-economic profile. Most residents are migrants, many from rural areas around Yogyakarta, such as Gunung Kidul, Bantul, and Klaten, who migrated to Yogyakarta to seek economic opportunities. Some residents moved to Kampung Kricak after moving from elsewhere in Yogyakarta. People also move locally, usually to find a place with a more security of tenure and lower cost of living while maintaining a residential location. One of the informants, who has just recently moved to Kampung Kricak explained why he moved from Kricak Kidul to Sidomulyo:

I have lived just here since 2012, but actually, I have been living in Kricak since 1993. [...] I have moved three times. At the first time I was in Kricak, I rented a house. My tenancy was not extended when it was over, so I had to move out.[...] The reason I moved from Kricak to here [Sidomulyo] is because here, I own the house, although the land belongs to the river [which is owned by the state]. Hence, instead of renting a house, I moved to here. Before, I just kept paying the rent. But here, the status of the land now is Sultan Ground, and the building is my property [privately owned], because we are the ones who built the house (Source: Interview resident, 2018).

As this interview suggests, for residents, it seems that appropriating the state's land then constructing or purchasing a house, even without authorisation, can provide them with a better security of tenure in comparison to renting a house on land formally owned by individuals, which implies that the state is not considered as a big threat to their security. On the state's land, one could claim the status of the owner of the house that he has constructed or purchased; he can even sell the property in the informal market. However, while on rented land, because the agreement is very fluid and usually unwritten, the landlord could ask residents to vacate the plot and house at any time.

Furthermore, as most of the residents work in the informal economy, often as waste pickers, street musicians, pedicab (*becak*) drivers, labourers, and informal traders, they have an irregular daily income, and so many families rely on more than one source of livelihood from different family members. There are also some good luck stories in Kricak, and an informant proudly noted that some of his fellow descendants of ex-barrack residents have managed to work abroad and attain relatively high positions in multinational companies.

Tenure system

The existing tenure system remains an important yet ambiguous issue for residents in Kampung Kricak that results from an intersection of housing and land tenure. The

combination of ‘owning’, ‘renting’, and ‘using’ two property objects – the land and the building – makes the tenure system even more confusing. For instance, there are a few residents who hold formal land titles and the formal right of ownership of the buildings that they have constructed or purchased. Some residents claim the right of ownership of a building on a plot rented from private owners because they have constructed or purchased it, although in many cases, they pay rent to ‘owners’ who in fact hold no formal land title. Some residents may pay rent for both the land and houses that they occupy as well. Other residents appropriate land on the riverbank that is formally owned by the state, but they own the building that they constructed.

The government has recently launched an initiative labelled as *Pendaftaran Tanah Sistematis Lengkap* (PTSL – Systematic and Comprehensive Land Registration) to regulate the tenure of residents squatting on land owned by the state on the riverbank. PTSL aims to provide security of tenure by giving authorisation for squatters who settle on the riverbank. By registering their plot on the riverbank, their land will be turned into Sultan Ground, and they will be granted the right to use the land. Under this scheme, they cannot claim the ownership of the land but they can claim the ownership of the building they have built or purchased. To be eligible for PTSL, they have to register their plots, and later pay a very small fee to the Sultanate (approximately 150–200 thousand rupiah (equal to 8.1 to 10.8 British pounds) for a 50 m² plot) for 10 years. Communities also have to provide a three metre access path along the riverbank. While the fieldwork was taking place, this scheme was being implemented in RT 26.

Access to basic services

Access to basic services is provided by the authorised bodies as well as communities. Electricity is provided by *Perusahaan Listrik Negara* (PLN – State Electricity Company). Regardless of the tenure status, the entire Kampung Kricak has been connected to electricity, because having formal evidence of land tenure is not a requirement to get an electricity connection. Some households have access to piped water provided by *Perusahaan Daerah Air Minum* (PDAM – Municipal Drinking Water Company). Some others get water from communal taps provided by the government. These facilities are managed by the community and the bill is shared among the users. There are also several communal wells, water reservoirs, and communal bathrooms/toilets as products of several upgrading projects carried out in Kricak.

4.6. Morphological analysis of the study areas

This part seeks to address one of the research gaps outlined in this study related to the spatial structure of informal settlements. Analysis of the spatial structure in general puts emphasis on the physical form of the built environment, which seeks to understand the spatial configuration and pattern of the components that shape the built environment (Carmona *et al.*, 2003). In doing so, this study examines the spatial structure of the study areas through the morphology of streets.

In the *Encyclopaedia of Urban Studies*, urban morphology is defined as “the study of the form, physical structure, plan and layout, elements of townscapes, and functional areas of towns and cities” (Hutchison, 2010, p. 894). Street morphology refers to the form of the street that can be represented by various elements. When analysing street morphology, some works have focused on network patterns and connection to other streets (Hochschild Jr., 2013; Louf & Barthelemy, 2014; Porta *et al.*, 2014; Sarkar *et al.*, 2018). This type of analysis has often become the concern of those who are interested in Space Syntax and configurational analysis (Hillier, 1984; Marshall, 2005). Others have directed their attention to the quality of the streetscape and design of the street space, including street width (Mohareb, 2009; Shen *et al.*, 2017), street furniture and decorative elements (Mehta, 2009), building facades (Gehl, *et al.*, 2006; Mehta, 2009; Whyte, 1980), street proportion (Cullen, 1961; Gehl, 2010; Mohareb, 2009), street surfaces (Biddulph, 2012), and the distinction between the public and private realm (Dovey & Woods, 2015; Kamalipour, 2017; Mehta & Bosson, 2010).

In this study, the morphology of streets in both Kampung Keparakan and Kampung Kricak is analysed at two levels: the settlement level and the street level. At the settlement level it examines the street network, while at the street level it concentrates more on design of the street space and its common components: street width, street surfacing, relationship of the street to buildings, land uses, street furniture, street decoration, features of building frontage, and the distinction between the public and private realm.

4.6.1. Settlement-level analysis

Morphological analysis at the settlement level provides important information to understand how *kampung* are physically structured and how they are connected to their surroundings. This part analyses the street network by focusing on street hierarchy and patterns of street network.

1) Street hierarchy

Street hierarchy is a particular form of classification of streets in which each type has a ranked position (Marshall, 2005). Understanding street hierarchy has often become a starting point in understanding the underlying logic and spatial configuration of a settlement. Although streets in informal settlements are often considered messy and disorganised, they have a certain spatial order and structure reflected in the hierarchy. In this analysis, the hierarchy of *kampung* streets is mainly based on the form, structural relations, and types of traffic of each street. Form refers to the physical characteristics of streets, which in this study is the street width. Relations refer to the relative position of the street with respect to other urban or network elements (Marshall, 2005), and types of traffic are indicated by the traffic volume and types of vehicles that can pass through the street.

Based on these observations, streets in *kampung* can be classified into five categories: *kampung* main streets, primary neighbourhood streets, secondary neighbourhood streets, alleys, and cul-de-sacs. *Kampung* main streets function as the main access to and from the *kampung* because they connect the *kampung* to the wider transport network of the city. Primary neighbourhood streets are usually the widest street in the neighbourhood (apart from *kampung* main streets). Secondary neighbourhood streets connect neighbourhood units (the RTs) in the *kampung*. The smallest element of the network can be classified as alleys, some of which have a dead end (cul-de-sacs).

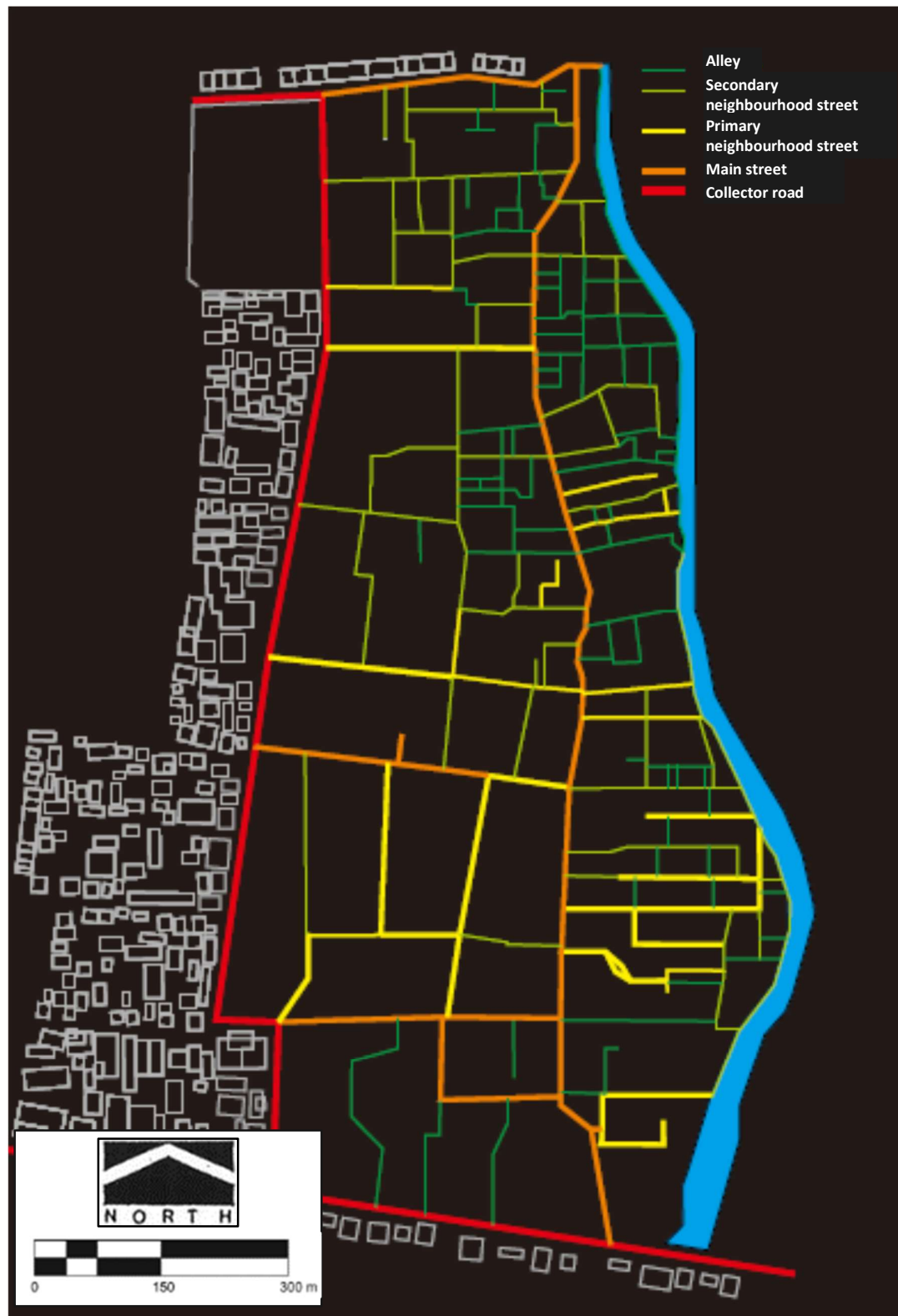


Figure 4.9 Street hierarchy of Kampung Keparakan
Source: Fieldwork, 2018



Figure 4.10 Street hierarchy of Kampung Kricak

Source: Fieldwork, 2018

Kampung main streets are usually 3.5–4.5 metres width. In a *kampung*, there could be more than one main street that together form the main spatial structure of the settlements. For instance, in Kampung Keparakan, its primary main street runs from north to south, dividing the *kampung* into east and west sections, while other main streets branch from it, connecting the *kampung* to the collector roads in the west and south of the *kampung* (Figure 4.9). In Kampung Kricak, the *kampung* main street stretches in an east-west direction, connecting the *kampung* to an arterial road in the east (Figure 4.10). They are wide enough to accommodate passing cars and other motor vehicles, and therefore carry the busiest traffic in the *kampung*. They are more

public than other streets in the *kampung* and often used by outsiders to pass through the settlement.

Neighbourhood streets branch off from *kampung* main streets, and play an important role in the circulation of *kampung* residents. They act as collectors for traffic moving from alleys to *kampung* main streets. Neighbourhood streets can be classified as two types: primary neighbourhood streets usually 2.5–3.5 metres width, and secondary neighbourhood streets about 1.5–2.5 metres in width. Primary neighbourhood streets can carry a small volume of vehicular traffic, motorcycles or smaller cars. Secondary neighbourhood streets are mainly pedestrian-oriented due to their narrow width, but motorcycles can access if they slow down. Due to their capacity and reach, neighbourhood streets play a vital role for the safety and well-being of *kampung* residents, because they provide access to the neighbourhood for the fire brigade, ambulances, and hearses in the case of accidents or disasters.

Alleys and cul-de-sacs are the lowest rank in the hierarchy, and play a vital role in the circulation network. Although they are typically less than 1.5 metres wide, they penetrate the entire settlement, providing access to houses. In Kampung Keparakan, alleys are more common in the informal part of the *kampung*. They are largely pedestrian oriented, but motorcycles are permitted although they are not supposed to be driven. In Kampung Kricak, alleys are spread evenly within the entire *kampung*; residents and even outsiders are allowed to drive motorcycles in a considerate way. Due to their dimension and traffic condition, alleys and cul-de-sacs provide the most intimate experience of space for the users.

To sum up, the analysis of the street network demonstrates that there is a spatial order in the organic form of informal settlements, represented in the hierarchy of *kampung* streets. This hierarchy represents a transition in terms of the form of the street and traffic volume from the edge to the centre of the *kampung*. The street becomes narrower and traffic volume smaller closer to the centre of the *kampung*. This transition regulates the access from/to the settlement and movement of residents within the *kampung*. This street hierarchy is used as a basis for analysis to understand how the street space is arranged, used, perceived, and managed.

2) Street Pattern

Analysis of the street pattern examines the geometric characteristics of informal settlements to help understand their complexity of shape and structure. It also helps

to understand the transformation of informal settlements and how that process is reflected in different settlement morphologies. This part discusses the two different street patterns in the two study areas, and how they are related to the process of settlement formation.

Kampung Keparakan has been developed into a large and dense settlement over a long period with a complex and interconnected street network, enabling residents to move around the *kampung*. The street pattern forms a loose irregular-grid system (Figure 4.11). In the informal part of the *kampung* along the riverbank, streets and alleys are denser; street segments are shorter and mostly straight, meeting at right angles, with shorter blocks in comparison to the formal part of the *kampung*. Despite being narrow and labyrinthine, the pattern of streets and alleys in Kampung Keparakan, especially in the informal part, features high street connectivity and permeability that allows for direct movement between places. According to Jacobs (1961), this should encourage walking in the informal part of the *kampung*.

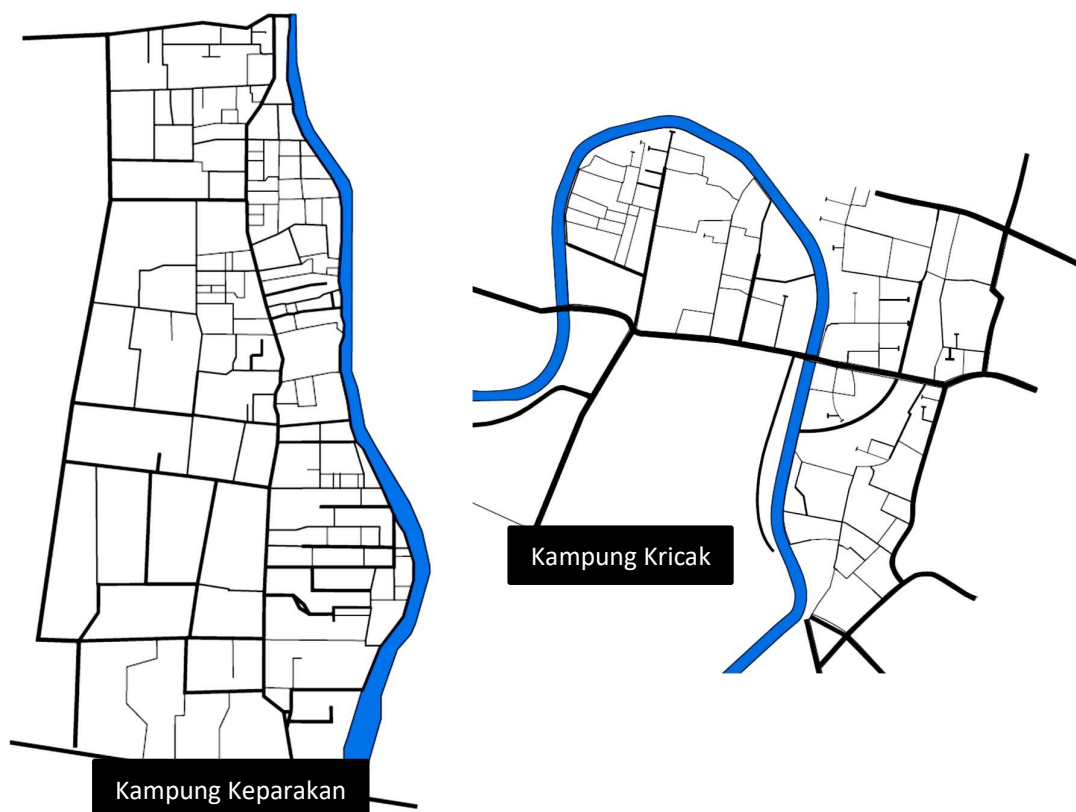


Figure 4.11 Comparison of street pattern of Kampung Keparakan and Kampung Kricak

Source: Fieldwork, 2018

Kampung Kricak is structured around a simple street network based on a tree-like structure (Figure 4.11). Houses are scattered with space between the street and the building. However, the streets and alleys are not well-connected and not well-defined. Some of the alleys, especially near the river, have a dead end (cul-de-sac), which implies lower street connectivity. Very often residents have to pass through each other's yard to move around the *kampung*.

The difference in the street pattern between the *kampung* seems to be related to the formation process of the street network. The gridded street pattern in Kampung Keparakkan, especially in the informal part, results from self-organised development by residents. As the riverbank land had been vacant, the first settlers had freedom to organise their settlement, and demarcated their own plots, without worrying much about circulation space. However, as the settlement got denser, residents became more concerned about accessibility, and wanted direct access to the street. Because of this, pathways were then laid out in accordance with the need of every resident, as related by one interviewee:

The street is [built] in accordance with the need of the homeowner. Someone builds his house here, and another person builds [a house] next to him, then the space in front of their houses becomes a street. Then another person builds his house there [nearby], creates a street, and then connects the street [to the previous one]. Perhaps, there could be another street at the back of the house, or next to it, about half metre (Source: Interview RW leader, 2018).

To procure the required land for circulation in a dense settlement, the residents voluntarily set back properties to form the circulation space, known as '*jalan rukunan*'.

The street here is only '*rukunan*', meaning that landowners spare [share a part of] their plot; the one on the right spares a small piece, the one on the left spares a small piece too. For instance, if there is a general agreement that one will spare 50 cm, then another will spare 50 cm. Then *kampung* people will declare it, although unwritten, as a *kampung* street, which later will be paved (Source: Interview RW leader, 2018).

In contrast, the tree-like pattern of Kampung Kricak, with several dead-end streets and alleys is related to the incremental transformation of the settlement driven by the landlord. Since most of the residents are tenants, the landlord has the control to decide where tenants should build houses and the size of plots allocated. One of the tenants imparted the following:

But, at the first time, it is the old man [landlord] that allocated the land, [He asked] “Which location do you like?” [then he decided] “alright, your plot is up to here”. Yes, they must obey the old man because they are only ‘*ngindung*’ [renting the land]. So, the land allocation is not in our hand. We only obey what the old man said. The landlord said so, then [we can only reply] “Alright, no problem, I will build here” [where the landlord designated] (Source: Interview RT leader, 2018).

Nevertheless, the landlord did not prepare a plan for development of the settlement. Streets and alleys emerged incrementally. Consequently, there is no clear pattern of movement network within the settlement in which some of the streets and alleys are not well-connected. One of the tenants explained this process:

So [about] the street, it just goes with the flow. While the house is being constructed, the street is roughly outlined. There is no plan in advance. So, the old man underestimated the problem. [He said] “that is easy, just build here and there”. Once the development has completed, [he is baffled] “Why does the street look like this?” Once the land has been built, he just realised [the access problem], because the street was not carefully considered from the beginning (Source: Interview RT leader, 2018).

Although the formation process of streets in both *kampung* is incremental, the analysis of street patterns presented here shows how two different processes, self-organised or controlled, resulted in two different patterns of street network. The community-driven process seems to be able to produce a more effective spatial configuration in the form of a highly connected and permeable street network in comparison to that produced in a controlled process by the landlord.

This analysis, to some extent, supports and extends the findings of a study from Porta *et al.* (2014), which argues that informal settlements often produce an effective spatial pattern based on a self-organising logic. From an analysis of the morphology of human settlements across time, Porta *et al.* (2014) argued that, the application of modern urban design principles has altered the scale of the urban space from human-to automobile-oriented which leads to an unsustainable urban form. They also discovered that in the absence of more formal planning and urban design, contemporary informal settlements demonstrate a pattern similar to that of historic and traditional cities, featuring a high level of walkability of well-connected street networks, with a scale of urban space that reflects the limitation of pedestrian movements. Nevertheless, the analysis carried out in this study shows that this argument seems to apply particularly to informal settlements that grow spontaneously, where residents have freedom to take part actively in the process of development; while it is not evident in the case of informal settlements where

residents' freedom to shape their environment is limited and development initiatives are dominated by the landlord.

This finding does not advocate a no-planning approach. Like historic cities which often result from both spontaneous and planned efforts, contemporary informal settlements are often influenced by informal or covert planning interventions (Beard, 2002). Also, residents' freedom to change their environment over time may lead to encroachments onto the street (as shown by Sheuya, 2009). The increasing demand for habitable spaces in *kampung*, due to population growth and in-migration, has pressurised residents to reclaim and control the adjacent street space by extending their dwellings and appropriating the street, particularly for commercial and domestic and private uses (as discussed in Section 5.2.3. and Section 5.2.4). Moreover, formalisation of settlements through individual land titling, reinforcing the right of landholders over their land including that is allocated for circulation space, has further pushed and provided community members with a legitimate ground to encroach the street. However, informal rules and mechanisms enforced by community members exist in *kampung*, as in many other informal settlements (Kamalipour & Dovey, 2020), to govern the appropriation of street space by private actors and resolve disputes resulting from this practice (see Section 6.4.1).

Therefore, as advocated by Jane Jacobs (1961), the research finding reinforces the importance of appreciating the role of residents in dealing with the complexity of human settlements, to allow them to define what will work best for their environment and how they will shape their environment in a more sustainable way, and to create mechanisms to negotiate overlapping interests among community members over street space.

4.6.2. Street-level analysis

Analysis at the street level focuses on the three-dimensional design of street space to understand how the street works at the micro-level of informal settlements as a container for activities. It analyses the change and transition in the physical characteristics of the street, from the *kampung* main street to the alley.

Main streets in Kampung Keparak and Kampung Kricak

The design of *kampung* main streets (3.5–4.5 metres width) is closely related to their function as the main connector between the *kampung* and the wider city transportation network. Thus, *kampung* main streets are usually the main focus of attention by the city authority in efforts to improve access to the *kampung*, and therefore generally in good condition, especially with regard to the surface quality. In both study areas, *kampung* main streets are surfaced with asphalt, allowing them to accommodate cars and motor vehicles.

For example, city authorities have provided services and street furniture in the *kampung* main streets, including street lighting poles, electricity poles, and telephone poles. In addition, the local government has installed several pergolas along the main streets to improve their visual quality in both study areas (Figure 4.12).



Figure 4.12 Pergolas in Keparak main street and Kricak main street

Source: Fieldwork, 2018

Decorative elements in the main streets are also provided by *kampung* communities to improve the image of their neighbourhoods, including the placement of a number of flower boxes and small gardens along the main street (Figure 4.13). In Kampung Kricak, residents have painted street art on several blank walls along the main street, often expressing moral messages urging people to maintain harmony and promote tolerance among neighbours despite cultural and religious differences, and to prevent uncivilised behaviour and crime (Figure 4.13).



Figure 4.13 Flower boxes in Keparakan main street, and street art in Kricak main street
Source: Fieldwork, 2018

Variations in street design have created different senses of public territory along the main streets. In Kampung Keparakan, despite being publicly accessible, based on its physical characteristics the primary main street can be divided into three segments: the north, middle, and south segments (Figure 4.14). The design of the south segment creates a more public territory because it is wider and mostly separated from private plots and buildings (mostly one-storey) by fences and a front yard. In contrast, the north segment is narrower, but enclosed with a number of two-storey buildings that are situated adjacent to the street edge without any setback, forming continuous street frontages that create a greater sense of enclosure and intimacy. Some landowners have even extended their houses and economic spaces to encroach on the street. The middle segment demonstrates a transition zone where the street is surrounded by mostly one-storey buildings that sit close to the street edge, but separated by fences or small yards.



Figure 4.14 Variation in the morphology of the main street of Kampung Keparakan
Source: Fieldwork, 2018

In Kampung Kricak, the primary main street can be divided into two segments: the west and east segments (Figure 4.15). In both segments there is a clearer demarcation between the main street and private plots and buildings which has created a strong sense of public territory. In the west segment, the main street is separated from private plots and buildings, which are a mix of one-storey and two-storey buildings, by fences and setbacks, forming a building-to-street proportion that creates a weaker

sense of enclosure in comparison to the east segment. In the east segment, many private buildings are situated closer to the street edge although the encroachment onto the street by private buildings is rare. These buildings form a relatively continuous street facade on the southern side of the segment, which is helpful in creating a sense of enclosure. At both ends of the main street, informal economic activities have spilled out onto the street, with street vendors using tents and pushcarts, and pedicab drivers waiting for passengers. Tables, chairs, and pushcarts for business activities occupy space at the sides of the street.



Figure 4.15 Variation in the morphology of the main street of Kampung Kricak
Source: Fieldwork, 2018

The variation in the design of the main street seems to have affected how *kampung* residents use the street. For instance, activity mapping conducted in both study areas shows that street segments with a stronger sense of enclosure and less sense of public territory attract more residents to do outdoor activities. This is evident in the case of

Kampung Keparakan, where outdoor activities are more concentrated in the north and middle segments in comparison to the south segment (Figure 4.16). Similarly, in Kampung Kricak, there are more activities taking place in the east segment in comparison to the west segment (Figure 4.17).

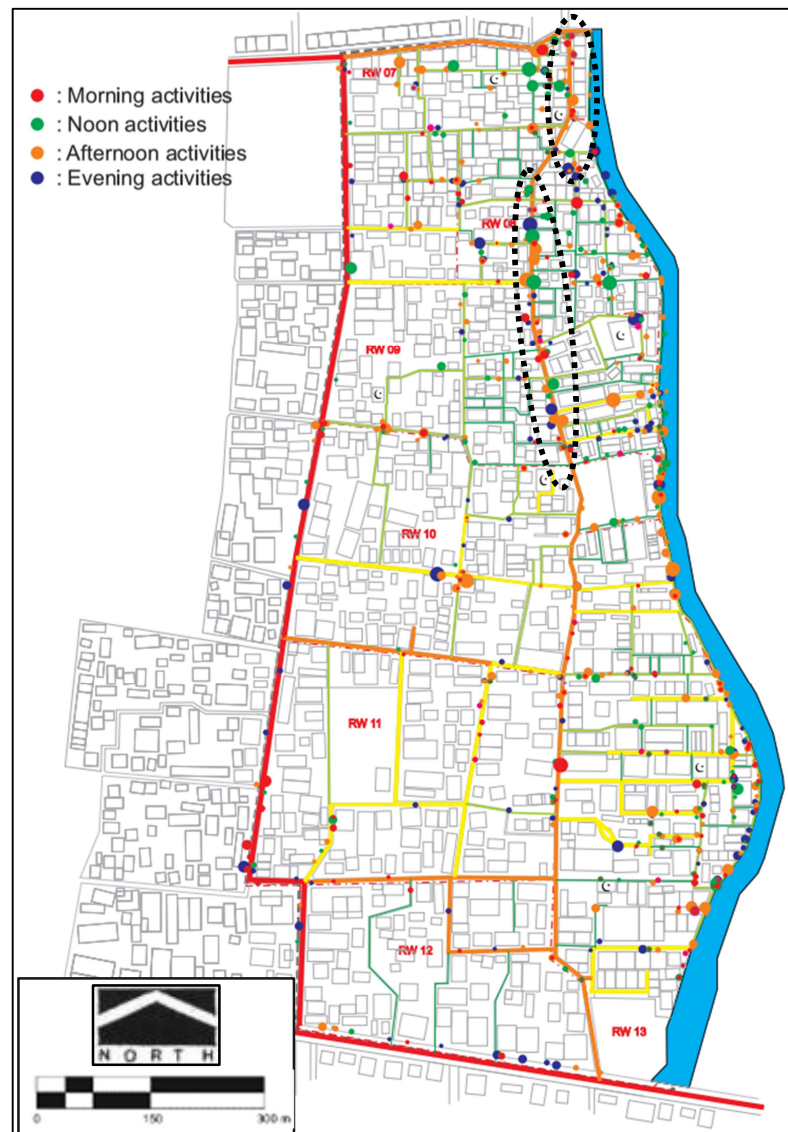


Figure 4.16 Concentration of activities in the north and middle segments of the main street of Kampung Keparakan

Source: Fieldwork, 2018

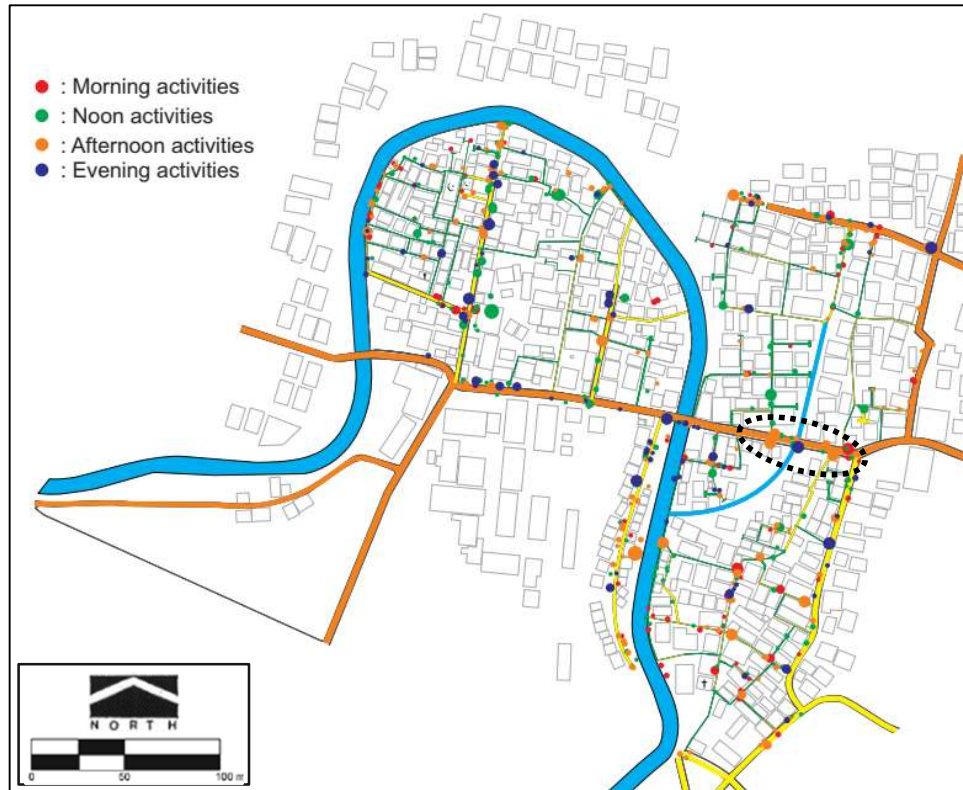


Figure 4.17 Concentration of activities in the east segment of the main street of Kampung Kricak
Source: Fieldwork, 2018

Neighbourhood streets in Kampung Keparakan and Kampung Kricak

The design of the neighbourhood streets (Figure 4.19) in the two *kampung* has contributed to the creation of a sense of communal territory. Neighbourhood streets are mainly pedestrian oriented, and usually surfaced by paving blocks, because of government intervention, that help to improve the aesthetic of the neighbourhood and slow down motor vehicles. Their width varies from 1.5 to 3.5 metres. Due to government interventions, some neighbourhood streets have been equipped with drainage. An archway showing the identity of the neighbourhood often marks the entrance to neighbourhood streets from the main street (Figure 4.18). Despite being a landmark and symbol for a neighbourhood, the existence of archways can bring problems, for example limiting access for the fire brigade, ambulances, and hearses if they are too narrow. During an interview, one of the key informants expressed his concern related to this problem:

Nowadays, *kampung* residents are proud of their neighbourhoods. [Thus, they say] there should be a symbol for the neighbourhood. That symbol

is manifested in the form of archways. However, people often do not think that they should take emergency situation into consideration while constructing an archway, for instance, in the case of fire. If there is a fire, because of the archway whose width is limited, let alone the one that has a roof, the fire brigade cannot enter. [...] The archway should function just as a landmark, and we should not compromise other interests which are more crucial (Source: Interview RW leader, 2018).



Figure 4.18 Archways in neighbourhood streets
Source: Fieldwork, 2018

The boundary between the private and public domain in neighbourhood streets is rather vague. In Kampung Kricak, houses often protrude onto the street. Residents place seating (e.g. benches) on the streets where they receive guests. Residents also often park their motorcycles, place flower boxes, hang bird cages, and dry laundry on neighbourhood streets (Figure 4.19). For wealthier families, these activities take place on their verandas that function as a transitional space between the public and private domain. In Kampung Keparakan, a similar phenomenon can be observed in the neighbourhood streets, particularly those situated in the informal part of the *kampung*. Neighbourhood streets often become a place where residents gather and socialise, and hence, a few places in neighbourhood streets have become focal points where residents gather and socialise (Figure 4.20, Figure 4.21).



Figure 4.19 Typical neighbourhood streets
Source: Fieldwork, 2018

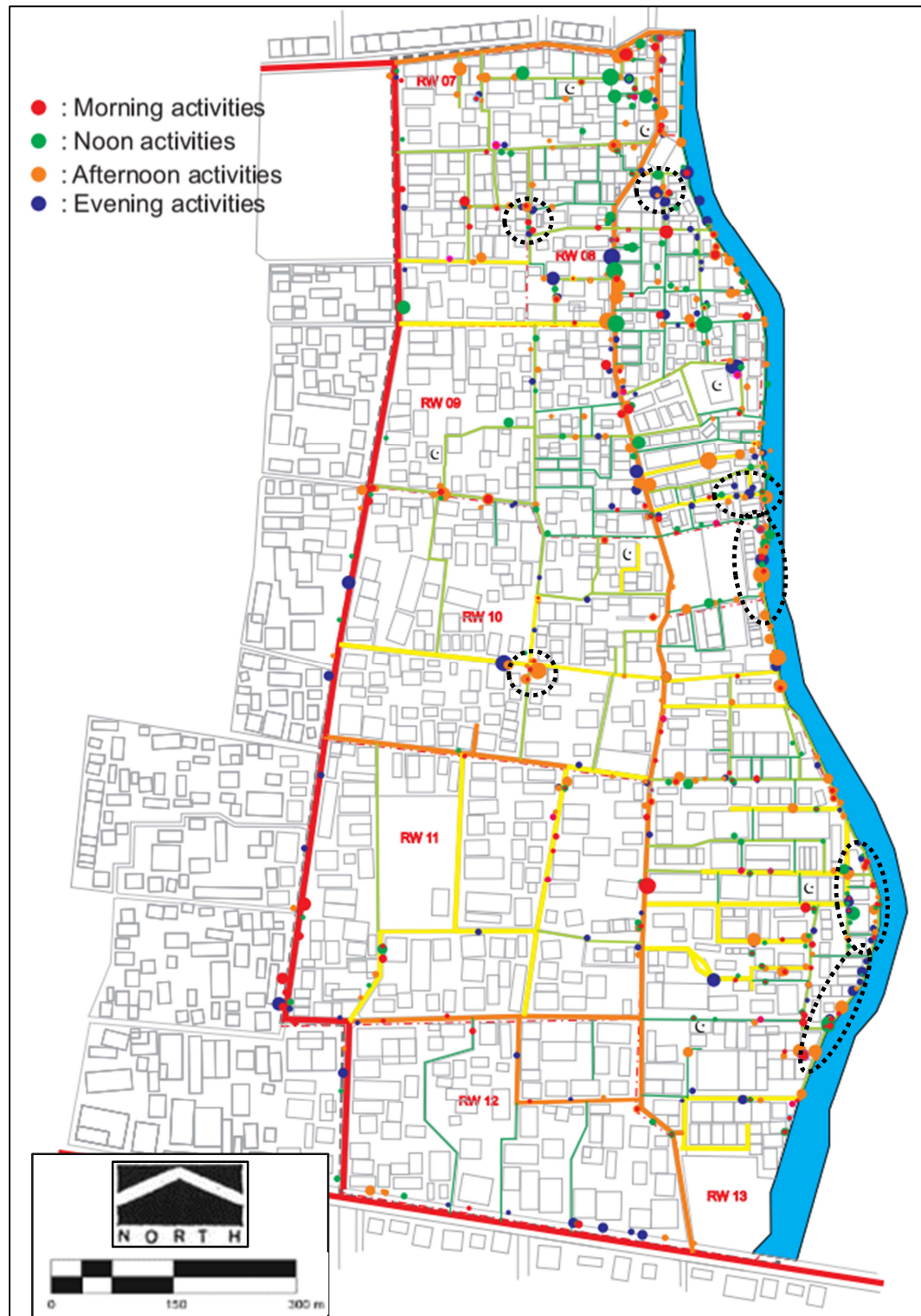


Figure 4.20 Activity concentration in neighbourhood streets in Kampung Keparakan
 Source: Fieldwork, 2018

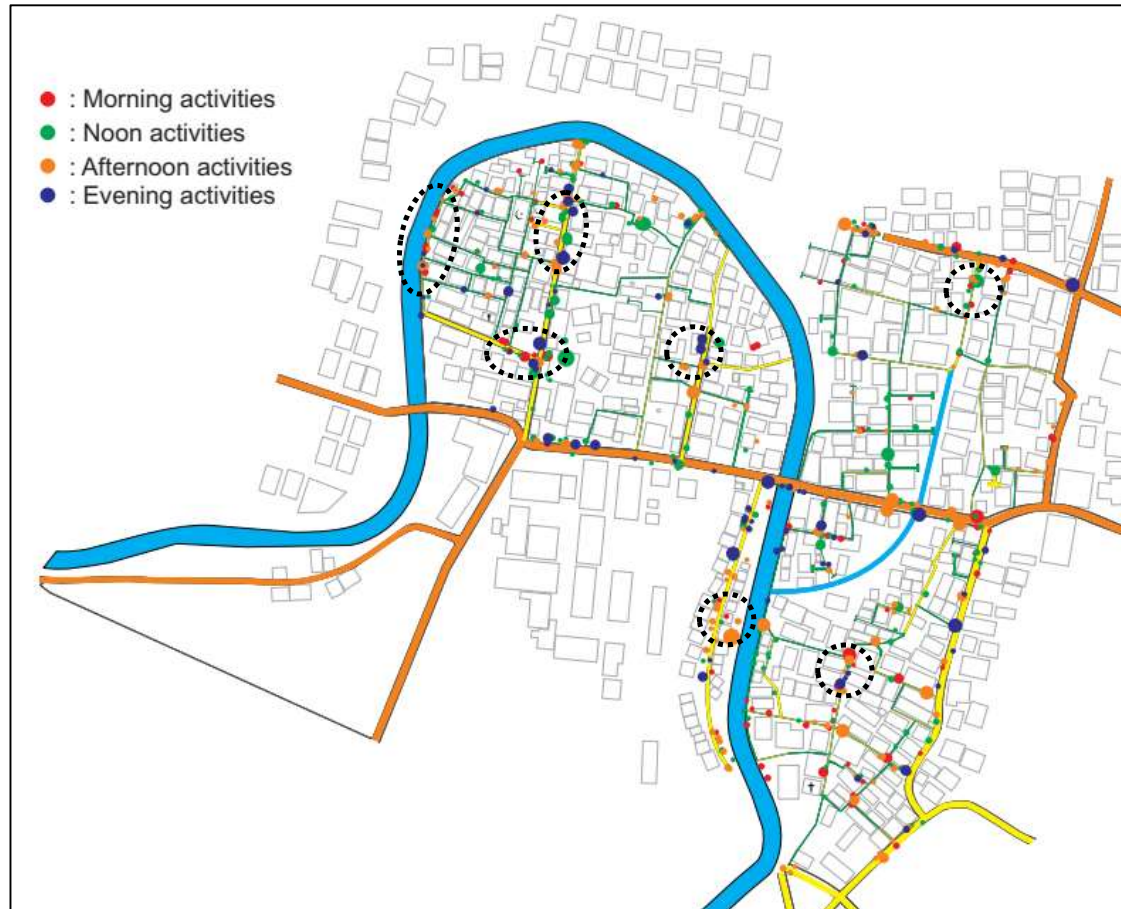


Figure 4.21 Activity concentration in neighbourhood streets in Kampung Kricak

Source: Fieldwork, 2018

Alleys in Kampung Keparakan and Kampung Kricak

The alleys lie deeper into the settlement, and are typically less than 1.5 metres width. Alleys can lead from a main street or a neighbourhood street. Sometimes, an entrance to an alley from the main street is indicated by steps leading to the riverbank due to the difference in the surface level (Figure 4.22). These steps connect alleys to the main street, but keep alleys exclusive by creating an obstruction for direct visual access from the main street.



Figure 4.22 Steps leading to an alley in Kampung Kricak
Source: Fieldwork, 2018

The design of *kampung* alleys often accentuates their image as the most mysterious and impenetrable place in *kampung* for outsiders (Figure 4.23). The high building-to-street proportion might be daunting and intimidating for outsiders. Since alleys are very narrow, the roofs of adjoining houses often meet overhead, forming a shady place that often lacks natural light. The interface between the alley and private space is often a passive frontage of blank walls of houses, because the alleys are often just a linear space between buildings.

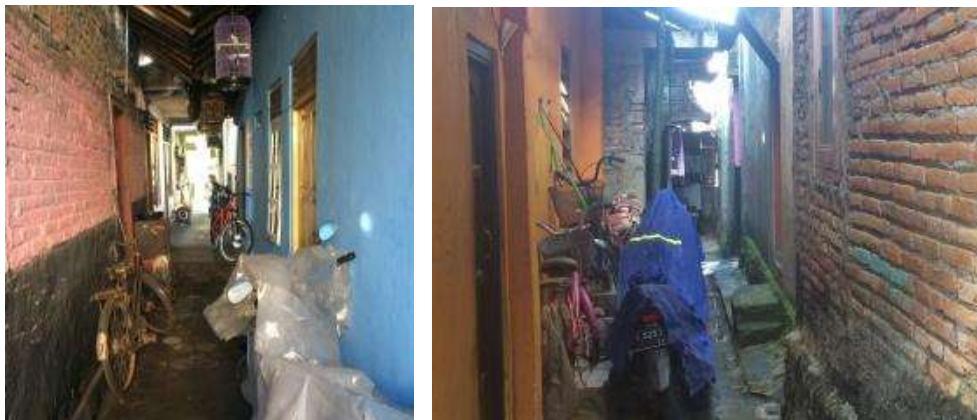


Figure 4.23 Typical *kampung* alleys
Source: Fieldwork, 2018

However, for *kampung* residents, alleys have become an extension of private space for adjacent houses, and have become a semi-private territory. In alleys, usually there is no clear separation between the street and private plots. Houses are directly adjacent the alley. House doors and windows are often open or transparent, and one can easily see into the interior space of the house from outside. Alley space is often

appropriated for daily domestic and personal activities, such as food preparation, doing laundry, and storing furniture and personal belongings (Figure 4.24).



Figure 4.24 Typical activities in *kampung* alleys
Source: Fieldwork, 2018

4.7. Concluding remarks

This chapter examines the context of this research – urban *kampung* in Yogyakarta, Indonesia. It first discusses the evolving notions of *kampung* as a representation of informal settlements in Indonesia. Afterwards, it provides an overview of the city of Yogyakarta, including its history and morphology, followed by a discussion of politics and governance, including the socio-political structure of the city. The chapter then explores the *kampung* typology and their dynamic relationship with their neighbourhood governance, and government interventions in *kampung*, and provides more specific descriptions of *kampung* in the context of Yogyakarta. A brief explanation of the two study areas, Kampung Keparakan and Kampung Kricak, and morphological analysis of their streets are also presented.

As a representation of informal settlements in Indonesia, the term *kampung* refers to **vernacular urban settlements in Indonesia** that can vary in location, tenure status, physical features, and the socio-economic profiles of their inhabitants, and therefore cannot be generalised as slums. However, they are different from formal settlements in their **incremental development** processes resulting in an organic spatial pattern, and the unique lifestyle of their inhabitants which exhibits **a hybrid of rural and urban practices**. They are well-defined communities with tight social networks, which are relatively autonomous and have an ability to adapt to various threats and urban dynamics. What is interesting about *kampung* in Yogyakarta is the influence of

the dual powers of city government, including those of the mayor and city administration, and the influence of the Sultanate over city development and land tenure, creating a unique political terrain that influences the management of *kampung*.

The analysis of the spatial configuration of the street in both case studies reveals a certain **spatial order** that manifests in their **street hierarchy**. Three broad types of *kampung* streets are identified in this study: main streets, neighbourhood streets, and alleys. Neighbourhood streets consist of two subtypes, which are primary neighbourhood streets and secondary neighbourhood streets, and alleys can also be subdivided into two subtypes, namely the regular alleys and alleys with dead ends (cul-de-sacs). Each type of street carries its own function and significance in the circulation system and social life of *kampung* residents.

This chapter also shows that the structure of the street network is related to **the mode of land occupation**. A more self-organising process driven by communities, as demonstrated in Kampung Keparakan, produced a more connected street network in the form of a loose, irregular-grid pattern that enables direct movement between places, which is preferable for pedestrians. In contrast, the incremental and organic land occupation process controlled by the landlords in Kampung Kricak resulted in a random movement network, in which streets and alleys are not well-connected. This finding provides evidence of the importance of the individual agency of residents to take part in collective actions to shape and develop their environment in a more sustainable way in the absence of formal planning in informal settlements.

Finally, the street-level analysis suggests the significance of *kampung* streets as a **symbol of collective identity** and a **site of overlapping interests**. The communal identity of *kampung* communities is expressed through various elements of *kampung* streets, such as archways, street art, and other decorative elements used collectively to promote an image of the neighbourhood that residents want to convey to the public. The variation in the street design indicates the presence of different influences that vary in their extent and magnitude in shaping *kampung* streets. For instance, alleys seem to have been shaped largely by street residents, neighbourhood streets are collectively managed by communities, and the city authority is particularly concerned with the main streets.

5.0. The Use of *Kampung* Streets

5.1. Introduction

This chapter examines the activities that take place on *kampung* streets to understand their importance in the life of *kampung* communities, addressing the second research objective, which focuses on how *kampung* streets are used. This chapter makes a contribution to the wider discourse on the street by providing further evidence of the significance of ordinary *kampung* streets for communities, beyond their function as a channel of movement. It also shows how the use of the street by *kampung* communities has become part of their everyday informal practices and daily life.

The chapter is based on the data collected through observations, interviews, and questionnaires. It first discusses different uses of *kampung* streets, including types and characteristics of activities taking place in the street, spatial and temporal patterns of the activities, and space appropriation for the activities. This discussion is followed by a more detailed analysis on a few selected gathering places where street activities are concentrated, to explore the quality of such places that make them socially significant for the social life in *kampung*.

5.2. Uses of *kampung* streets

In the literature review, this research explored the street as a social space, which requires investigation of how different actors assign functions to particular places on the street (Madanipour, 1999), labelled by Lefebvre (1991) as 'spatial practices' by different groups of people. One way to understand these functions is through studying the everyday acts of using and managing *kampung* streets.

This section thus discusses several types of activities in *kampung* streets documented during data collection. Based mainly on the observations and interviews, and some of the questionnaires carried out in Kampung Keparakan and Kampung Kricak, it is evident that significant uses of *kampung* streets coexist with their function as pedestrian and vehicle routes. Using an inductive process, the recorded activities were found to fall into four broad categories of uses – ceremonial, social, economic,

and domestic and private uses. However, it is important to note that these are not clear-cut categorisations, and there is considerable overlap. However, activities were categorised to explain the motives behind street occupation and highlight the nuanced significance of the street for communities in *kampung*.

5.2.1. Ceremonial uses

Ceremonial uses of the street as a place for processions, rituals, ceremonies, and festivities (Hass-Klau, 1998; Mehta, 2013) are often rooted in significant religious and cultural traditions practised in communities. Despite research documenting ceremonial uses of the street, this mostly focuses on sacred historical and cultural streets which are related to particular traditions, myths, and beliefs, such as the ancient religious processions taking place in Tamil Nadu streets (Lynch, 1981) and triumphal processions in an ancient Roman town (Favro, 1994). However, this study reveals that ordinary streets in the organic urban form of the *kampung* are also used for local ceremonial functions which are significant for communities.

As a cultural and historical city, Yogyakarta has a rich heritage of cultural and historical traditions ingrained in the life of its citizens, including the residents of *kampung*. During data collection, various ceremonial events and festivities in the street were reported and documented in both case studies. However, the use of *kampung* streets for ceremonial activities is more prevalent in the centrally located Kampung Keparakan than in Kampung Kricak.

In Kampung Keparakan, the Independence Day celebration and Eid celebrations are regularly held in the street each year. One night before Independence Day, *kampung* residents usually gather in particular localities to perform '*tirakatan*', remaining awake the whole night while commemorating the struggle and courage of all those who fought for Indonesian independence; activities include self-reflection, prayer, and '*nitilaku*', an act of marching around the *kampung* through the streets. The next day, several games and races to celebrate Independence Day are also organised in the street. Residents, regardless of gender and age, are free to take part in these activities. A key informant in Kampung Keparakan explained how communities organise the activities:

For instance, for the Independence Day celebration, [because] we do not have any large yard, we must overflow [into] the street; so, we occupy the

street [for the activity]. We unfold the mat and lay it on the ground, [then] we do the *tirakatan* there. Then, other programmes, such as games and races, usually for the children, also use the street (Source: Interview RW leader, 2018).

For the Eid celebration, on the Eid morning, *kampung* residents gather at the mosque to perform the congregational Eid prayer, but the large congregation usually spills out into the street around the mosque. A few days later, another community gathering, known as '*syawalan*,' is arranged also at the mosque, in which the street is also used to accommodate any overflow. During this activity, residents – both men and women – gather at the mosque to listen to a sermon, pray together, and finally shake hands asking forgiveness from each other.

While Independence Day and Eid are also celebrated in Kampung Kricak, celebrations in the street are less prevalent, although the street still accommodates any overflow celebrations. In Kampung Kricak there are still a few vacant spaces that can be used as a place for communal activities (Figure 5.1). For instance, residents of RT 13, 15, 16, and 26 (the eastern part of the study site) usually celebrate Independence Day in the front yard of one of the landlords which is large enough to accommodate many people.



Figure 5.1 Communal open space in Kampung Kricak
Source: Field observation, 2018

Streets in both *kampung* are also used for occasional ceremonial activities, such as cultural parades known as *kirab budaya* (Figure 5.2, Figure 5.3). This activity is usually organised by the *kelurahan* as part of the Independence Day celebration and the anniversary of the city of Yogyakarta. During *kirab budaya*, men, women, and

children are free to participate and will march through several *kampung* streets, while wearing unique costumes and make-up, usually representing the diverse identity, culture, and potential of Indonesia, Yogyakarta, and the *kampung* itself.



Figure 5.2 Cultural parade in *kampung* streets in Kampung Keparakan
Source: RW 12 Keparakan Kidul, 2014



Figure 5.3 Cultural parade in *kampung* streets in Kampung Kricak
Source: Susilo, 2018

In addition to community festivities, the streets are also used for household ceremonies, such as wedding parties and funeral processions. Due to the lack of vacant space, using *kampung* streets for wedding parties is more common in Kampung Keparakan than in Kampung Kricak. The host will transform the street into a wedding party venue by erecting tents and putting chairs on the street in front of the house to receive guests. The festivities can also extend in front of the neighbours' houses, as

recorded in the field notes when I observed a house of a resident preparing a wedding party for his daughter:

A blue tent had been erected on the street in front of his house, stretching to two to three houses to the left and right of his house. Several chairs were placed in the street in front of his house, and neighbours (men and women) sat on the chairs while chatting to each other. The door of his house was open, and I could see his wife was preparing food (or something else) inside the house with two or three other women, while also talking to those sitting on the street outside the house (Source: Field notes, 2018).

Use of the street for funeral gatherings and processions is common in both study sites. Funeral gatherings are usually conducted in front of the deceased's house, and since most of the houses do not have a front yard, the processions have to take place on the street. The use of the street for funeral gatherings was emphasised by the residents in both *kampung*, demonstrating that good accessibility to *kampung* streets is considered important. A key informant explained how an incident related to a funeral procession has stimulated some reorganisation of streets in Kampung Kricak, as below:

When someone passed away [and his house is] in the middle [of *kampung*], it was very difficult [for the procession] to carry the body using the coffin. The street was so narrow, only a small alley, so it was very difficult. Sometimes, people carried the body a bit there [to a wider street], the coffin was also brought there from the house. Normally, funeral gatherings are held in front of the deceased's house, his departure should be from the house. But, this time was not, because the wider street is here, and his house was in the middle. That is why the idea of reorganising the street emerged, so that the street would be a bit wider and straighter (Source: Interview RT leader, 2018).

Residents gave several reasons why ceremonial activities are held on the street. For most people, the main reason is pragmatic – that there are no alternative places that can accommodate a large number of people. Where alternatives are available, residents seem to prefer these, as in the case of Kampung Kricak. Thus, using the street for ceremonies in *kampung* seems to be an everyday practice, rather than an exceptional occasion associated with the sacredness of the street or the grandiosity of the event as described in some literature about ceremonies and festivals (Favro, 1994; Hass-Klau, 1993; Lynch, 1981; Mehta, 2013). Nevertheless, the ability to hold such ceremonies is important for community cohesion in the *kampung*.

The use of streets in informal settlements for ceremonies was also observed by Garcia (2010) in Bogota *barrios*, where celebrations and street parties were organised on the street. However, as in *kampung*, those street parties are also more likely to be held in houses and community halls when possible. Therefore, for *kampung* residents, streets function as a sort of reserve space that can be used in the absence of a designated space for particular activities. This finding demonstrates a flexible appropriation of street space by communities, in contrast to the conventional allocation of urban street space for moving traffic, with parking/loading a secondary priority, particularly in the developed world (Jones *et al.*, 2008).

Another reason for using the street for ceremonial activities was cost, especially for household ceremonies. For instance, using the street to receive guests avoids the cost of renting a venue, which suggests that *kampung* residents manage their limited living space through sharing. Although the ceremony is mostly for specific households, *kampung* communities take it as a shared responsibility, which resonates with Sullivan's (1992) finding on *kampung* communities in Yogyakarta, showing the importance of developing mutual cooperation and maintaining social ties with neighbours to maintain their membership to the *kampung*. Using the street as a venue for household ceremonies usually requires street closure, which creates reduced accessibility for the community, a cost that is shared among community members, especially the neighbours, as hinted by an interviewee in Kampung Kricak:

So, in our communities, they all understand. Even though the street in front of their [residents] houses is used for gathering events, they will voluntarily close the street when the events are going on; they will not disrupt by going in and out of the location. So they understand each other; there is no dispute regarding that (Source: Interview RT leader, 2018).

In Yogyakarta, using streets for ceremonial activities is not specific only to *kampung*. It is also observed in other parts of the city. However, it is more pronounced in *kampung*, due to strong social cohesion in *kampung* communities, their adherence to tradition, and limited space and resources. Thus, *kampung* streets are used informally for ceremonial activities not only because an 'appropriate place' is unavailable or much more expensive, which corresponds with the idea of viewing informality as a mode of practice of doing things (McFarlane, 2012; Roy, 2011), it also symbolises the cohesiveness of *kampung* communities and their willingness to share the burden of their fellow residents (Sullivan, 1992).

5.2.2. Social uses

The social use of the street has been recognised by many scholars as contributing to liveability and inclusiveness (see Appleyard, 1980; Gehl, 1987; Jacobs, 1961; Jacobs, 1993; Mehta, 2009; Whyte, 1980). To explore the everyday use of *kampung* streets, this study considered social uses to include all social interactions, communication, and exchange of information taking place on a regular or daily basis, as distinct from ceremonial use which is occasional.

This section analyses the types of social activities, their intensity, spatial pattern, temporal pattern, and considers who is involved, and is based on the observations conducted four times a day (morning, noon, afternoon, and evening), on weekdays and weekends (both Saturday and Sunday). All observed activities, their locations, the people involved and their gender and age were registered. However, it was not possible to do continuous observation of all the *kampung* streets, so it is acknowledged that this method has produced a broad sample of activities, but may have omitted some social activities.

Types and intensity of social activities

A number of social activities were observed during data collection in both Kampung Keparakan and Kampung Kricak, clearly suggesting that streets have a vital role as a place for residents to meet and interact. Based on the definition by Gehl (1987) and Mehta (2013), social activities include both 'active sociability', that involves active interactions – communication or movement – between two people or more, and 'passive sociability' that tends to involve more sedentary and passive contacts.

In both *kampung*, active sociability appeared in two forms: playing with others and chatting. Passive sociability also consisted of two forms: sitting and standing without interaction. Playing activities include children playing particular games on the street, either individually or in groups. There are also a few examples of adults playing games on the street, such as chess. Chatting or informal conversations may include residents talking with their neighbours, families, and guests, or women talking to their female neighbours while feeding their babies. Sitting activities include residents sitting on the street and their verandas, either on seats or on the ground, for relaxing, reading, using the phone, and so on. Standing activities included residents standing while

reading newspapers stuck to noticeboards, or simply relaxing while looking at the river.

Among these four categories, chatting and sitting are the most dominant activities in both *kampung*. However, a closer look at the nature of these activities indicated two different characters. In Kampung Keparakan, active sociability (chatting and playing) are more predominant on the street (Figure 5.4). Chatting comprised about 41 percent of the total observations of social activities (622 observed social activities), while playing covered 19 percent. In Kampung Kricak, passive sociability (sitting and standing) were slightly more prevalent. Sitting and standing constituted about 36 percent and 16 percent respectively of the total observed social activities (601 observed social activities).

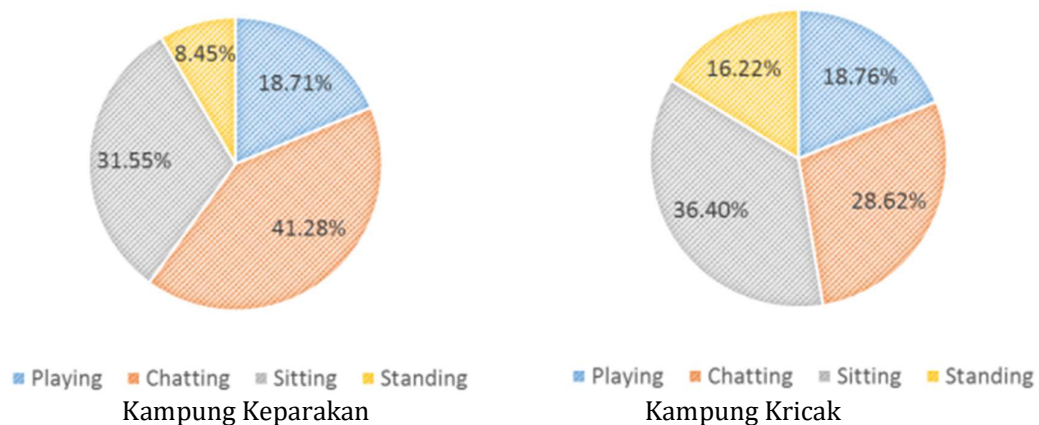


Figure 5.4 Social activities taking place on the street recorded during field observations

Source: Field observations, 2018

There are several possible explanations for the difference in activity between Kampung Keparakan and Kampung Kricak. The first explanation is linked to Gehl's (1987) 'intensity of contacts'. Gehl (1987) argued the more people know each other, the more likely they will actively interact, while passive contact generally involves seeing and hearing unknown people. Residents of Kampung Keparakan displayed a significant number of activities that were categorised as active sociability (particularly chatting) because they tend to be from the same families and have lived in the *kampung* for a long period.

In Kampung Kricak, more passive sociability activities were observed, perhaps because many inhabitants are tenants who are not familiar with their neighbours.

Nevertheless, the dominance of passive sociability in Kampung Kricak is not necessarily a sign of community friction. As Gehl (1987) argued, although passive contacts appear insignificant, they are valuable both as independent contact forms and a prerequisite for more complex interactions.

Another explanation could be related to the daily rhythm of residents' lives in the two *kampung*. Mehta (2013) argued that passive sociability is often associated with being alone for relaxation. In Kampung Keparakan, residents' daily rhythms tend to be similar. Many people have regular working hours, from morning to afternoon, which means they are more likely to be on the street for relaxation together, increasing the chance of meeting neighbours and social interactions. This is confirmed by the temporal pattern of social activities in Kampung Keparakan that peaked during afternoon time (see Figure 5.14 on page 159). In Kampung Kricak, residents tend to have different daily rhythms, as many work independently in informal jobs. Some work from morning to afternoon, some work during the day, while others work during the night, meaning that they have different relaxation times.

The analysis of the questionnaires also supports the observational data demonstrating the crucial role of the street for social cohesion among *kampung* communities. It shows that the majority of respondents in the two *kampung* talk with their neighbours very frequently (Figure 5.5). In Kampung Keparakan, around 75 percent of respondents said they chat with their neighbours on the street, and 48 percent of these chat daily with their neighbours. Similarly, in Kampung Kricak, 89 percent of the respondents chat on the street, and 69 percent of these chat on a daily basis.

However, comparing this data with the frequency of conversations with family members on the street, it is clear that the residents use the street to socialise mainly with their neighbours, while domestic conversations are held mainly inside the home (Figure 5.6). In Kampung Keparakan, chatting with family members is less common on the street. Nevertheless, the total numbers of respondents who chat on the street, regardless the frequency, is still higher than the number of respondents who never talk at all with family members on the street. In Kampung Kricak, the majority of respondents do not chat with their family members on the street.

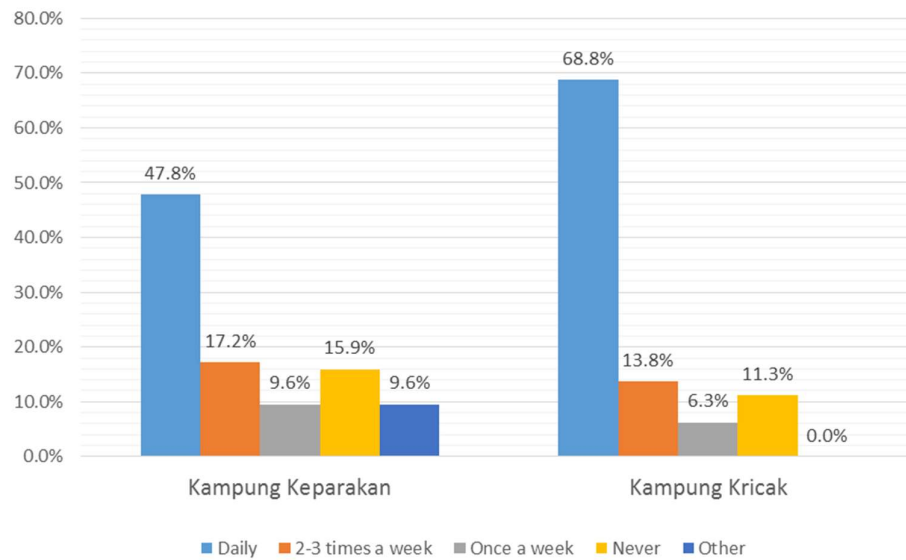


Figure 5.5 Frequency of conversation with neighbours on the street
Source: Questionnaires, 2018

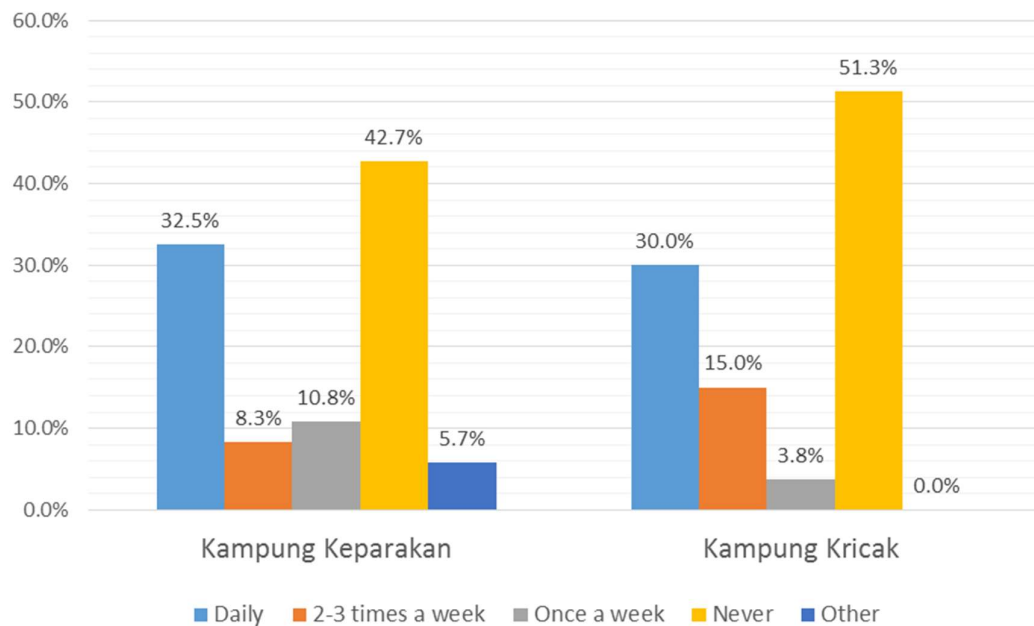


Figure 5.6 Frequency of conversation with family members on the street
Source: Questionnaires, 2018

It is clear that intense social contacts among *kampung* residents have been stimulated by the habit of sitting in the street, and walking in the *kampung* – evident from juxtaposing the data of the frequency of sitting and relaxing on the street and data on travel modes within the *kampung* (Figure 5.7 and Figure 5.8). While the data showed that around 41 percent of total respondents in Kampung Keparakan and 56 percent

in Kampung Kricak stated that they sit and relax in the street every day, most of the respondents said they preferred walking around their neighbourhoods. As Gehl (1987) argued, social activities rely on the presence of other people on the street, and thus the presence of people sitting in the street and walking around the *kampung* increases their chance to meet and talk, and the chance of social interaction on *kampung* streets.

Often residents sit in the street because they find it comfortable. Since *kampung* houses have limited internal space and poor air circulation, the tropical climate and high humidity of Yogyakarta results in sultry air inside the house. Thus, sitting in the street has become an alternative to address the problem, as expressed by one of the interviewees:

Yes, [I] often [sit in the street]. Here, every day. [When I am sitting] here, I feel good, because of the breeze, [and] the fresh air. Thus, it is very comfortable to sit here. With my neighbours too, even until night, before going to bed (Source: Interview senior resident, 2018).

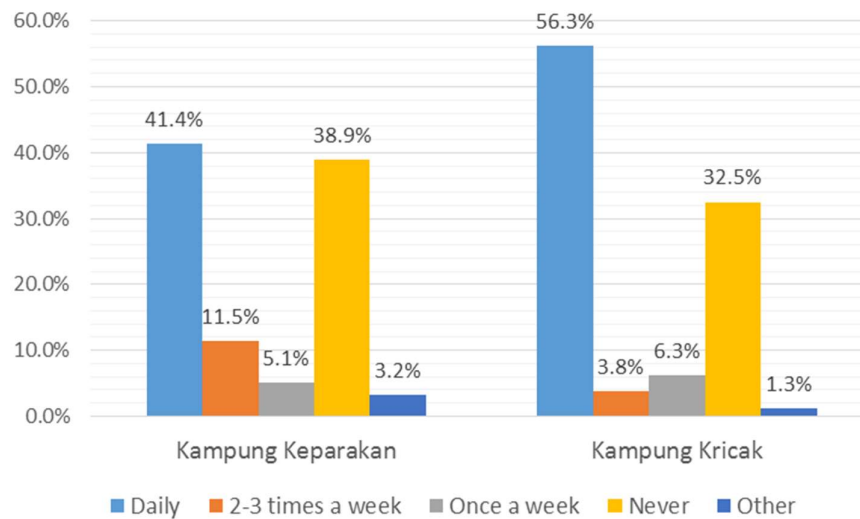


Figure 5.7 Frequency of sitting and relaxing in the street
Source: Questionnaires, 2018

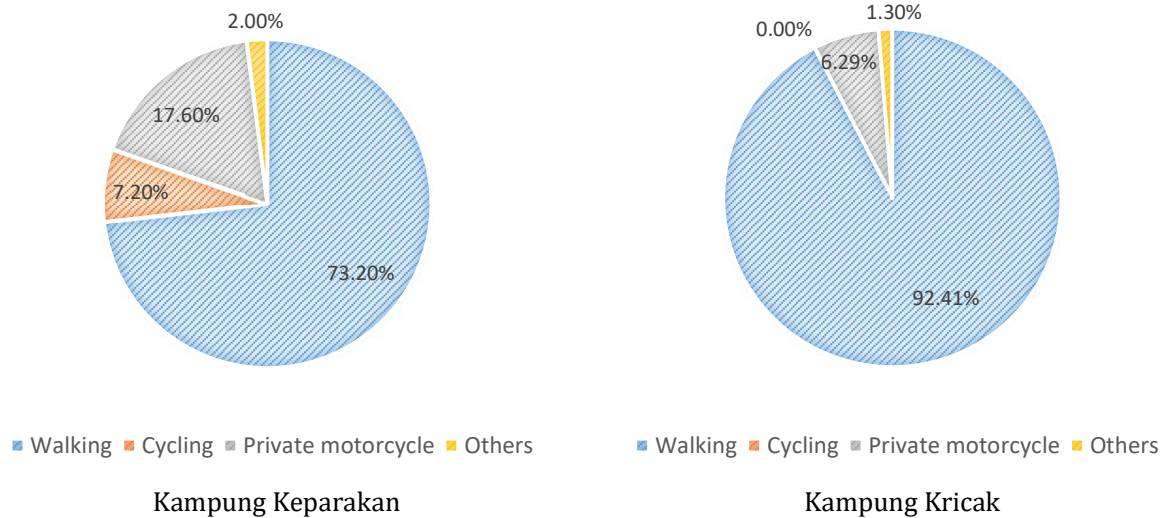


Figure 5.8 Travel modes to get around the *kampung*
Source: Questionnaires, 2018

It is also clear that *kampung* streets have become an important playground for children. Around 35 percent of respondents in Kampung Keparakan who have children reported that their children play in the street every day. This number is even higher in Kampung Kricak, where 50.7 percent of the respondents who have children reported so (Figure 5.10). Various children's activities on the street were documented during the observations, such as playing football, badminton, kites, chasing games, playing with animals, and other types of play (Figure 5.9). Boys tend to play with other boys, while girls usually play with girls. On some occasions, boys and girls were observed playing together.



Figure 5.9 Children playing in Kampung Keparakan and Kampung Kricak
Source: Field observation, 2018

Based on the observations, *kampung* streets are actively used as a playground by children between the ages of 5 to 15 years old. Respondents whose children never play in the street (58 percent in Kampung Keparakan and 45 percent in Kampung Kricak) are mostly over 45 years old, so that it can be inferred that their children have grown up and therefore no longer play in the street. This finding is contrary to some of the literature depicting children as being excluded from playing in the street due to the safety concerns of parents (Gough & Franch, 2005; Harden, 2000; Valentine, 1997; Valentine & McKendrick, 2007). In fact, children were constantly present during different observation periods in both case studies. Parents felt safe letting their children play on the street, and children found enjoyment playing in the street.

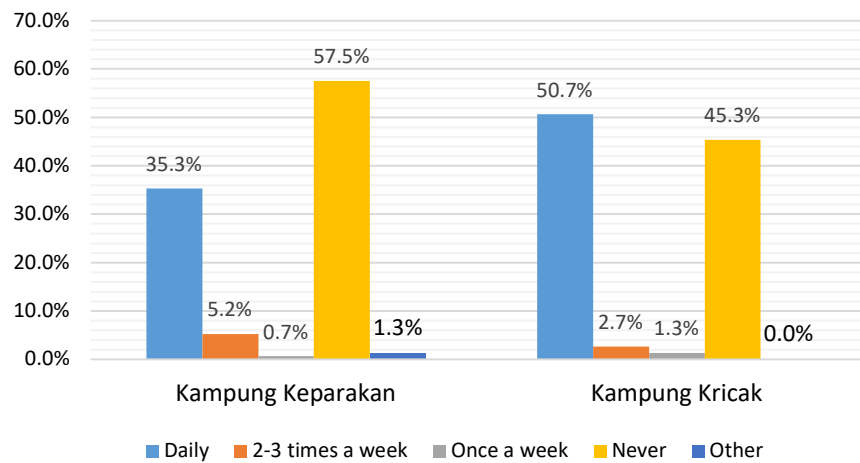


Figure 5.10 Frequency of children playing on the street
Source: Questionnaires, 2018

There are several explanations of why children play in *kampung* streets. Moore (1991) argued that children play in the street because they are “pushed” towards streets, due to the lack of playing opportunities elsewhere, or “pulled” by the attractions of the street that cannot be found elsewhere, even if other play areas are available. Children play on *kampung* streets because appropriate playgrounds are not available in their neighbourhoods. Attempts to provide playgrounds are often hindered by the problems of funding and bureaucracy, as uttered by an informant in Kampung Keparakan:

However, the street is very vital because the space [for playing] is not available. Our proposal for a green open space as such has not been approved for three years. So, the children have to play on the street.

Especially in the afternoon, they will play on the street (Source: Interview RW leader, 2018).

Children play on *kampung* streets also because they find fun and enjoyment on the street. *Kampung* streets offer inexhaustible familiar things that can be used by children as toys through their creativity. Enjoyment can also come through their encounters with neighbours, passers-by, and vehicles on the street, as recorded in the field notes:

While riding my motorcycle, I witnessed four boys sitting on the ground around the *Gedung Serba Guna* [a multipurpose building], playing with bottles and paint buckets. They knocked and hammered the bottles and paint buckets to create a certain rhythm that sounds like a performance from a marching band. They cheered and laughed to every rider slowly passing by in front of them (Source: Field notes, 2018).

Kampung streets also offer a relatively safe and secure environment for children to play, as they are generally pedestrian-friendly, and vehicular traffic is relatively sparse. *Kampung* are also relatively tight-knit communities, where children are observed by neighbours and so are relatively safe while playing, which exemplify the application of Jane Jacob's concept of 'eyes on the street' (Jacob, 1961).

Community meetings and gatherings are often held in *kampung* streets. These meetings may include regular meetings for the RT and RW, and women's meetings for *arisan* (an informal rotating saving and credit association). In *kampung*, participation in these meetings is necessary because it is viewed as willingness to take part in the collective effort to find solutions to common problems in the neighbourhood and therefore they tend to be more regular. Perpetual absence may lead to social sanctions, such as a boycott, as noted by a key informant in Kampung Keparakan:

Here, once there was somebody who every time invited to *arisan* [social gatherings of saving groups], every month there was a community meeting, he never attended. When his family member died, nobody visited him. Indeed, it was cruel, but that is how the community here [acts]... (Source: Interview RW leader, 2018).

Community meetings often take place on the street because a house cannot accommodate people attending a gathering. Residents usually lay some mats on the ground to sit on and place some lighting to illuminate the gathering place.

However, the weather is an issue for community use of *kampung* streets. Informants in both *kampung* said that they could only organise gatherings in the street when it was not raining. When it rains, they have to find another place.

RT/RW meetings are sometimes held on the street. It depends on the host. If the host does not have enough space inside his/her house, then we use the street, if it is not rainy. If it is rainy, we have to ask another person who can provide space, to use his/her place (Source: Interview RW leader, 2018).

For *arisan* gatherings and *kampung* meetings, we often use the street. Because the house is not large enough, its capacity is small, only 10 to 15 people inside, so we do it on the street, along the street, [we occupy] 20 to 15 metres. We lay the mats, then put some lighting. If it is not rainy, we usually use the street for meetings (Source: Interview RT leader, 2018).

Spatial pattern of social activities

Analysis of the spatial pattern of social activities revealed that social activities are not evenly distributed in *kampung* streets. Instead, particular localities become places where people gather and interact with each other on the street. For instance, activity mapping conducted in Kampung Keparakan (Figure 5.11) showed that social activities are more prominent in the informal part of the *kampung* in comparison to the formal part (see Section 4.5.1 for formal-informal division in Kampung Keparakan).

The spatial pattern of the settlement and the street seems to play a part in stimulating more social contacts. In the informal part of Kampung Keparakan, the settlement is denser and more compact, houses are close to each other, and street segments are shorter and well-connected, forming short blocks. This configuration increases the chance of residents meeting and socialising on the street (Jacobs, 1961; Mehta, 2013). Streets in the informal part are narrower, and houses are mostly situated on the edge of the street without setbacks, creating a direct-transparent interface that facilitates exchanges between passers-by and those inside the building (as noted by Dovey & Wood, 2015). Gehl *et al.* (2006) also found that an interface where buildings have relatively open ground floor facades, like in *kampung*, facilitates visual contact between outside and inside activities and encourages more street-based activities. Similarly, in Kampung Kricak, social activities are most common in the area where the degree of informality is higher (Figure 5.12), that is in RT 13, RT 14, and RT 15 (where most of the residents rent the land), and RT 26 (where the residents occupy the riverbank). Thus, the general pattern of social activities in both *kampung* indicates that the spatial attributes of informality seem to play a key role in bringing sociability to *kampung* streets.

More importantly, informality allows flexibility in the use of street space for social activities without being overly regulated. This finding corresponds with the critiques propounded by many authors (e.g. Arefi, 1999; Banerjee, 2001; Sorkin 1992; Zukin, 2010) over the danger of overly regulated spaces in public life. These critiques are directed at designs that seek to control behaviour which have created a contrived setting for public life and contributed to the loss of identity and sense of place in public space. Conversely, the informality of *kampung* streets creates an authentic setting in which spontaneous contacts occur and develop gradually into everyday experience, which is vital for social life to flourish (Arefi, 1999; Gehl, 1987; Zukin, 2010).

In both *kampung* most social activities take place in the less busy 'neighbourhood streets', which could be due to both the physical characteristics and the function of 'neighbourhood streets'. 'Neighbourhood streets' collect traffic, and are dominated by pedestrians, linking alleys to '*kampung* main streets', which facilitates interaction (see Section 4.6.1). The combination of street width (wide enough to accommodate a number of people together, but not too wide to lose a sense of enclosure), seating facilities, and activities on the edges seems to have created a sense of conviviality in 'neighbourhood streets' (Gehl, 1987; 2010; Mehta, 2013; Whyte, 1980;).

The findings also confirm a number of studies which suggest that social life on the street will unfold when the speed and the number of vehicles are reduced (e.g. Appleyard, 1980; Biddulph, 2012; Monheim, 2003; Moore, 1991; Stevens, 2007;). In comparison to '*kampung* main streets', 'neighbourhood streets' have much less vehicular traffic encouraging socialisation because the environment is more inviting and less disrupted by vehicles. It also explains why there are very few social activities in the '*kampung* main streets', with the exception of the north and middle segments of Kampung Keparakan's main street which are narrower and encroached by private buildings, forcing vehicles to slow down.

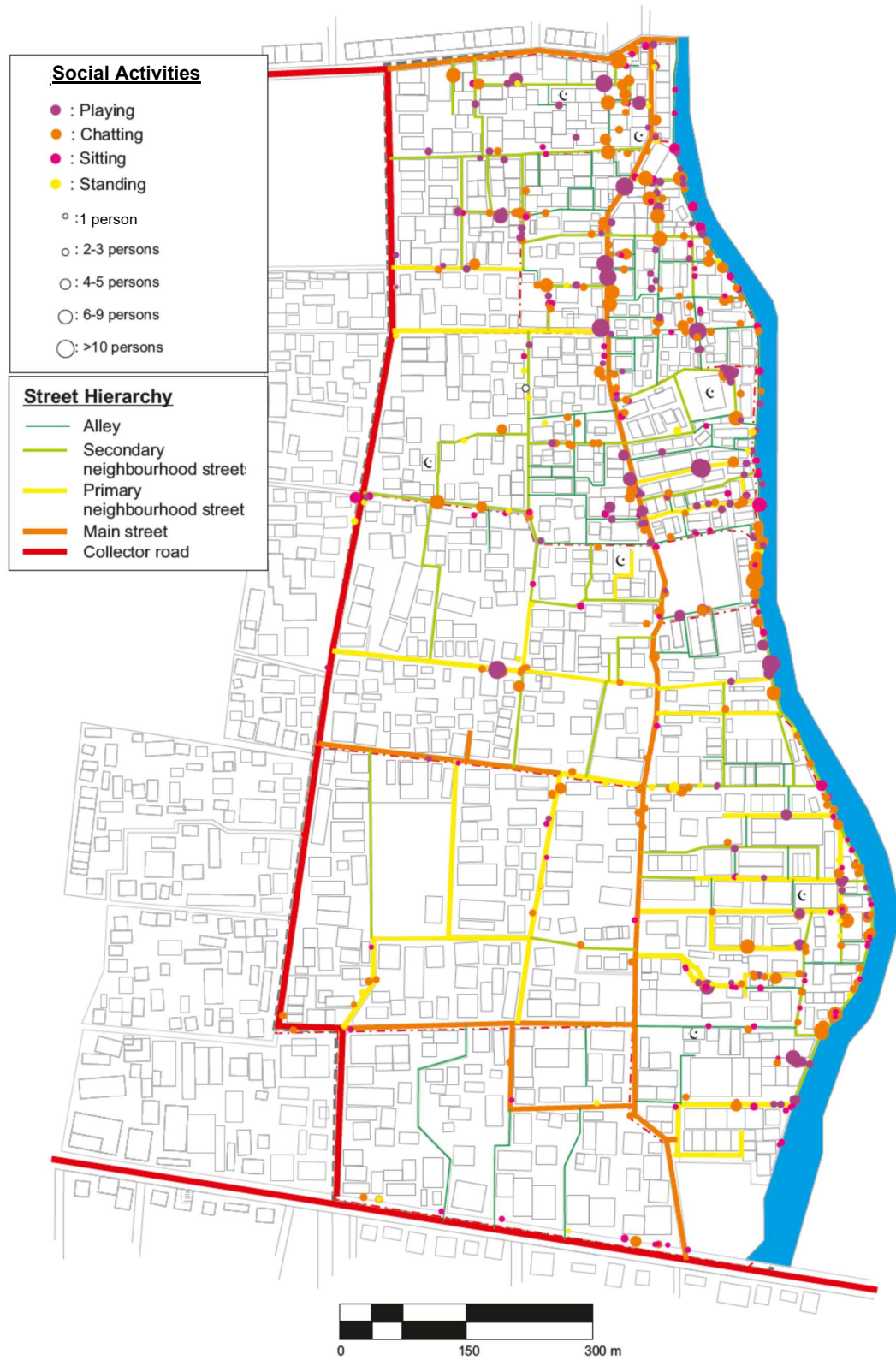


Figure 5.11 Spatial pattern of social activities in Kampung Keparakan
Source: Field observation, 2018

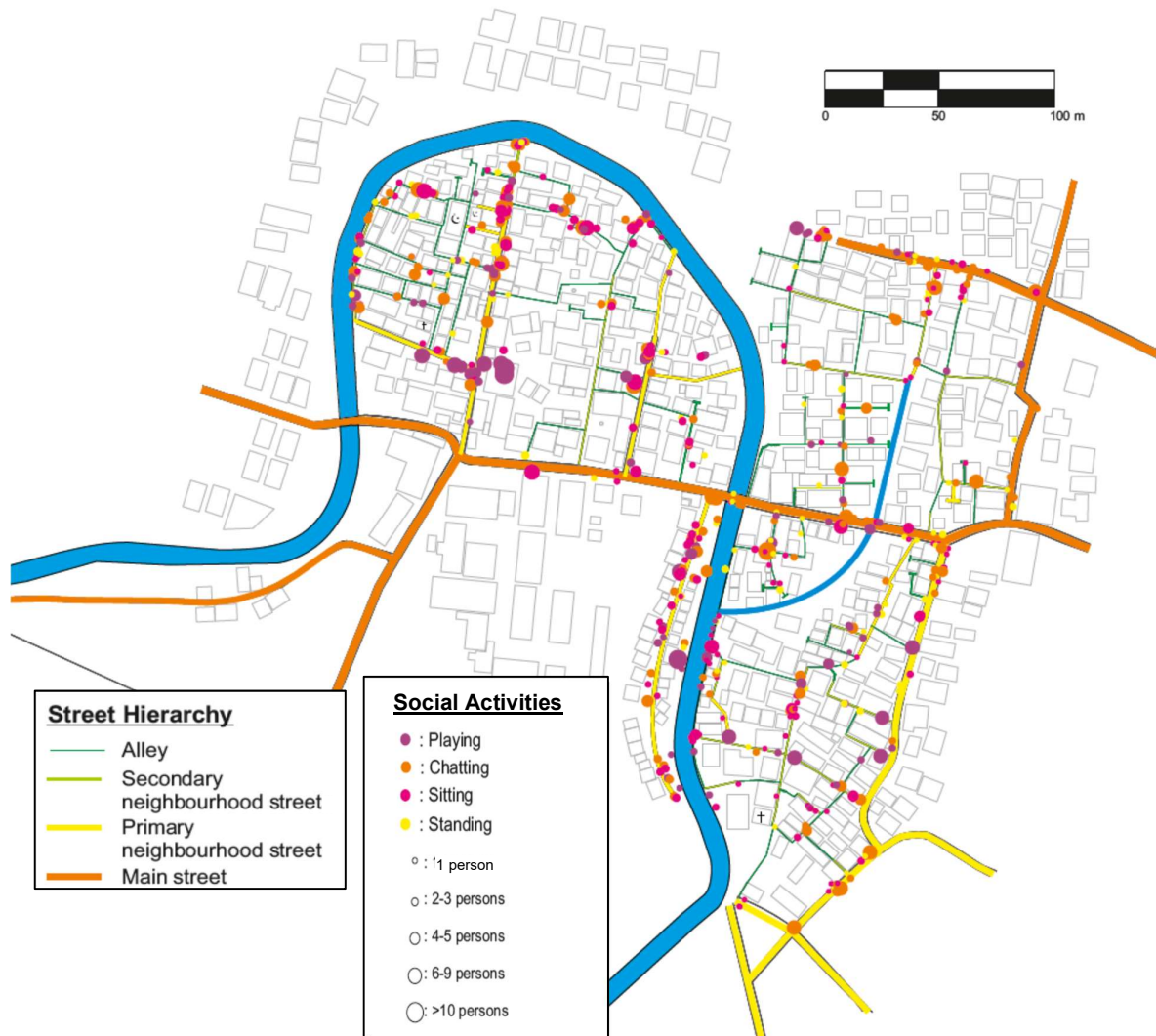


Figure 5.12 Spatial pattern of social activities in Kampung Kricak
Source: Field observation, 2018

For children's play the size of the space and types of play also matter, in addition to traffic volume. Games that are more sedentary involving a few children are usually played on house verandas, or narrower and quieter streets and alleys, while games that require more active movement, and thus space (e.g. chasing games), and involve more children, are usually played in wider streets, despite the traffic. An excerpt from an interview below illustrates how children choose locations that best suit their needs for play:

As for the streets in the middle [of the *kampung*], there are not many children playing there, because the streets are narrow, so they do not play there. If they want to play, they will move to here to the streets in front [which are wider] (Source: Interview RT leader, 2018).

However, increasing traffic has raised concerns about children's safety while playing on the street. The upgrading of *kampung* streets is usually intended to facilitate the mobility of *kampung* residents but has increased the volume of motorised traffic, which is more dangerous for children, as expressed by a key informant:

This street has become more crowded. It is actually a *kampung* street, but then people use it as an alternative route to go to '*Taman Siswa*' [...]. In the past, children used to play on that street, but then the street was upgraded with asphalt, and there were a lot of motor vehicles – cars and motorcycles – passing through. It becomes noisier, more crowded, and more dangerous because some people speed up their vehicles when passing through this street (Source: Interview RW leader, 2018).

Therefore, while playing on relatively busy streets, adults are often present nearby to supervise and warn the children when motor vehicles are coming through.

One of the favourite places in both *kampung* for residents to gather and chat, or just simply to sit and relax, is along the river embankment (Figure 5.13), although they are often only in small groups. Feeling the breeze and fresh air is one of the reasons why residents like socialising along the river, as expressed by a key informant in Kampung Kricak:

Many people chat along the river. They like chatting and gossiping there. It is very comfortable, isn't it? [They can feel] the breeze and the fresh air while chatting (Source: Interview RT leader, 2018).

The river provides a water feature that is attractive for people (Whyte, 1980) even if only to look at and hear the water. Sitting by the river and watching it allows residents a broader view than the confined one within the dense settlement.



Figure 5.13 Residents socialising on the embankment in Kampung Keparakan
Source: Field observation, 2018

Temporal pattern of socialisation

Based on the observations conducted four times a day on both weekdays and weekends, it is clear that the intensity of social activities on *kampung* streets fluctuates across time.

In Kampung Keparakan, there are fewer social activities around noon, more in the afternoon, and less in the evening, but with playing and chatting observed throughout the day (Figure 5.14). This fluctuation is probably due to residents' routines and the weather. Most social activities occur in the afternoon, after school and working hours, when the temperature is cooler. In contrast, social activities are least likely to occur at noon when children are still at school, adults are still working and the temperature is higher. In the evening, the number of social activities dropped as residents tend to rest and spend their time with family members inside the house.

On the weekend, the number of social activities increased. Differences are observed between Saturday and Sunday, when social activities peaked in the afternoon and dropped in the evening. Playing and chatting are more prevalent in all periods of time and across all days except on Sunday morning and Sunday evening when passive social activities (sitting and standing) are more prevalent.

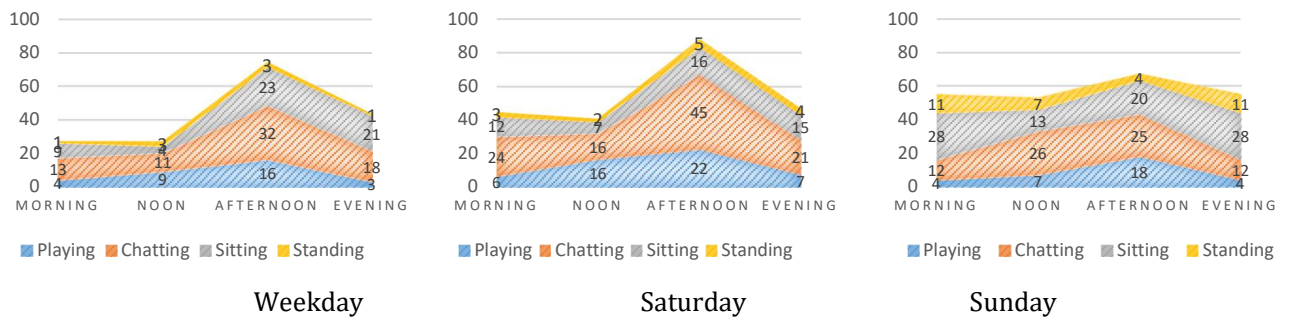


Figure 5.14 Temporal pattern of social activities in Kampung Keparakan
Source: Fieldwork, 2018

In Kampung Kricak a different pattern was observed. Social activities gradually increased from the morning to the afternoon, and then dropped in the evening (Figure 5.15). A possible explanation might be that fewer residents of Kampung Kricak work in private companies and government institutions, and more work independently in informal work. Temperature seems to affect social activities in Kampung Kricak differently, and the increase of the air temperature at noon seems to attract residents

into the street to sit and enjoy the breeze. Residents of Kampung Kricak are involved in more social activities during the weekend than during the weekday.

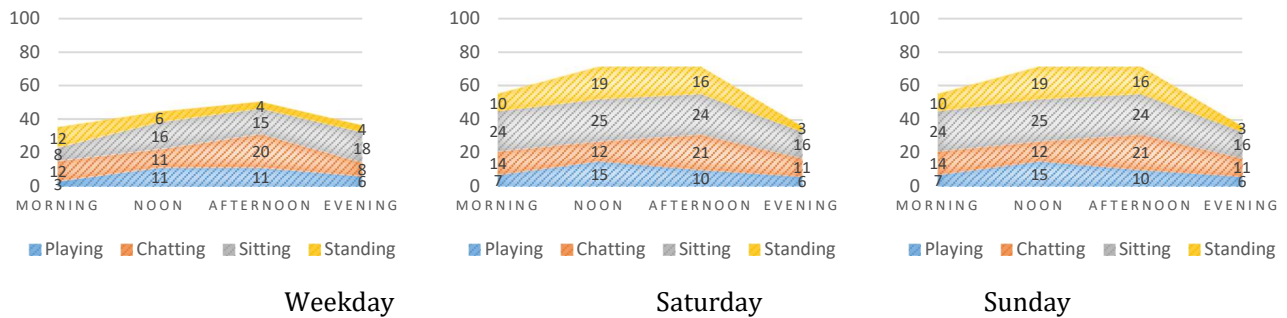


Figure 5.15 Temporal pattern of social activities in Kampung Kricak
Source: Fieldwork, 2018

Social uses of the street by gender and age

Analysis shows that streets in Kampung Keparakan and Kampung Kricak are vibrant and sociable places, due to the constant presence of people of different gender and age on the street throughout the day (as noted by Gehl, 1987; Jacobs, 1961; Mehta, 2103), although with some differences across the two *kampung*. In Kampung Keparakan, the number of both male and female street users tends to peak in the afternoon and decline in the evening, although social activities are still dominated by men (Figure 5.16). Women are most often involved in social activities in the street in the afternoon, although men still outnumbered women during this time. The presence of women socialising in the street is more noticeable around noon on a weekday and in the morning on Saturday, when the numbers of male and female street users were similar. On Sunday morning, men dominate the social activities in Kampung Keparakan because many of them socialise in the street while taking part in neighbourhood clean-up organised by the RT.

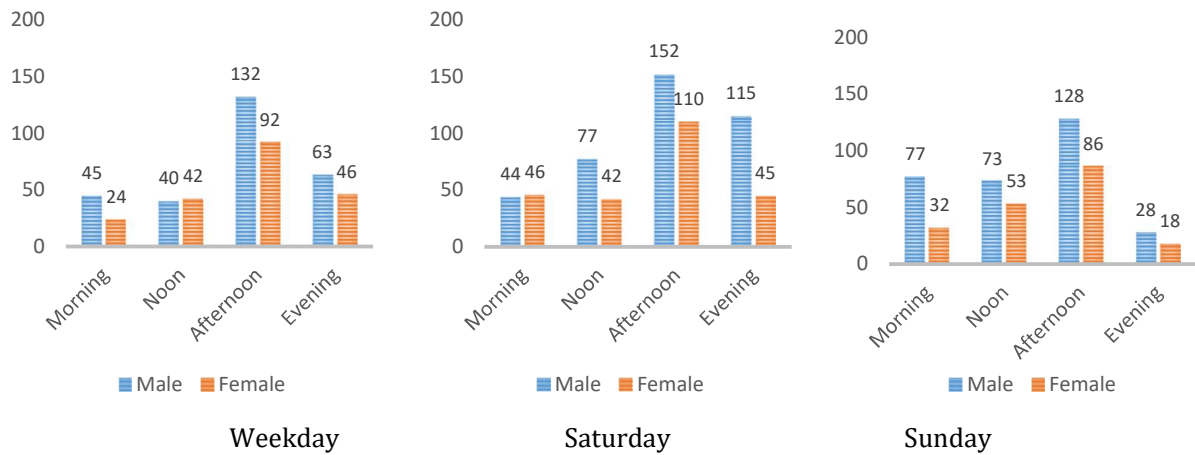


Figure 5.16 Street users engaged in social activities by gender in Kampung Keparakan

Source: Field observation, 2018

In Kampung Kricak, the presence of women involved in social activities is more prominent. In most of the observation periods, there was not much difference between the number of male and female street users in Kampung Kricak (Figure 5.17). On weekdays around noon and in the afternoon, women dominate the use of *kampung* streets for social activities. On Sunday mornings, many women in Kampung Kricak come out of their houses to socialise in the street taking part in morning exercise organised by communities.

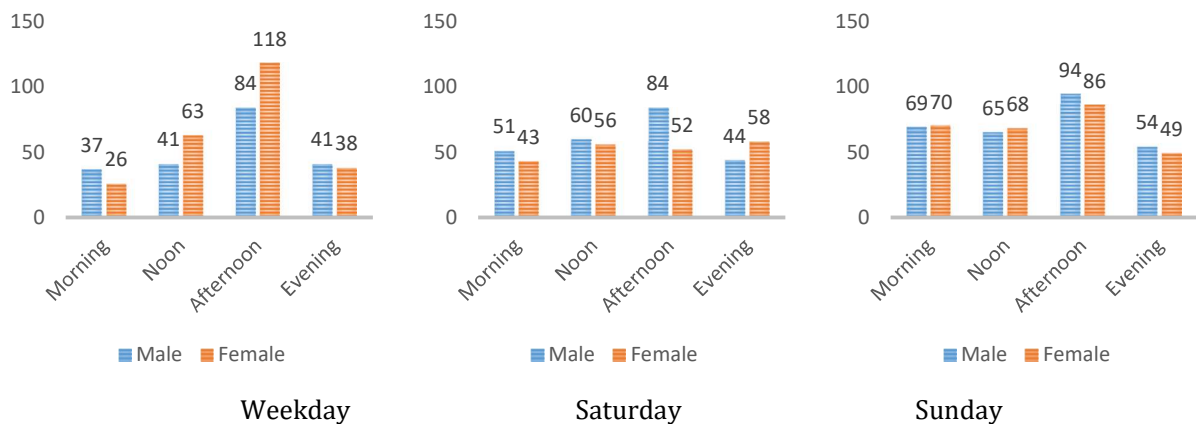


Figure 5.17 Street users engaged in social activities by gender in Kampung Kricak

Source: Field observation, 2018

In both *kampung*, women were often observed socialising in large groups or with children (Figure 5.18) particularly around street intersections, house verandas,

security posts, and community buildings, while also feeding and supervising their children. This finding differs from some of the literature illustrating women's withdrawal from streets and public space due to safety concerns and a feeling of being out of place (Bondi & Rose, 2003; Mahadevia & Lathia, 2019; Sur, 2014; Viswanath & Mehrotra, 2007), demonstrating how gender relations vary across different settings. The findings from this study show that women's experience of fearfulness in streets and public spaces cannot be generalised, and women's perception of the space around them is central to their experience. In both case studies, *kampung* streets are often perceived as an extension of home, and their close relationship with neighbours creates a feeling of familiarity and safety for women when they are in the street.



Figure 5.18 Women's social activities in Kampung Keparakan and Kampung Kricak
Source: Field observation, 2018

Kampung streets are also commonly used by children and the elderly. Despite the domination of adults on the street, the presence of older residents and children in *kampung* streets plays a key role in creating a lively and vibrant atmosphere in the neighbourhood. Older residents who are often sitting or chatting may benefit from socialisation, but also provide oversight of children playing and other activities on the street. In Kampung Keparakan, the presence of children of various ages is very obvious in the afternoon, especially at the weekend (Figure 5.19). During weekday evenings, fewer children played in the street because social norms oblige parents to keep their children at home to do school homework. On Friday and Saturday evenings, this norm does not apply, explaining the increase in the number of children on Saturday evening.

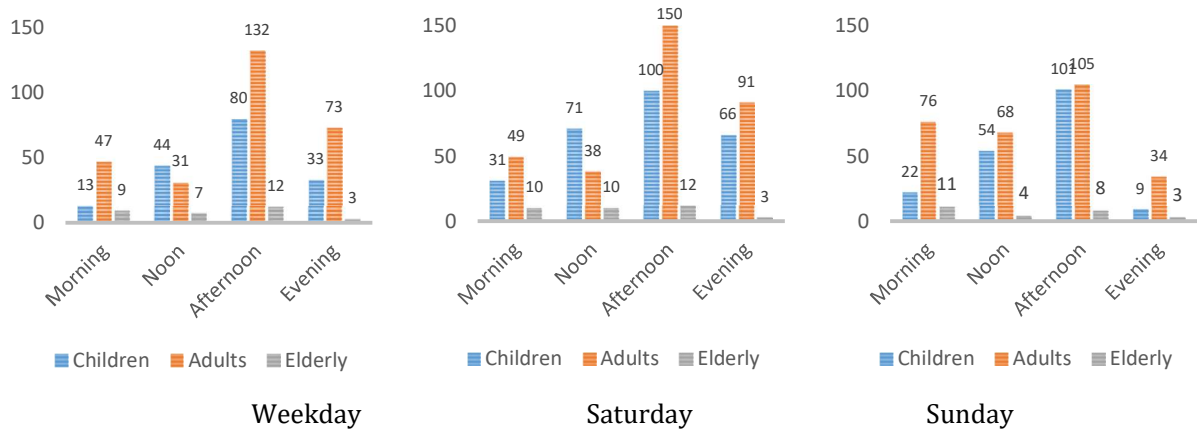


Figure 5.19 Street users engaging in social activities by age in Kampung Keparakan
Source: Field observation, 2018

In Kampung Kricak the presence of children in the street is very prominent in the afternoon, especially at the weekend (Figure 5.20). Based on the observations, Saturday morning, Saturday noon, and Sunday evening are the times when there are more children on the street than adults.

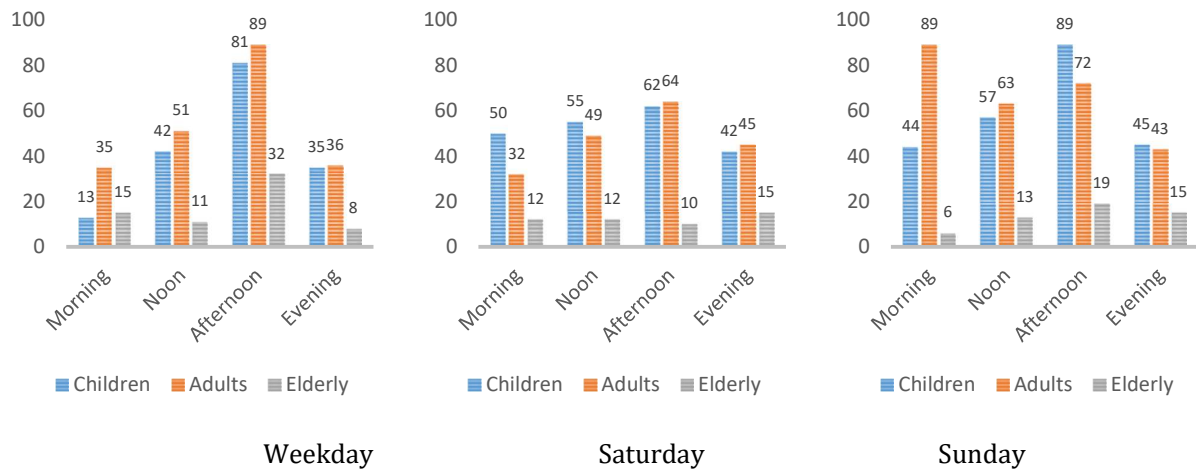


Figure 5.20 Street users engaging in social activities by age in Kampung Kricak
Source: Field observation, 2018

5.2.3. Economic uses

The economic use of streets is often associated with their potential to facilitate the transport of goods and provide space for income-generation activities (Adriaennsens & Hendrickx, 2011; Bell & Loukaitou-Sideris, 2014; Bromley, 2000; Brown, 2006; Oranratmanee & Sachakul, 2014; Yatmo, 2008). While the economic role of streets at

the city level has been widely recognised, particularly in major streets and commercial streets, the role of ordinary and organic streets for economic activities in *kampung* has not been well documented.

This section analyses the economic use of streets in the two *kampung*, identified through the observations taken four times a day. The observations and interviews did not look at the whole economy of the two *kampung*, but focused on substantive economies that rely on access to the street or close proximity to the street. The data obtained in this study show that the role of *kampung* streets in supporting the neighbourhood economy cannot be underestimated, especially for women. Business operators in Kampung Keparakan and Kampung Kricak enjoy relative freedom and security to conduct business on *kampung* streets, unlike the precarity of informal street economy actors who often encounter disruptive forces such as eviction, displacement, intimidation, and criminalisation (Asiedu & Agyei-Mensah, 2008; Bromley, 2000; Bromley & Mackie, 2009; Brown, 2006; Rogerson & Hart, 1989; Setsabi, 2006).

Types of economic activities

The core function of *kampung* streets for the neighbourhood is providing access to and from the *kampung*, which is critically important for the *kampung* economy. *Kampung* streets facilitate access for residents going to the market, transporting goods for trading and small and home-based industries, and provide access to the sites in the *kampung* which have local economic potential. In both *kampung* it is common to see residents coming out and into the *kampung* carrying goods on their bicycles, motorcycles, pushcarts, rickshaws, or pickups for economic purposes (Figure 5.21).



Figure 5.21 A resident transporting goods on a pushcart in Kampung Kricak
Source: Field observation, 2018

The access function of streets is determined by the scale and function of economic enterprise. The most significant economic activity which relies on good access is the leathercraft industry in Kampung Keparakan, where a number of small and medium-scale operators are clustered and attract tourists. The local authority has proposed programmes to upgrade *kampung* streets to improve access and accommodate more tourists and potential buyers, as expressed by the head of the *kelurahan*:

Obviously, the street is for mobility, [to facilitate] the flow of goods for trading, small and micro enterprises, [and] for transporting goods. We [want to] expand and widen the [main] street for promoting tourism, [as] a handicraft *kampung*. [...] So, the street is to facilitate the economy. [...] We often receive guests, but because the street is narrow, visitors with a car have difficulty to enter and park (Source: Interview the head of *kelurahan*, 2018).

Economic activities also need direct use of or proximity to the street, and may occupy the street either permanently or temporarily for business premises. They can be categorised here into four types (Table 5.1): kiosk/small shops, home-based enterprises, street trading, and hawking. Some of these activities are based at home or streets near home, while others are not limited by home locations.

Table 5.1 Observed economic activities in Kampung Keparakan and Kampung Kricak

No	Type of economic activities	Goods and services offered	Type of business premises	Spatial characteristic
1	Kiosk/small shop	Selling household goods, vegetables, food and drink, petrol, etc	House interior and veranda, sometimes spilling out onto the street adjacent to house	Sedentary
2	Home-based enterprises	Laundry services, waste recycling, food industries, handicraft industries, etc	House interior, sometimes spilling out onto the street adjacent to house	Sedentary
3	Street traders	Selling food and drink	Tent and pushcarts on the street	Sedentary
4	Street hawkers	Selling food and drink	Pushcarts, bicycles, on person on the street	Mobile

Small shops (Figure 5.22) are perhaps the most common type of economic activities in *kampung*. The shops are usually based at a home which is owned or rented by the shop owner. This arrangement is relatively secure to operate, and allows the shopkeeper to carry out other household work while waiting for customers. The shops usually provide small-scale convenience goods. Some other shops also sell cooked food and drink, and thus often function as a kind of street café in the *kampung*. They are often run by family members and cater to neighbours living nearby, except shops located in ‘*kampung* main streets’.



Figure 5.22 Shops in alleys in Kampung Kricak
Source: Field observation, 2018

Home-based enterprise is common within the two *kampung*. These enterprises may include processing, such as home-based industries and waste recycling, or may offer services such as laundry and repair services. Depending on the scale of the business, the enterprises usually employ family members and/or neighbours. In Kampung Keparakan, many home-based enterprises are in the food and leather industries, while in Kampung Kricak, several residents rely upon waste recycling for their livelihoods, sorting and storing the waste in, around or above their housing (Figure 5.23).



Figure 5.23 Waste recycling in Kampung Kricak
Source: Field observation, 2018

Street trading is found in a number of locations in the *kampung* (Figure 5.24). Street traders are often located at strategic sites with fixed locations – often ‘*kampung* main streets’ – unless they operate from the alley adjacent to their home. They may be *kampung* residents or those coming from adjacent areas. They often sell street food and drinks, attracting customers from within and outside the *kampung*. Street trading is more prominent in Kampung Kricak, where most of the traders are located in the ‘*kampung* main streets’. They enjoy some degree of security to trade on the street. Although they are not permitted to operate there, the local authority seems to tolerate their existence. However, these street traders have to pay a fee to the property owner behind their trading spots for obstructing the view of the property.



Figure 5.24 Street traders in ‘*kampung* main street’ in Kampung Kricak
Source: Field observation, 2018

Street hawking is a more mobile economic activity observed in the *kampung* streets (Figure 5.26). Street hawkers often come from outside the *kampung* to offer their goods and move from *kampung* to *kampung*. These hawkers are very popular among *kampung* residents. More than half of the respondents, or their family members, reported that they purchase goods from street traders and hawkers at least once a week (Figure 5.25) – often food and drink. Around 20 percent of respondents in both *kampung* purchase from street traders and hawkers on a daily basis.

Based on the interviews, there are no particular restrictions from local authorities or residents for hawkers in accessing streets or alleys in either *kampung*. Hawkers can move round the *kampung*, as long as their load fits the width of the street or alley without causing residents significant noise and disruption, indicating an openness of

kampung streets and alleys for outsiders and acceptance of street hawking by *kampung* residents.

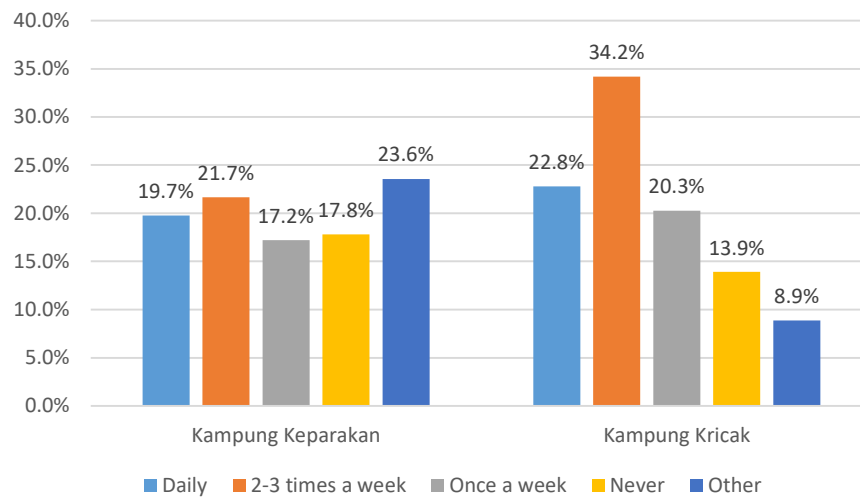


Figure 5.25 Frequency of transactions with street traders and hawkers
Source: Questionnaire, 2018



Figure 5.26 A hawker serving customers in Kampung Kricak
Source: Field observation, 2018

Spatial appropriation

Several types of economic activities rely on direct appropriation of street space in various ways. Some small kiosks and shops, particularly selling daily household goods, require a street frontage, but do not occupy the street. Goods for sale are usually placed inside the kiosk, or displayed on the exterior of the building (Figure 5.27) and sales often occur through the kiosk's open doors or windows. Buyers can see, bargain, communicate, and purchase products while standing on the street without entering the kiosk.



Figure 5.27 Utilisation of street frontage by a shop in Kampung Keparakan
Source: Field observation, 2018

Other kiosks and shops, usually selling food and drinks, often appropriate the street, placing benches, tables, and trading equipment in the street to create an extension of the private space inside the house and the veranda (Figure 5.28). The arrangement of furniture is usually the first step in appropriating street space, before the installation of protective roofing to shield goods and customers from heat and rain.



Figure 5.28 Occupation of adjacent street space by a shop in Kampung Keparakan
Source: Field observation, 2018

Home-based enterprises often temporarily appropriate the street space as activities may spill out onto streets and alleys. For instance, in the leather industry, leather cutting and drying half-finished products often take place in the street (Figure 5. 29). Some other activities carried out by home-based enterprises such as waste recycling and laundry drying, and activities offering services such as motorcycle repairs, are also often conducted in the street.



Figure 5. 29 Temporary occupation of street space by home-based enterprises
Source: Field observation, 2018

The use of *kampung* streets adjacent to the home for business premises is an adaptation of the limited space in the *kampung* for economic benefit. Marsoyo (2012), who studied home-based enterprises in Yogyakarta found a similar pattern of uses, arguing that encroaching on the adjacent *kampung* street is one of the strategies applied by *kampung* residents to adapt to limited space inside the home, especially for business activities that require outdoor space and sunlight, without incurring extra costs for business premises. Some business owners also reported that the practice of occupying street space for business premises, trading equipment or goods sold, increases the visibility of business activities to customers.

Street traders tend to occupy the street space more permanently by using pushcarts and temporary structures (Figure 5.30). For street traders, occupying a fixed location is important to maintain regular customers (Owusu-Sekyere *et al.*, 2016). Trading equipment and goods being sold are brought from home to the location, and cleared at the end of the day and the location cleaned. The pushcart and structure may remain in the location, be stored in the yard of the property owner, or be brought back to the street trader's home. This pattern of occupation suggests that street traders enjoy a degree of security from competition with other traders, or eviction by the local authority, resulting in harmonious relations among street traders, and between street traders, property owners and *kampung* residents. This finding is similar to the studies by Neethi *et al.* (2019) in Gujarat, India and Kim (2012) in Vietnam suggesting that trust and harmonious social networks among traders and between traders and shopkeepers have led to mutual respect and protection that help to secure their presence in public space.



Figure 5.30 Occupation of street space by street traders in Kampung Kricak
Source: Field observation, 2018

Hawkers occupy the street only for short periods, transporting goods on pushcarts or carrying them on their heads, shoulders, or backs (Figure 5.31). They often stop at strategic spots in *kampung* streets, often where people congregate. Others will more continuously move through the *kampung* to offer goods to householders.



Figure 5.31 Temporary occupation of street by street hawkers in Kampung Keparakan
Source: Field observation, 2018

Occupying *kampung* streets and alleys for business activities seems to be acceptable in both *kampung*, but largely relies on the tolerance of community members, as it is not technically permitted by the local authority. Business owners can occupy the street as long as there are no objections. This phenomenon was illustrated by an interviewee, talking about a tofu-making industry occupying the street in Kampung Keparakan:

For example this house [indicating one of his neighbours] this tofu industry. They place their equipment on the street. Sometimes problems arise [because of that]. But they have been doing for a long time, before this *kampung* became dense. They have been carrying out [the production] there so we can only tolerate and compromise (Source: Interview RW leader, 2018).

The key factor of consensus and tolerance in allowing the occupation of *kampung* streets and alleys for business uses was reiterated by a head of *kelurahan*:

All *kampung* streets are just like that, [they are used] according to the consensus in the community... If the community do not feel disturbed, then that's OK, they will not mind it. This also happens in RW 4 (Kampung Kricak) as long as there are no complaints from the community (Source: Interview head of *kelurahan*, 2018).

The findings of this study support the idea that the street is a productive resource (Brown, 2006) and a form of spatial capital (Marsoyo, 2012) which is significant for the livelihoods of the urban poor. It shows the important economic role of ordinary streets and alleys in the middle of *kampung*, as well as city centre streets. This finding accords with several previous studies, such as research conducted by Lupala (2002) which found that streets in informal settlements in Dar es Salaam, Tanzania, are used for income-generating activities, and by Charman and Govender (2016) who observed the use of street space in South Africa for various businesses and services. Some of these businesses operate from home, but are connected to the street through a serving hatch and threshold.

The variety of economic activities on *kampung* streets challenges the argument that street economies are 'out of place' in cities, a vision often driven by urban elites and an image of well-ordered public space that excludes the economies of the poor (Bromley, 2000; Brown, 2006; Yatmo, 2008). It is clear from this study, that in a pedestrian-friendly and informal environment, business activities in streets tend to be accepted and tolerated, and an informal system of checks and balances exists to ensure sharing of the available street space. These activities are also relatively safe from the sanitising policies of the authority experienced mostly by those operating in the city centre (Asiedu & Agyei-Mensah, 2008; Bromley, 2000; Bromley & Mackie, 2009; Brown, 2006; Rogerson & Hart, 1989; Setsabi, 2006). Such businesses are also important in serving the daily needs of *kampung* residents and as a source of livelihoods. Flexibility in using street space, negotiation and tolerance among

residents, and an acknowledgement that the street is a shared space are among the factors that allow the existence of street economies in *kampung* streets.

Spatial pattern

Accessibility and connectivity are important for economic activities in *kampung* streets, as the observations and mapping conducted during the fieldwork clearly showed. For instance, in Kampung Keparakan, many business operated in 'collector roads' and the '*kampung* main street' (Figure 5.33). Similarly, in Kampung Kricak, most street vendors were located on the '*kampung* main street' (Figure 5.34). Several residents on the '*kampung* main streets' had benefitted from the traffic flow and used the front facade of their home as a kiosk, while some had built new structures close to the street as business premises. Many studies of the locations of street trading activities in city centres have found that they tend to be in strategic locations with heavy pedestrian and vehicular traffic (Asiedu & Agyei-Mensah, 2008; Bell & Loukaitou-Sideris, 2014; Bromley & Mackie, 2009; Brown, 2006; Dierwetcher, 2002; Setsabi, 2006).

Other business operations were scattered in the labyrinthine and narrow streets of *kampung*, often located in kiosks. A closer look at the distribution of these businesses suggests that their spatial pattern is also determined by accessibility and connectivity. Many of these kiosks are located in 'neighbourhood streets', which play a key role in the neighbourhood pedestrian network. There are also few kiosks which are located in alleys which are relatively well-connected to the main street (i.e. require only one to two turns). Okyere *et al.*, (2017) found a similar pattern in an informal quarter in Accra, Ghana, indicating that open streets and squares offer more opportunities for economic activities compared to enclosed and isolated spaces.

However, accessibility and connectivity do not seem to be the only factors that determine the location of street economies in *kampung*. For example, street traders and businesses are not evenly distributed along the main street, but are concentrated in several locations, such as in the middle and north segments of Kampung Keparakan's main street, and at the two ends of Kampung Kricak's main street which are close to intersections. This phenomenon indicates the presence of other factors determining the location of economic activities in *kampung* streets.

One key factor influencing business location in *kampung* streets is the availability of space, such as marginal and leftover spaces. For instance, at the ends of Kampung Kricak's main street, street traders operate on the pavement covering a drainage ditch at the side of the street (Figure 5.32), although this is subject to negotiation with the adjacent property owner. Brown (2006) argued that this practice often results from a careful trade-off between proximity to customers, cost of access to space, and security of trading.



Figure 5.32 Street traders on the drainage ditch in Kampung Kricak
Source: Field observation, 2018

A second key factor for some businesses is the presence of activity centres. In Kampung Kricak, hawkers often cluster near one of the communal open spaces, especially when an event is held there. In Kampung Keparakan, street hawkers often waited for customers in front of a primary school in the morning, and around locations where residents gather or children play. This logic of centrality, as well as proximity to concentrations of people, has been widely recognised as a key determinant for the location of street economies (Bromley & Mackie, 2009; Brown, 2006). Bromley and Mackie (2009), for instance, found that many street traders in Cusco, Peru clustered around courtyards in the tourist zone of the city. In Kumasi, Kathmandu, and Maseru, street traders often congregated near bus terminals (Brown, 2006). Moving around to find the crowds is often a tactic applied particularly by mobile street traders or hawkers to increase their visibility to potential customers (Kamalipour & Peimani, 2019).

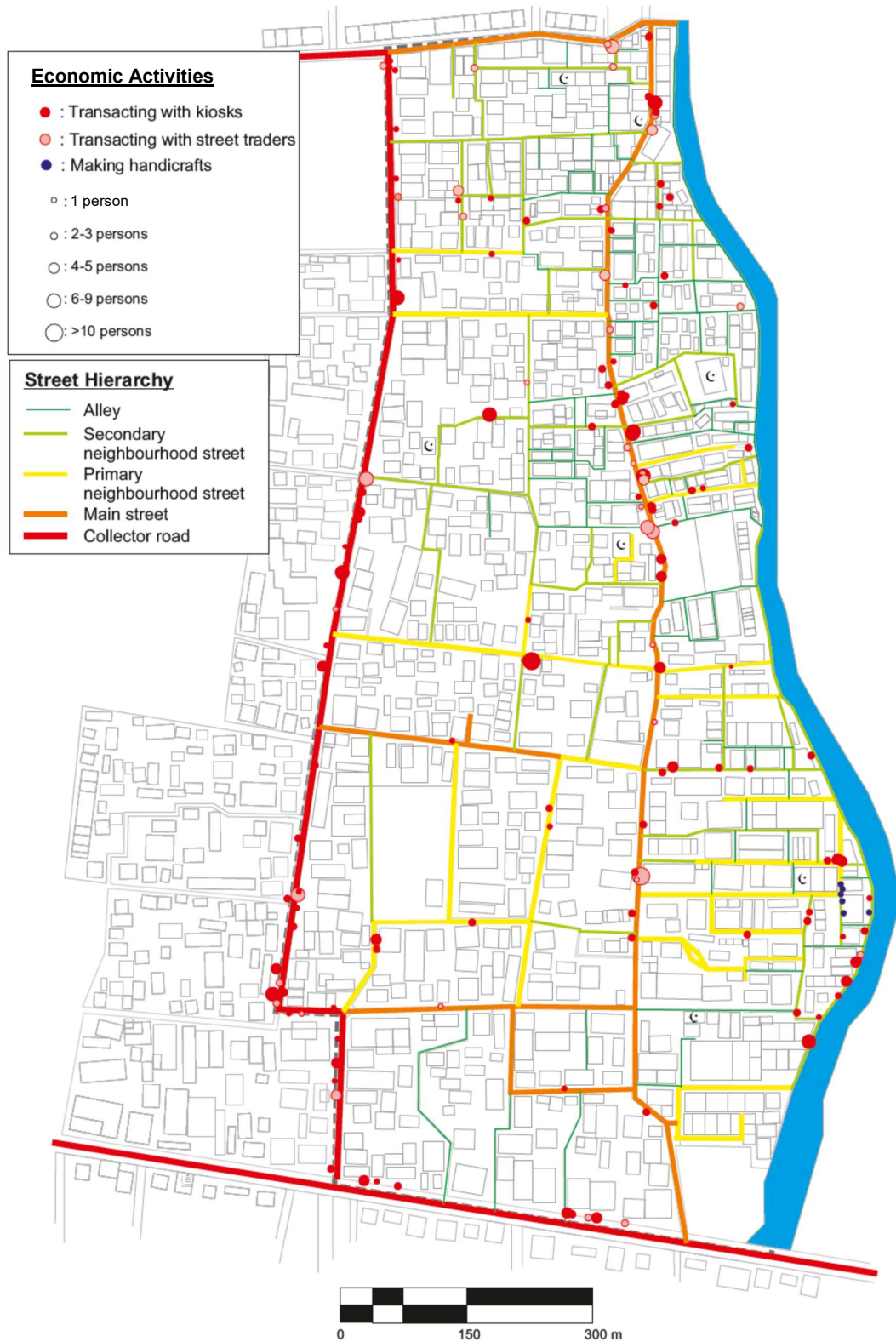


Figure 5.33 Spatial pattern of economic activities in Kampung Keparakan

Source: Field observation, 2018



Figure 5.34 Spatial pattern of economic activities in Kampung Kricak

Source: Field observation, 2018

Temporal pattern

In Kampung Keparakan and Kampung Kricak goods and services are traded every day from 6:00am until late evening as part of the daily rhythm of the neighbourhood. In the morning, food sellers and street traders sell breakfast for school children and workers. Later, kiosks selling daily household products and vegetables start operating. These kiosks remain open until evening although they are busiest in the morning. In the late afternoon, around 4:30pm, street traders and hawkers return with their pushcarts, bikes, or motorcycles, selling food and drinks until the evening (Figure 5.35). Some street traders, such as *angkringan* (a typical Javanese food stall

selling a variety of affordable traditional street food and beverages) remain open until around 11:00pm.



Figure 5.35 Residents buying food from a street trader in Kampung Keparakan
Source: Field observation, 2018

Social dimension of street economies in kampung streets

The findings clearly demonstrate that street economies and sociability in *kampung* are interlinked. Economic activities on the street provide space as well as stimulus for residents to interact. At the same time, they provide an opportunity for business owners and residents to strengthen social networks.

The link between sociability and street economies in both *kampung* works through two processes. Firstly, street economies are attracted by social activities and activity centres where people gather. Secondly, street economies themselves attract gatherings of residents providing a place to linger and chat. Therefore, gathering places in *kampung* are often near kiosks and street traders or hawkers waiting for customers (Figure 5.37, Figure 5.38), as recorded in the field notes one morning in Kampung Keparakan:

Morning life in Kampung Keparakan features residents' activities of selling and buying food for breakfast on the street. Some of these food sellers are stationary, while others are more mobile with their pushcarts. Men and women gather around these food sellers, who chat with each other while waiting for their food (Source: Field notes, 2018)

A number of previous urban design studies explain this phenomenon (e.g. Gehl *et al.*, 2006; Mehta, 2013; Mehta & Bosson, 2010). The link between economic activities and social life on the street can be associated with the active frontage created by the open windows and doors of kiosks, with sellers waiting and greeting pedestrians. Active street frontage has been seen as a key factor in stimulating social activities on the

street (see Gehl *et al.*, 2006; Mehta & Bosson, 2010). Gehl *et al.* (2006) found that open and interesting street facades attract more slow-moving pedestrians, and generate more activities, while Mehta and Bosson (2010) discovered that street segments with individual decorated frontages with an open view of the activities inside are preferred by pedestrians.

It is evident that social interaction on the street is also encouraged by the presence of street traders and hawkers (Figure 5.36), in a process described by Whyte (1980, p. 94) as “triangulation”, that is a “process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not”. Street traders and hawkers attract people and encourage interactions. Without their presence, many people would have passed by without a reason to stop and talk. Triangulation also works in the opposite process, that is when street hawkers approach congregating residents for customers.



Figure 5.36 Residents socialising around a street trader and a hawker
Source: Field observation, 2018

The social aspects of doing business on the street were also important to several respondents. In both Kampung Keparakan and Kampung Kricak, several business owners said that the advantages of working in the street included the opportunity to socialise with neighbours while running their business. It helped them build solidarity, tighten social bonds with residents, especially those who regularly buy from them, and expand their social networks. Business transactions are often informal, and a good relationship with neighbours is more important than economic profits. For instance, many kiosk owners allow neighbours to purchase on credit as an act of kindness to help people meet their daily needs.

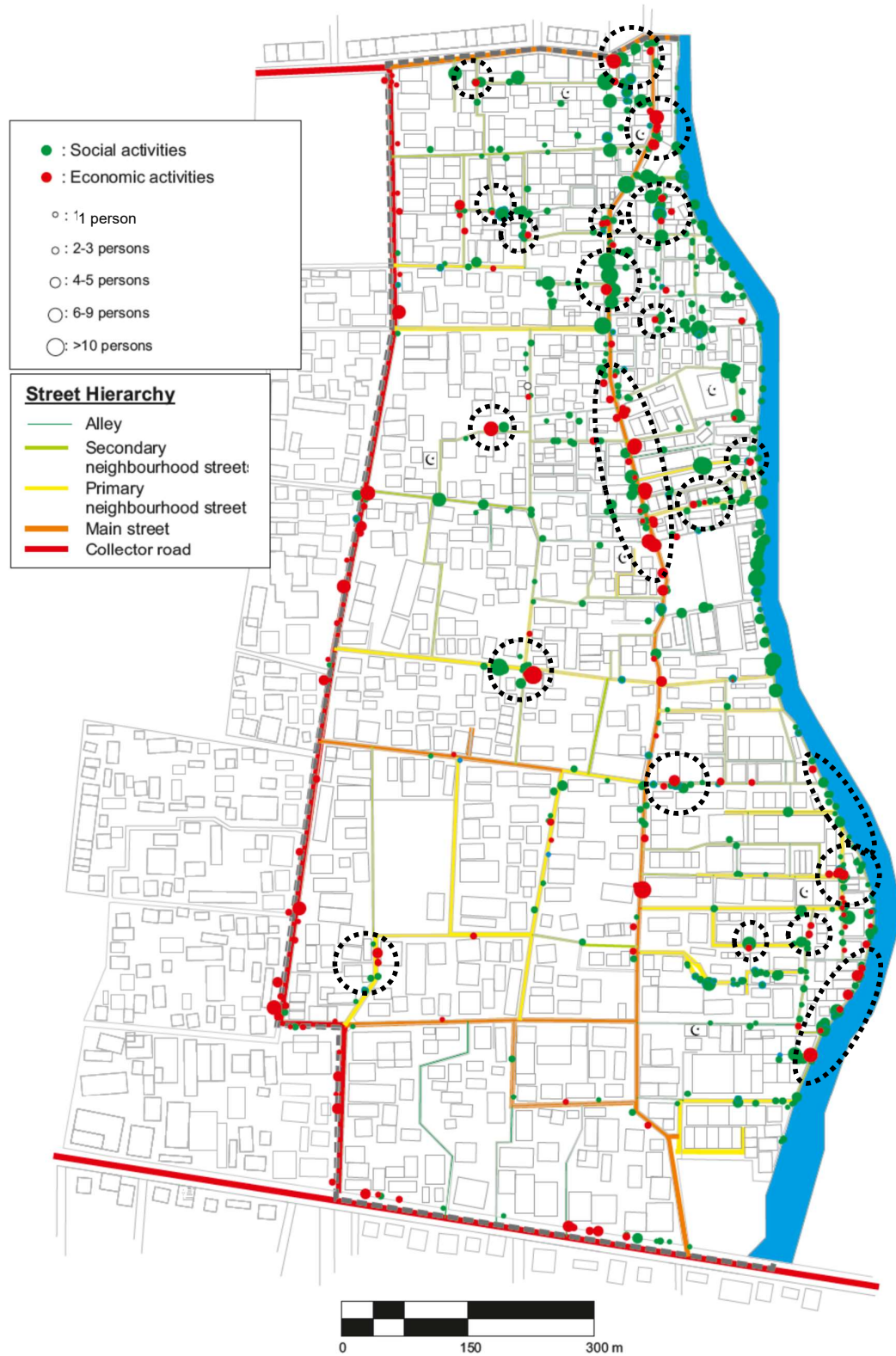


Figure 5.37 Spatial pattern of social and economic activities in Kampung Keparakan

Source: Field observation, 2018

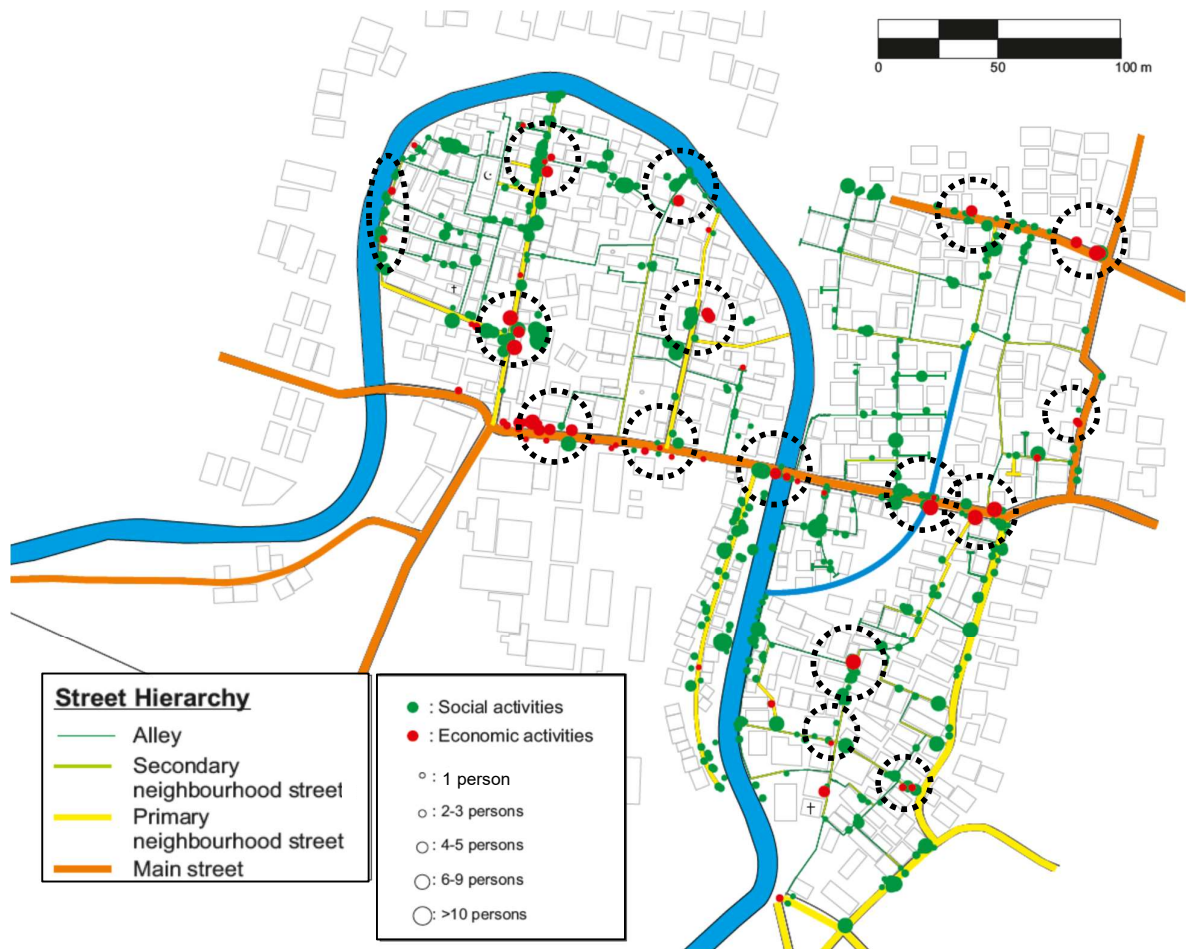


Figure 5.38 Spatial pattern of social and economic activities in Kampung Kricak
Source: Field observation, 2018

Economic uses of the street by gender

Women are prominent in economic activities in *kampung* streets, and in both *kampung* many of the businesses on or near the street observed were operated by women. The significant number of women running street businesses in *kampung* is consistent with previous studies, such as Sinai (1998) who studied the use of home for income-generation activities in Ghana, and of Mahmud (2003) exploring the transformation of domestic space in Dhaka. Both studies concluded that women are more often involved in using homes for income-generation activities, especially for informal economic activities. The observations for this study showed that in both *kampung* women are also significant in business operations in *kampung* streets, especially in the morning. Figure 5.39 and Figure 5.40 show the observed number of

people involved in economic activities on the street by gender in Kampung Keparakan and Kampung Kricak respectively.

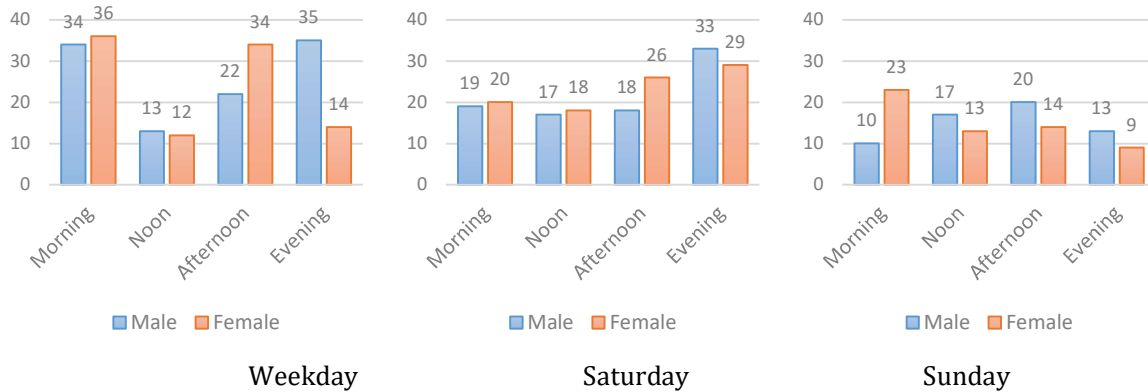


Figure 5.39 Street users engaging in economic activities by gender in Kampung Keparakan

Source: Field observation, 2018

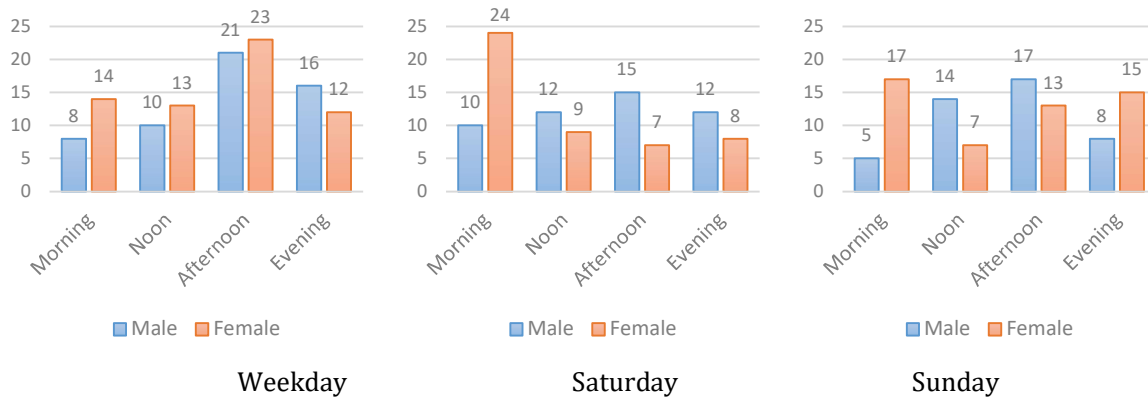


Figure 5.40 Street users engaging in economic activities by gender in Kampung Kricak

Source: Field observation, 2018

Culture and tradition seem to play a part in this phenomenon, reflecting complex gender relations in Indonesia's Islamic Javanese societies. In Islamic Javanese societies, there is a common belief that women should focus on caring for the family and domestic affairs, while men are responsible for carrying out productive activities outside the home. Therefore, while many men leave the home to work, women are expected to stay at home or work near home to carry out childcare and family responsibilities. Javanese women are also often portrayed as more competent than men in managing money and trading affairs (Geertz, 1961; Jay, 1969). Therefore, they

are the ones who are expected to do the buying and selling and manage domestic economy (Brenner, 1995). Even where businesses are run by men and women together, there are often labour divisions in which men handle affairs away from home, such as buying materials and goods from suppliers, while women serve customers and manage the cash flow. For instance, on weekdays in the *kampung*, women are prominent in both *kampung* in the morning and afternoon because women are involved in the cooking, serving and sale of food and drink, the main activity in the street during this time. Fewer women in business are seen at the weekend, possibly because men, who are then off from work, take over the business. It may also be because women's regular social meetings, such as religious gatherings and *arisan*, are commonly held on the weekend.

The dominant narrative portraying urban streets and public spaces as a hostile environment for women traders in the global south (e.g. Cohen, 2000; Pratt, 2006; Muiruri, 2010) does not appear to be the case in both case studies. While women have been considered vulnerable and disadvantaged on the street and public space, this study suggests that the street and public space near their homes are essential assets for women conducting business activities. *Kampung* streets are a safe place for these women, even where access to major streets and public space for business activities may be more difficult.

5.2.4. Domestic and private uses

One practice which is prominent in *kampung* is the appropriation of the street for domestic and private uses. Using streets for everyday domestic activities is a key feature in understanding the concept of public/private space in non-Western contexts and how it differs from common usage in the West (Drummond, 2000). Several studies focus on the concept of public/private space in the street (e.g. Dovey & Wood, 2015; Drummond, 2000), but there is still limited information on how this concept is described and understood in the context of streets in organic Indonesian urban *kampung*.

Section 5.2.4 thus discusses how *kampung* streets have played an important part in the everyday life of *kampung* residents by becoming a place for domestic activities and private use. In this study, domestic and private use of *kampung* streets refers to

exclusive use of streets for activities which relate to personal or family matters, demonstrating a need for privacy, or use that appropriates the street as an ostensibly private territory, which is neither social nor economic in intent. This definition excluded the use of streets for ceremonial, social, and economic use as described in Sections 5.2.1, 5.2.2 and 5.2.3. The use of *kampung* streets for domestic and private activities has created an ambiguous distinction between public and private space in *kampung*. Although there is a common acceptance that residents may use the street for domestic and private use, such use also often triggers disputes among residents.

Types of private and domestic activities

Observations show that streets and alleys in Kampung Keparakan and Kampung Kricak are also used for various daily domestic and private activities, as documented in the four observations a day. These activities can be broadly classified into two categories: first, essential activities related to the necessities of life, such as eating, cooking, bathing, and sleeping; and second, a group of non-essential activities that include appropriation of streets for a territorial claim, which includes activities less important for survival, such as using the street as private storage space.

First, in the use of *kampung streets* for essential activities, the street replaces domestic space inside the home and is used for specific purposes, such as kitchens and bathrooms. These activities are practised by only a few low-income families with limited room inside their home. For instance, some food-preparation activities such as cooking, cutting vegetables, preparing ingredients, and washing dishes have been observed in the street in Kampung Keparakan and Kampung Kricak (Figure 5.41). Some locations are used regularly for food preparation and others occasionally, such as when collective cooking takes place for an event. These 'outdoor kitchens' are usually attached to the house, sometimes as an extension of the existing kitchen inside the house. Residents usually transform the street into a kitchen by arranging cooking utensils near a house door, allowing people to circulate between the kitchen and inside the house.



Figure 5.41 Women preparing food in alleys in Kampung Keparakan and Kampung Kricak

Source: Field observation, 2018

Other essential domestic activities which were observed in both *kampung* include laundering, bathing, and washing dishes (Figure 5.42). These activities are particularly prominent around communal water sources, such as communal wells, taps, and toilets. Residents often carry their laundry or their dirty dishes and cooking utensils in small buckets from their houses to these water sources. These facilities are shared, and their use is based on a 'first-come first-served' basis. However, if the facilities are being used, residents who need water sometimes have to find another source. For instance, some residents in Kampung Kricak will do their laundry or take a bath in the river if the communal facilities are occupied (Figure 5.43).



Figure 5.42 Women washing clothes in Kampung Keparakan and Kampung Kricak

Source: Field observation, 2018



Figure 5.43 Women doing laundry in the river in Kampung Kricak
Source: Field observation, 2018

The incursion of domestic activities into the street seems to be acceptable according to the prevailing social norms in both *kampung*. 'Bathroom scenes', such as people covering their bodies only with towels walking in the street or drawing water from the well, which might be taboo according to some standards, are quite common in both *kampung*. A few parents bath their children on the street in front of their houses. This kind of scene has been observed, as recorded in the field notes below:

There are only few residents on the street starting their day this morning. Around the communal toilet in RW 07, there is a woman walking while holding her son's hand, going to the toilet. She is carrying bucket, towel, and other bathing tools in her bucket. After a few minutes, I passed by the same communal toilet again. This time, there is a man with his two daughters. He is bathing his small daughter, while his other daughter is waiting for her turn. She is standing in the middle of the street while wearing only her underpants, looking toward her father and sister. They do not seem to be bothered by the passers-by (Source: Field notes, 2018).

Second, the use of *kampung* streets for non-essential activities may take place because households need a larger space than available in the home, such as for storage, or sunlight, for example for drying laundry. In fact, the lack of space inside the home motivates the use of *kampung* streets for domestic and private uses, as explained by a key informant in Kampung Kricak:

Because the space is limited here, like or not, at the moment we use the street to dry laundry. But at least it is not permanent. So, after being dry, we will remove [the laundry from the street], so it will not disturb those who want to pass (Source: Interview RT leader, 2018).

Residents usually hang their laundry on the clothes lines and drying racks placed on the street or mounted on the roof overhang protruding into the street (Figure 5.44), without worrying about their clothes being stolen, indicating a sense of security, trust

and strong social cohesion in the *kampung*. Others dry their laundry along the bridge railing or the railing along the embankment (Figure 5.45). Some residents also use the street, usually the embankment and streets in front of their houses as a place to dry leftover rice, which later can be recooked and processed into various dish and snacks (Figure 5.46).



Figure 5.44 Drying laundry in Kampung Keparakan
Source: Field observation, 2018



Figure 5.45 Drying laundry along the embankment railing in Kampung Kricak
Source: Field observation, 2018



Figure 5.46 Drying rice grain and leftover rice on the street in Kampung Keparakan
Source: Field observation, 2018

Some non-essential uses of *kampung* streets are more permanent. A very common example in both *kampung* is using the street as a private storage space and a front yard. Many residents in both Kampung Keparakan and Kampung Kricak often permanently store possessions in the street beside the house, from electronic appliances, buckets and kitchen utensils, to bird and poultry cages, and residents' pushcarts and motorcycles (Figure 5.47, Figure 5.48), which implies that the street provides security from theft in a tight-knit community. As space is limited inside the home, the street becomes an ideal option for residents to store their belongings and park their vehicles. Questionnaires distributed to respondents in Kampung Keparakan and Kampung Kricak show that nearly all respondents own vehicles (97 percent in Kampung Keparakan and 93 percent in Kampung Kricak), often more than one vehicle, and majority of them park their vehicles on the street and other places outside home, such as the mosque yard.



Figure 5.47 Using the street as storage space in Kampung Keparakan
Source: Field observation, 2018



Figure 5.48 Using the street as storage space in Kampung Kricak
Source: Field observation, 2018

In the literature, discussions on the privatisation of street space often focus on the appropriation of public space as a product of capitalist economy leading to commodification of public space (e.g. Banerjee, 2001; Carmona, 2010a; Loukaitou-Sideris, 1993; Madanipour, 1999; Nemeth & Schmidt, 2011). In contrast, the micro-scale use and appropriation of *kampung* streets by private actors indicates an active utilisation of the street caused by a spillover of domestic activities. The appropriation of the *kampung* streets by private actors often provides broader social benefits for the private activities of those who do not have space inside the home, and thus can be seen as an adaptation strategy for survival. This finding is consistent with that of Drummond (2000), who argued that the encroachment of private and domestic activities onto the street in Vietnam demonstrates a resurgence of street life and a construction of pseudo-public space.

Moreover, the practice of using streets for domestic activities also reflects a form of dualism of social practice found in Indonesian urban *kampung*, whereby several rural practices are still maintained by *kampung* residents who migrated from rural areas. In villages, plots are much bigger and people can use the yard for various purposes. Bathrooms and kitchens are often located outside and separated from the main house. In some cases, bathing and doing laundry are often performed in the nearest water body in the village. When these migrants are confined in a tiny plot in the urban *kampung* without any spare space, intuitively streets are appropriated for domestic purposes and domestic activities are carried out outdoors on the street without hesitation.

Spatial patterns of domestic and private uses

Activity mapping conducted in Kampung Keparakan and Kampung Kricak identified spatial patterns in the use of *kampung* streets for domestic and private uses. Essential activities such as washing and bathing relied upon the availability of water sources. Therefore, these activities are often concentrated around communal taps, toilets, and wells (Figure 5.49). Kitchen activities in the street such as cooking and food preparation do not seem to have any particular spatial pattern because these activities are associated with the lack of space inside homes rather than the physical form of streets. Thus, they usually take place outside but attached to the houses with limited space for kitchens inside homes.



Figure 5.49 A man washing cooking utensils near a communal well in Kampung Keparakan

Source: Field observation, 2018

However, the spatial configuration of the street and its physical form also contribute to the spillover of domestic and private activities onto the street. In both *kampung*, the private uses of the street were mostly observed in *kampung* alleys and 'neighbourhood streets' (Figure 5.50, Figure 5.51). Alleys are mostly situated in the inner part of the *kampung*, making them less accessible for outsiders, and rarely traversed by people from elsewhere, except those living nearby who have been well-known and trusted by their fellow residents. Alleys are narrow, shady, and flanked by buildings, creating a sense of semi-private territory in which residents perceive that the space adjacent to their houses belongs to them and under their control. With this spatial configuration, alleys can be monitored by residents in terms of who might pass by, allowing them to place belongings in the alley without worrying too much about security or disturbing other residents.

Those living closer to 'main streets' and 'primary neighbourhood streets' are less interested in utilising the street for their private and domestic activities – except for parking. Main streets and primary neighbourhood streets are conceived more as public and communal territories where vehicular traffic is allowed, weakening a sense of control of street space by adjacent residents and increasing the risk of exposure to strangers and traffic flow. In addition, social norms and peer pressure push community members to be considerate and respectful to the interest of wider communities by minimising any disruption resulted from the appropriation of street space for domestic and private uses in main and neighbourhood streets.

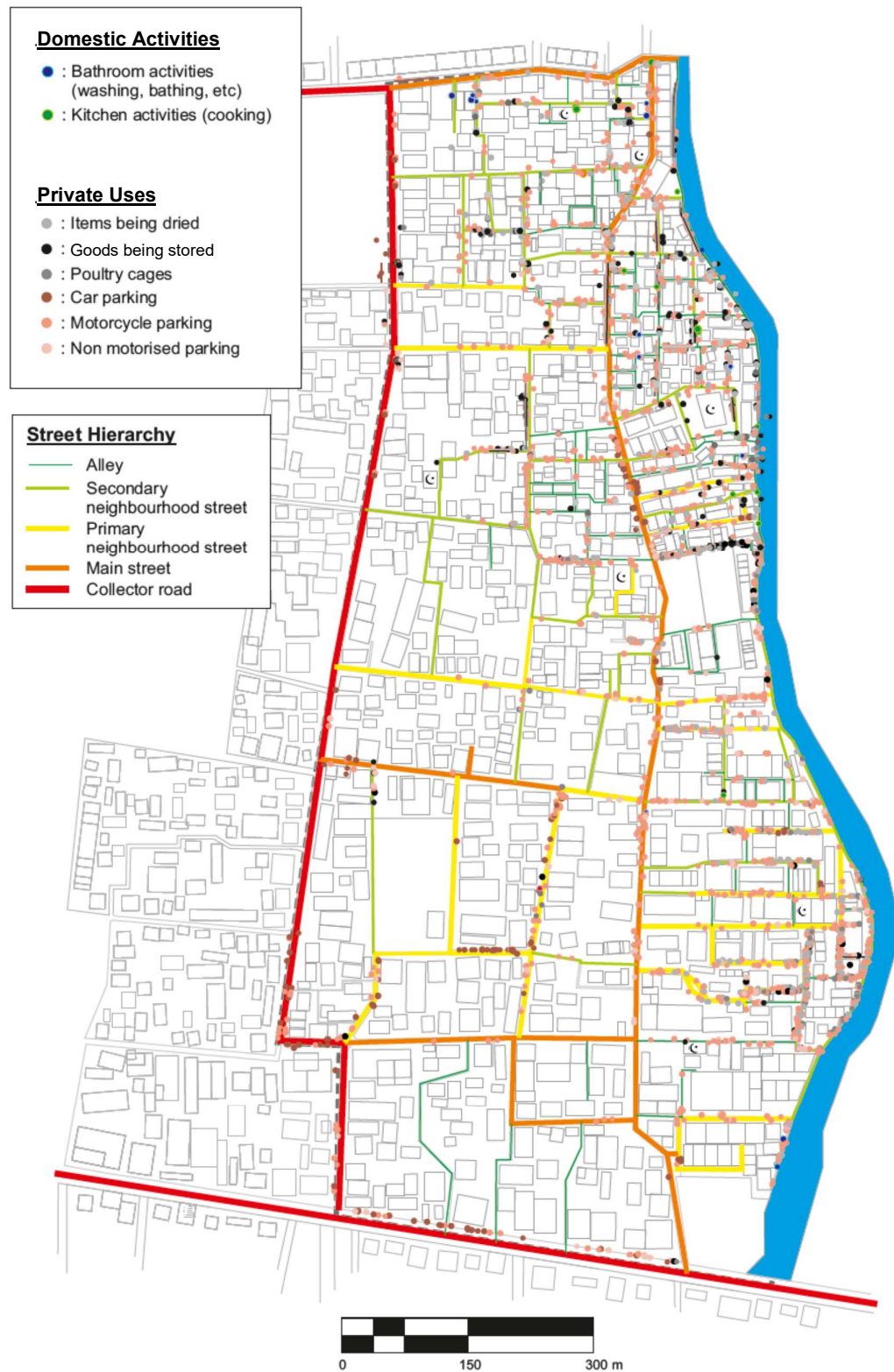


Figure 5.50 Spatial pattern of domestic and private uses of streets in Kampung Keparakan
Source: Field observation, 2018

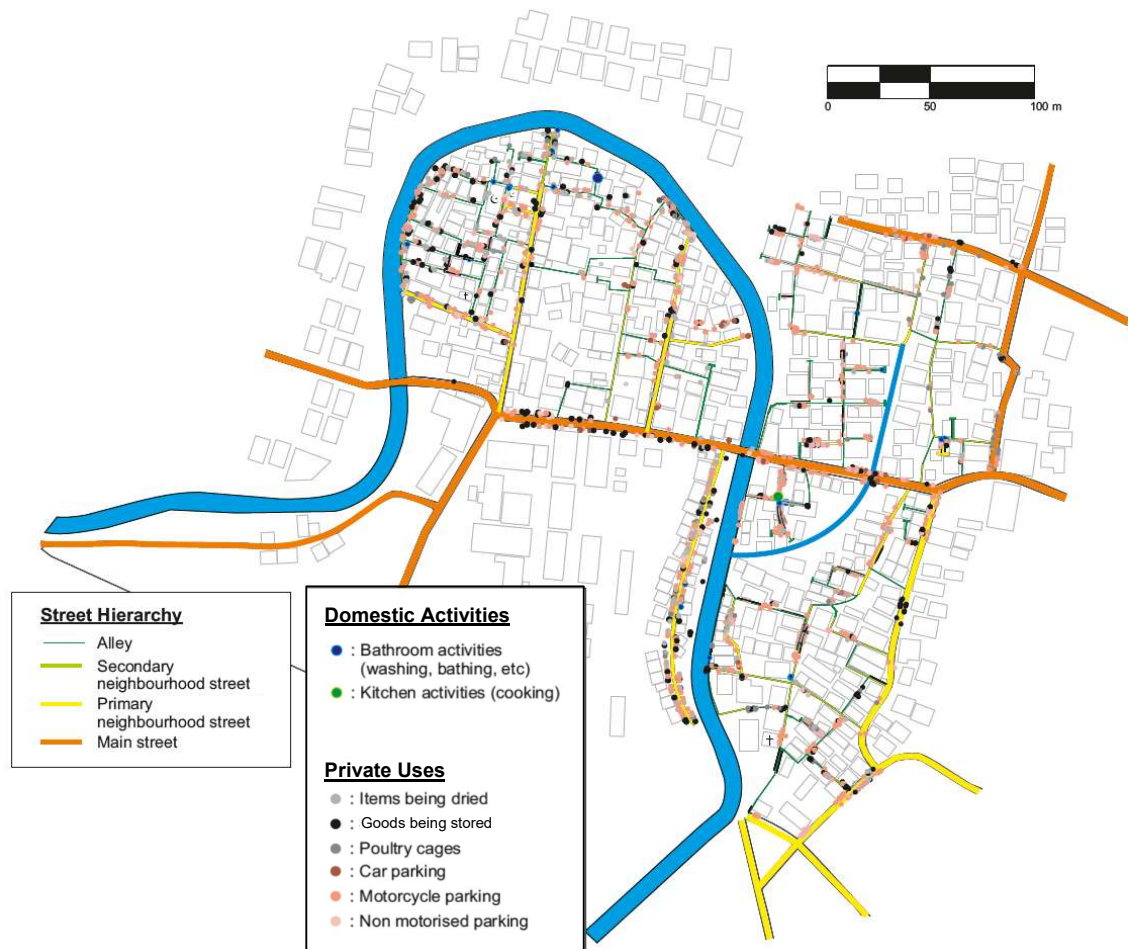


Figure 5.51 Spatial pattern of domestic and private uses of streets in Kampung Kricak

Source: Field observation, 2018

Domestic uses of the street by gender

The occurrence of domestic activities recorded during the observations was quite low. Therefore, there is limited evidence to discuss the gender of users of *kampung* streets for domestic activities. However, of the domestic activities recorded during the observations in Kampung Keparakan and Kampung Kricak, kitchen and bathroom activities were mostly performed by women, although a few men were also seen carrying out these activities.

5.3. Spatial characteristics of gathering places in *kampung*

The discussion of the various uses of *kampung* streets has emphasised the social role of *kampung* streets for communities. Despite a lack of formal planning and application of design principles, *kampung* exemplify the vibrant urban neighbourhoods advocated by many urban scholars (Gehl, 1987; 2010; Jacobs, 1961; Jacobs, 1993; Lynch, 1960). However, it is clear that public life is not evenly distributed in *kampung* streets. Although informality plays a crucial role in creating flexible space, there is a variation in the distribution of activities, even within the same informal settlement. Particular places seem to have a greater social significance as they attract more people and stimulate more activities. This section looks at the qualities that create significant gathering places for *kampung* communities to capture the depth and interconnectedness of the factors that explain street use in *kampung*. This information addresses a knowledge gap about the focus of public life in informal settlements that can help planners and policy makers provide better spatial interventions to facilitate social interactions in informal settlements.

The sites of six gathering places were selected for further analysis because they represent areas of highest intensity of street use: three in Kampung Keparakan (see Figure 5.52), and three in Kampung Kricak (see Figure 5.53). Their physical characteristics and spatial arrangement were analysed in detail to identify the key features creating gathering places.

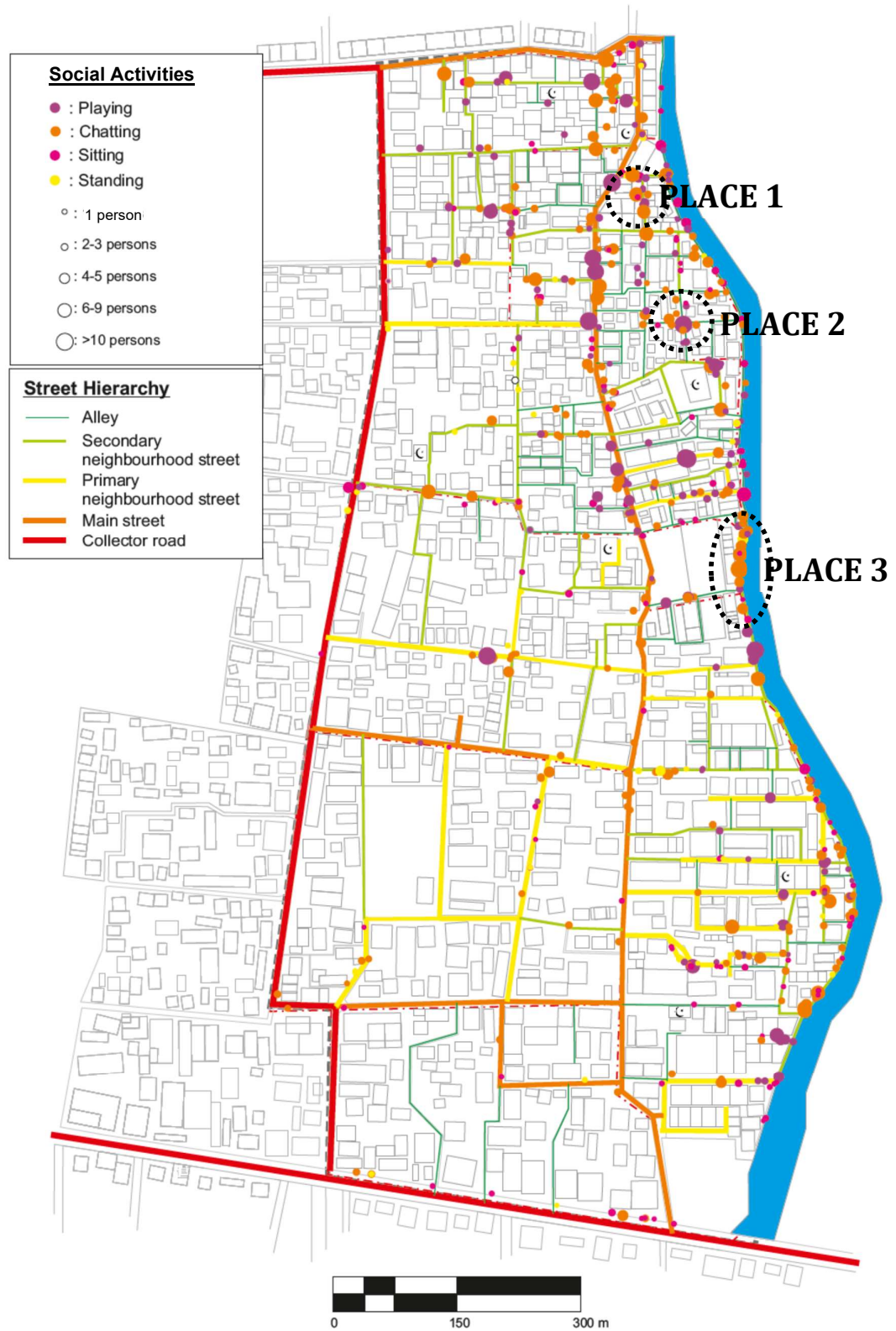


Figure 5.52 Selected gathering places in Kampung Keparakan

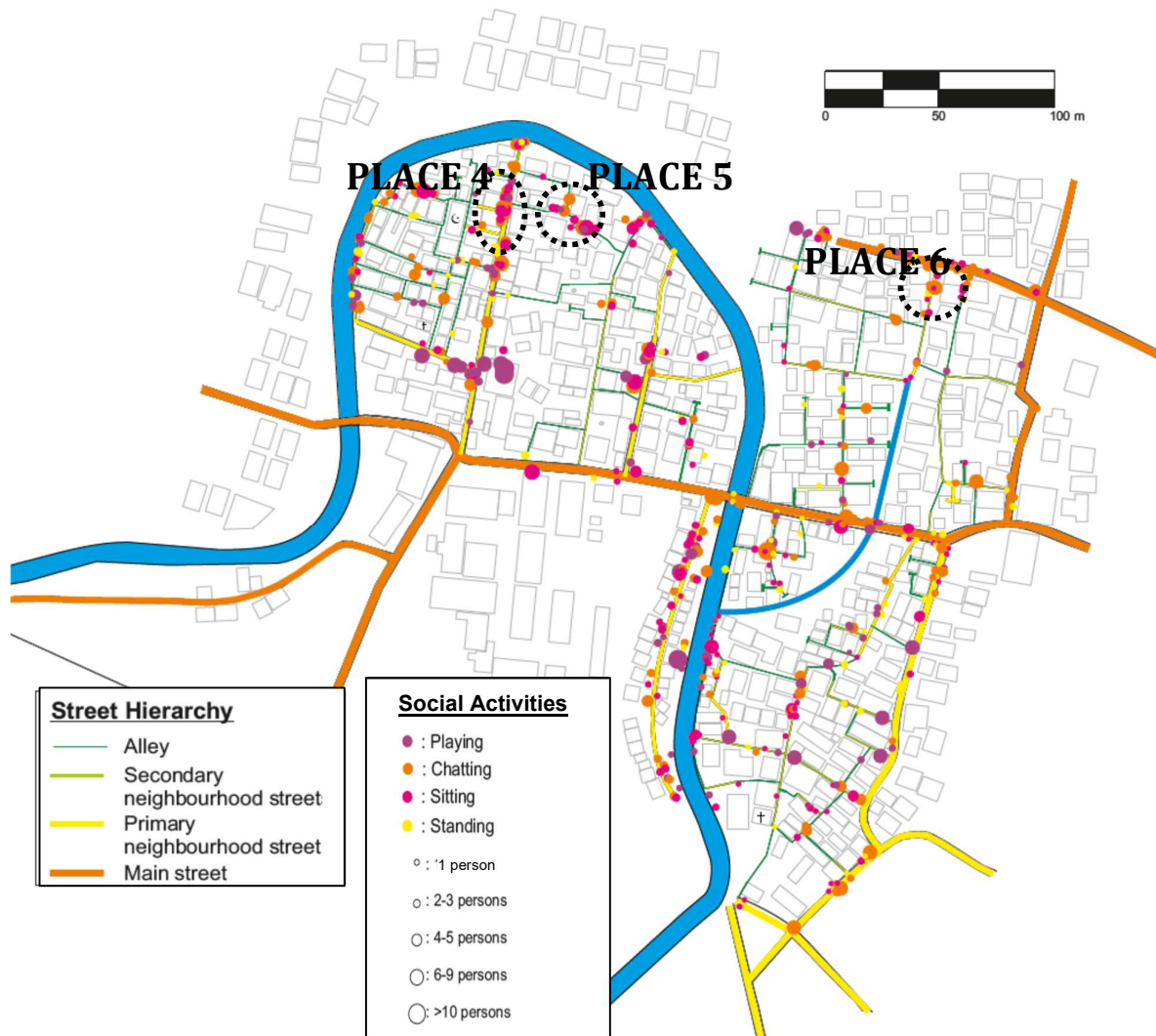


Figure 5.53 Selected gathering places in Kampung Kricak

a) **Place 1**

Place 1 is a segment of a 'neighbourhood street' situated in RW 8, Kampung Keparakan. It is intersected by two alleys that connect it to the embankment and 'the main street' (Figure 5.54). The street is about two metres width, and paved with blocks. The street is flanked by buildings whose ground floor has been elevated to reduce flood damage. Unused furniture, household goods, and flowerpots are placed on the sides of the street.

This area houses several key land uses in the neighbourhood: a *balai*, a communal building used for RT community meetings; a kiosk selling food and

drinks which occupies a small space with a display table in front of the house, covered by a tarpaulin roof and another kiosk selling daily household goods that operates from a house.

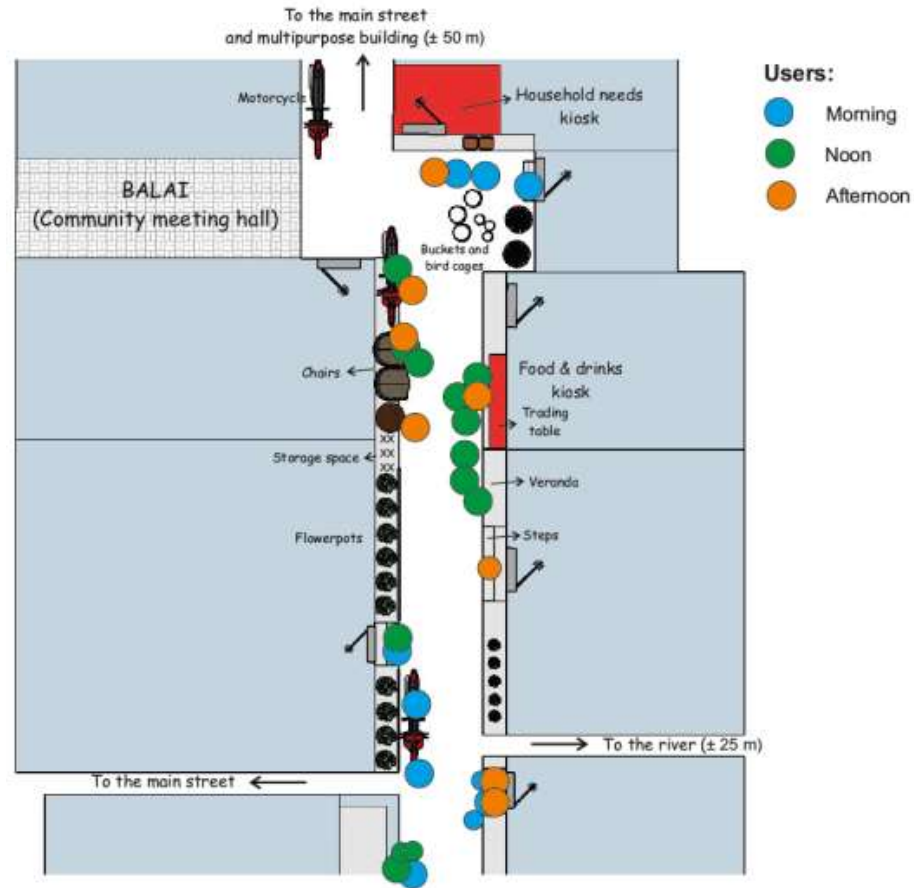


Figure 5.54 Detailed plan of Place 1
Source: Field observation, 2018

Observations showed that residents often gathered around the kiosk selling food and drinks (Figure 5.55). They sat on several chairs placed on the opposite side of the street under the shade of the protective roof, while chatting with the seller and other residents. Some other residents socialised with neighbours while sitting on steps and elevated verandas, or on parked motorcycles.



Figure 5.55 Residents socialising in Place 1
Source: Field observation, 2018

b) **Place 2**

Place 2 (Figure 5.56) is an intersection of neighbourhood streets situated in RW 8, Kampung Keparakan, whose width varies from about 2 to 2.5 metres, located on a main route to the mosque located about 20 metres south. The streets at the intersection are paved with blocks. There is a communal well near the intersection where residents do laundry. A kiosk selling food and drinks is located near the intersection, while another kiosk selling household goods is located right at the corner. The street on the west of the intersection is occupied by a pushcart and motorcycle parking, laundry drying, and some concrete benches built by residents.

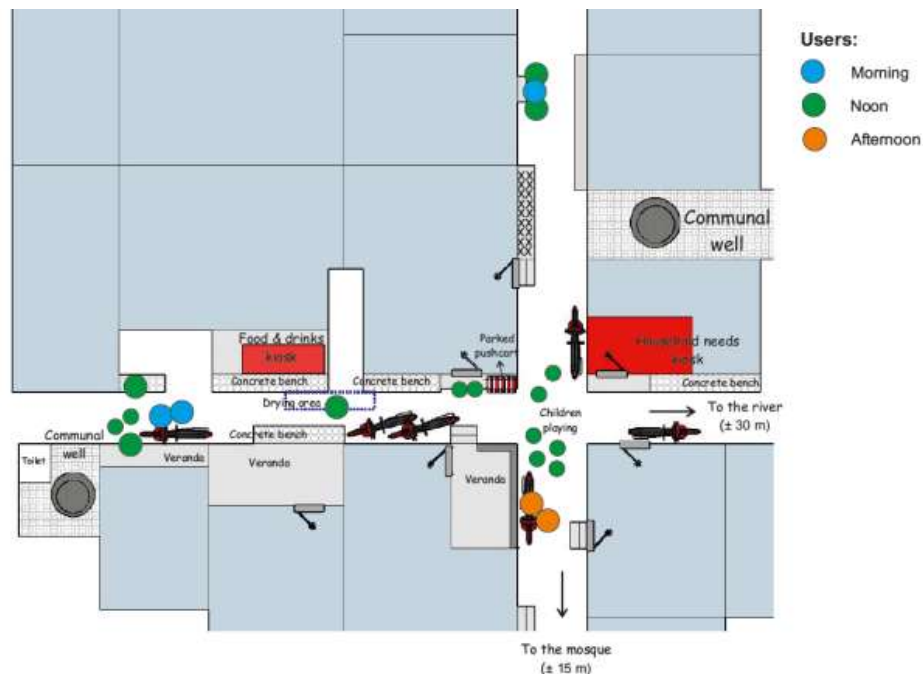


Figure 5.56 Detailed plan of Place 2
Source: Field observation, 2018

During the observations, this location was used as play space for children and by residents chatting (Figure 5.57). Children played and ran from one side to the other at the intersection. Residents gathered around the food kiosk and socialised while sitting on concrete benches. They were also often observed interacting with passers-by who stopped for a while to chat, and talk to neighbours opposite from the concrete bench in front of their own houses.



Figure 5.57 Residents socialising in Place 2
Source: Field observation, 2018

c) **Place 3**

Place 3 (Figure 5.58) is a segment of a 'neighbourhood street' along the embankment in RW 10, Kampung Keparakan. The street is about two metres wide, paved with blocks, flanked by the embankment wall and several residential buildings. It is often used as the main access for residents along the riverbank to get into and out of their area. There is a vacant plot that is used by residents as a place to dry laundry. Some trees grow in the plot, creating a shady place. A small semi-permanent kiosk selling food and drinks has been constructed on the plot and attached to one of the residents' houses. One side of the street is used for motorcycle parking, private storage, and washing space, with flowerpots and bird cages placed on the embankment wall.

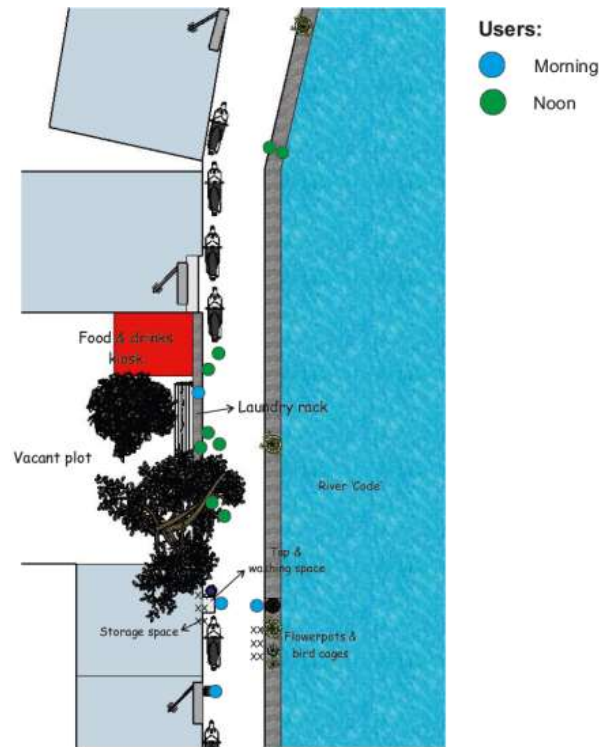


Figure 5.58 Detailed plan of Place 3
Source: Field observation, 2018

Activities were mostly observed around the vacant plot (Figure 5.59). Residents usually gathered near the kiosk, where they socialised while purchasing goods. Other residents also came only to socialise with other residents, or to sit and relax while enjoying the breeze along the river. Despite the absence of seating facilities on the street, residents sat on or leaned against the retaining wall of the vacant plot and the embankment wall.



Figure 5.59 Residents socialising in Place 3
Source: Field observation, 2018

d) **Place 4**

Place 4 (Figure 5.60) is a segment of a 'neighbourhood street' located in RT 13, Kampung Kricak. It is located in a strategic location with direct visual access to the main street. A mosque is located nearby with its main access looking over the space. Several alleys branch from the street connecting it to the river and RT 15. The street is paved with blocks, about two metres wide and flanked by buildings. A communal Koranic school building is located right at the corner of the junction, near the mosque. The building is also used for various purposes, such as regular community gatherings. Some moveable benches, chairs, and tables are placed on the street adjacent to the communal building, and a kiosk selling food and drinks is located opposite it.

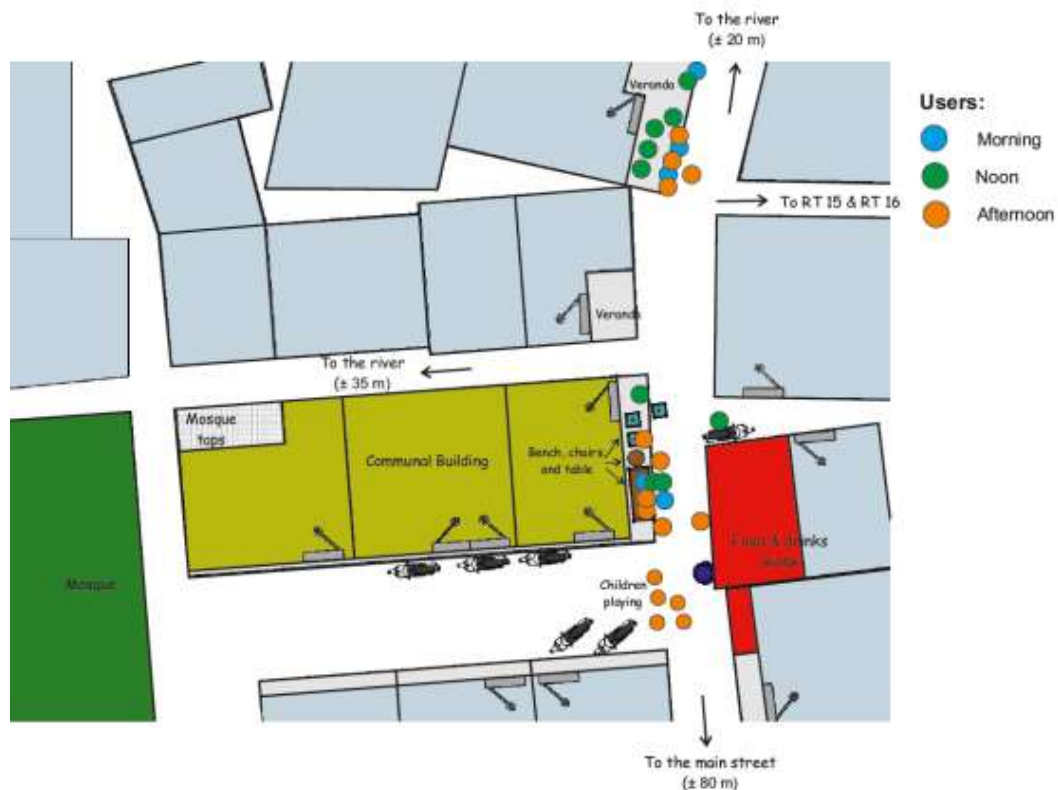


Figure 5.60 Detailed plan of Place 4
Source: Field observation, 2018

Place 4 is one of the most vibrant places in Kampung Kricak where various social activities were observed. However, these social activities were concentrated in two locations. The first is the space between the communal building and the kiosk (Figure 5.61), where residents usually socialised, often

sitting on the benches and chairs placed outside the communal building and enjoying drinks ordered from the kiosk. Sometimes, residents moved the chairs onto the street for a more interactive conversation or to have a more comfortable position to relax. Children played and moved freely around the street corner.



Figure 5.61 Residents socialising near a communal building in Place 4
Source: Field observation, 2018

The other location is an elevated house veranda which functions as a bench where residents can sit and socialise (Figure 5.62). It provides a welcoming interface that attracts residents to stop, gather, and mingle, unlike the next door veranda that has no social activities because it is covered by roller blinds, creating an uninviting interface (Figure 5.63).



Figure 5.62 Residents socialising on a house veranda in Place 4
Source: Field observation, 2018



Figure 5.63 Deserted house veranda in Place 4
Source: Field observation, 2018

e) **Place 5**

Place 5 (Figure 5.64) is a segment of street which is actually a space between buildings near the river used by some residents in RT 15 Kampung Kricak as a shared access way. It is unpaved, about two to three metres width, and connects RT 16 to RT 14 and RT 13. There is an enclosed space in one part of the street that looks like a small courtyard shared by adjacent properties, with a shared well and toilets constructed nearby. A wooden bench is placed in front of a house facing the space, with some flowerpots arranged in the middle of the space to decorate it. The edge of the space is occupied by domestic goods (e.g. buckets, table), parked vehicles and pushcarts.

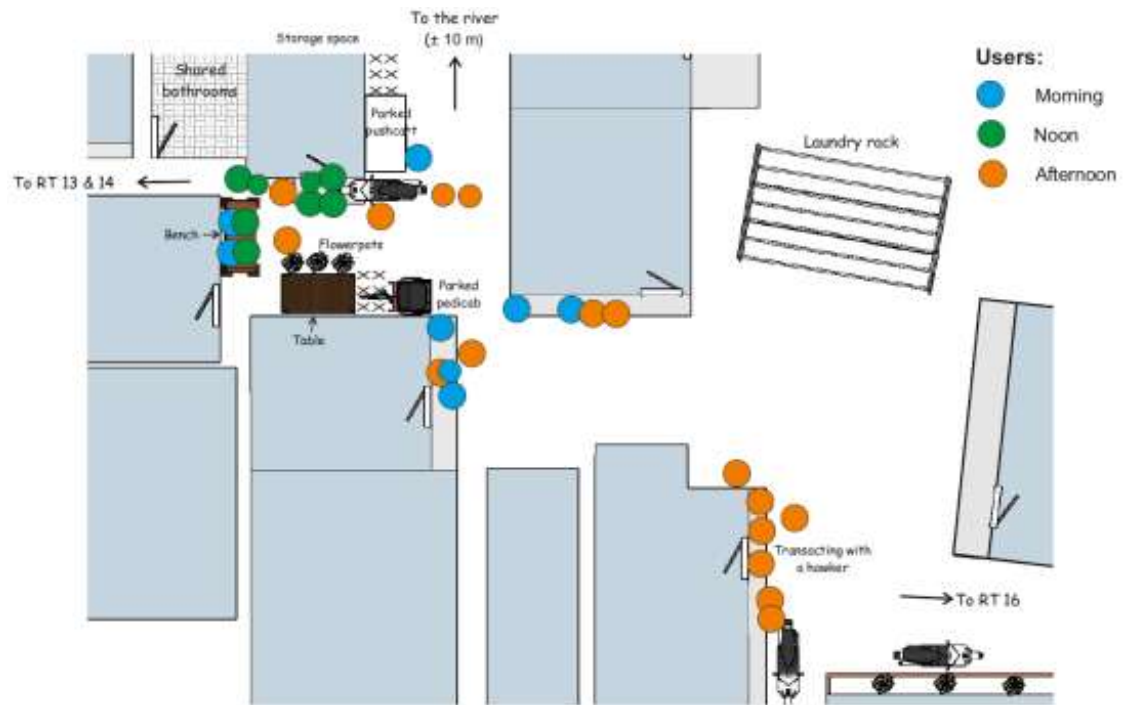


Figure 5.64 Detailed plan of Place 5
Source: Field observation, 2018

The observations conducted in Kampung Kricak showed that social activities were mostly concentrated around this enclosed space (Figure 5.65). Nearby residents gathered here to socialise, often chatting while sitting on the wood bench, or on the ground of house verandas. Some other residents sat on elevated verandas to relax and people-watch.



Figure 5.65 Residents socialising in Place 5
Source: Field observation, 2018

f) **Place 6**

Place 6 (Figure 5.66) is a junction where a 'kampung main street' meets a 'neighbourhood street' that is the boundary between RT 34 and RT 36 in Kampung Kricak. The streets around the junction are paved with blocks. The width of the streets varies between 2 and 3.5 metres. The traffic of the main street is relatively light as it leads to a dead end near the junction. The junction features several shops selling a variety of goods, such as household goods and stationery, and a communal motorcycle parking space. A kindergarten and a community health centre for women and children (*posyandu*) are situated in the same street, opposite each other. There is a tree growing in one of resident's yards that provides shade in the street at noon and in the afternoon.

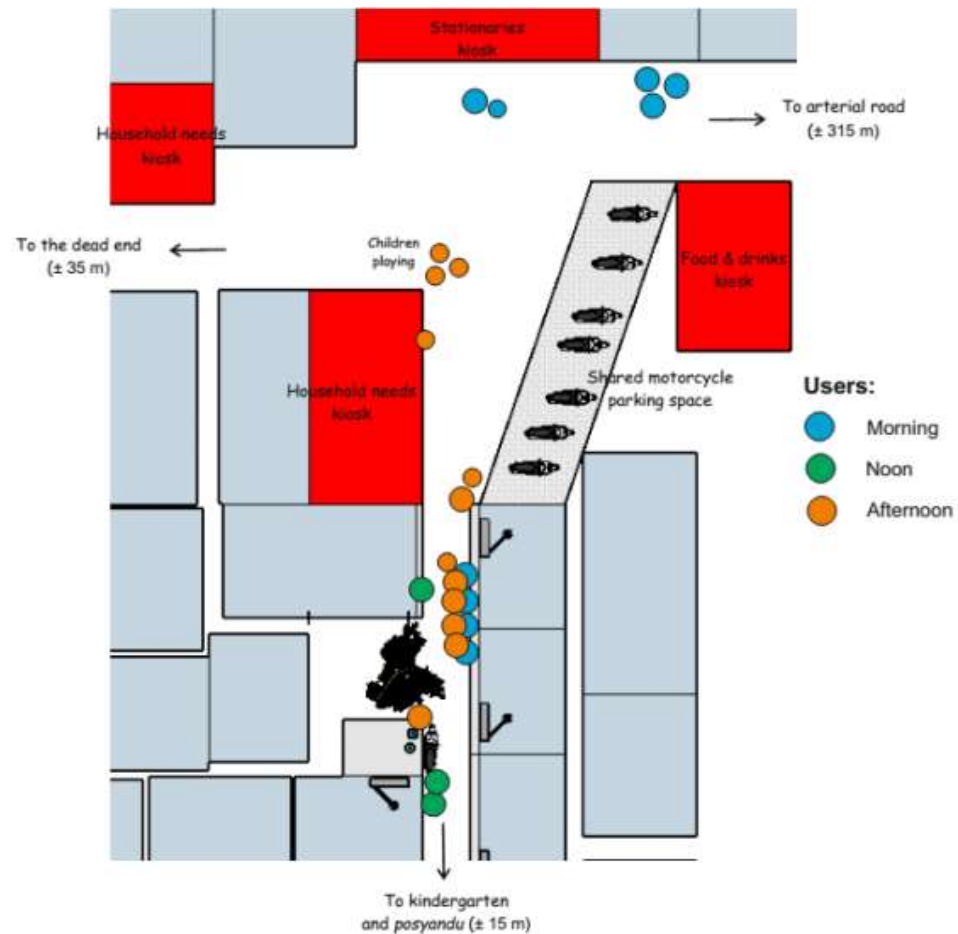


Figure 5.66 Detailed plan of Place 6
Source: Field observation, 2018

Social activities took place around the junction at the opening of the 'neighbourhood street'. Residents were often observed chatting while sitting

on a small step in front of a building, shaded by the building and tree (Figure 5.67). It is also common to see some women sitting and socialising at the same place while feeding their children, or waiting to pick up their children from kindergarten. Children often played at the junction due to its large space and small volume of vehicular traffic.



Figure 5.67 Residents socialising in Place 6
Source: Field observation, 2018

Key characteristics of gathering places in kampung

The analysis of the six street gathering places in both *kampung* showed that the significance of particular places in *kampung* streets for the social life of *kampung* communities is determined by a combination of factors. Among them are spatial characteristics of the street that allow and attract residents to socialise.

Connectivity is a key factor that contributes to the social significance of particular streets in *kampung*. Gathering places are often situated in ‘neighbourhood streets’, at or near street junctions (e.g. Place 2, Place 4, and Place 6), that implies that they are well-connected within the neighbourhood and to the wider area, as ‘neighbourhood streets’ play a key role in the neighbourhood pedestrian network. Whyte (1988) found that people tend to socialise in busy areas of pedestrian flow. This good connectivity of ‘neighbourhood streets’ and pedestrian flow stimulates social contact in areas where traffic volume is not too high to create disturbance and discourage social interaction (Appleyard, 1980; Biddulph, 2012).

Adjacent land uses also seem to play a part in the creation of gathering places in *kampung*. Economic activities in *kampung*, especially food and drink kiosks, are a great attraction for *kampung* residents. When some residents are present in the street to buy something, others start to interact, as Gehl (1987, p. 23) wrote “people are attracted to other people”. Whyte (1980) more explicitly argued that retailing, such

as shops and stores and people going in and out of them, are among the key features that affect the sociability of the street. Gathering places are often present around community facilities, such as schools, mosques, *balai* (community meeting hall), and communal washing areas, although their effect may not be as great as that of economic activities. This finding extends our understanding of the functional mix as a key ingredient for the social vitality of the city (Dovey & Pafka, 2017; Jacobs, 1961), by showing its applicability at the micro-scale of space in informal settlements. Even a single land use, such as a kiosk, can have significant effects.

The physical quality of the street also contributes to attracting people to socialise in particular places. These places often offer comfortable seating places. Whyte (1980, 1988), Gehl (1987, 2010) and Mehta (2013) suggest that seating facilities are vital for the liveability of public space. Residents make use of various objects as seating facilities – wooden benches, concrete benches attached to the house, moveable chairs, embankment walls, steps, elevated verandas, or parked motorcycles – to form a gathering place, and the absence of designated seating facilities is not a deterrent to socialisation. This finding implies that the important aspect to promote social life in the neighbourhood is not the physical design, but the opportunity to take part in “continual adjustment and adaptation of the physical environment to the city functions” (Gehl, 1987, p. 41). Therefore, flexibility for people to use and alter space according to their needs is crucial in informal settlement interventions. It is also noticed that these favourite seating places are often located under shade. They could be under a tree (e.g. Place 3 and Place 6), a tarpaulin roof (e.g. Place 1), or shade from roof and buildings (e.g. Place 2, Place 4, and Place 5), indicating the need to consider climate conditions in design interventions.

Lastly, the design of street space also affects how *kampung* streets have been used differently by residents. Scale, building orientation, and interface seem to make a difference. Activity concentration tends to be located at places with a good sense of enclosure (neither lack of enclosure nor too enclosed). For instance, in gathering places at or near street junctions, where *kampung* ‘main streets’ or alleys intersect ‘neighbourhood streets’, social activities tend to be concentrated on the neighbourhood streets (e.g. Place 1, Place 4, and Place 6) because the width of neighbourhood streets allows more intimate contact for those sitting on a veranda or inside the home to interact with people outside, without intrusion into private territory.

Furthermore, more residents socialised in street segments where buildings face each other. This configuration provides more opportunities for social contacts with opposite neighbours and between house occupants and pedestrians, especially when the interface between buildings and the streets is direct and transparent (as noted by Dovey & Wood, 2015). In the context of *kampung*, house verandas are crucial and function as a transitional space where domestic activities spill over (Kamalipour & Dovey, 2020). Open and welcoming house verandas blur the boundary between the private domain of buildings and the public domain of the street, creating 'soft edges' that stimulate street life (Gehl, 1986). In contrast, an opaque interface (Dovey & Wood, 2015), such as a closed veranda, could repel residents from gathering and lingering on the street.

5.4. Concluding remarks

This chapter discusses the nature and patterns of various uses of *kampung* streets in Kampung Keparakan and Kampung Kricak, Yogyakarta. **Four types of uses** have been identified and analysed: **ceremonial, social, economic, and domestic and private uses**. These uses represent different facets of *kampung* life that rely on access to the street. This categorisation attempts to capture a range of conditions that may help to understand the complexity of the everyday practices of street use in informal settlements, but in no way suggests that the categorisation is exclusive or stable.

This chapter suggests that the **community is at the heart of street uses** in *kampung*. Amidst the lack of space in *kampung* to accommodate people's congregation, ceremonial uses reflect the spirit of togetherness among *kampung* residents in maintaining their tradition. Using the street for ceremonial activities also exemplifies **community solidarity** and willingness to **share the burden** among community members. During ceremonial processions, residents allow the street to be closed and used temporarily by their neighbours. It is a kind of reciprocal contribution expected from *kampung* residents, which is essential in their survival.

Moreover, unlike the designed but often underused public spaces, ordinary streets in *kampung* are **rich in social activities**, both **active** and **passive sociability**. The dense, organic and spontaneous characteristics of *kampung* streets, with blurred boundaries between public and private space, have contributed to create a safe and pedestrian-friendly environment that attracts residents to socialise on the street.

Contrary to the dominant narrative portraying women and children in streets and public space, this chapter shows that *kampung* streets have become an important playing ground for children and social place for women. The street has become an extension to the home environment, where parents are confident of allowing their children play in the street because residents are willing to take care of each other.

Furthermore, in contrast to the appropriation of public space by private actors in the city that often leads to marginalisation and exclusion of the poor, **appropriation of streets by private actors** in *kampung* provides broader **social and economic benefits** for those who do not have space inside the home. In *kampung*, streets have become a safe place for conducting income-earning activities, especially for lower income groups. Business activities, such as street traders and hawkers, and domestic activities appropriating the street tend to be accepted and tolerated in *kampung*.

Kampung streets are also a place for performing activities related to the primary necessities of life, which **replaces the domestic space inside the home** for essential activities and provides larger space and access to sunlight for non-essential activities. The appropriation of the street by private actors in *kampung* for both essential and non-essential activities is not exclusive, but is often temporary and subject to community acquiescence and approval. Community consensus appears as a mechanism that ensures the sharing of street space for multiple and overlapping uses.

This chapter also shows that the significance of different streets in *kampung* is determined by the **locational and spatial advantages** they offer for particular types of activities. For instance, socialisation among residents usually takes place in 'neighbourhood streets' which are well-connected, well-enclosed, and pedestrian-friendly, offering an intimate space for social interactions. Street economies often locate themselves in *kampung* 'main streets' for connectivity and visibility reasons. As for private use, narrower streets and alleys are more often appropriated because they are rarely traversed by strangers, offering security and a sense of semi-private territory.

A combination of spatial characteristics of the street – **connectivity, adjacent land uses, physical quality of space, and design of space** – contributes to the production of significant gathering places in *kampung*. Gathering places tend to be located in central locations with high pedestrian flow but low vehicular traffic. Food and drink kiosks attract people to mingle, suggesting the importance of a micro-level functional

mix for street liveability. Flexibility to use and alter space according to user needs, for instance to set up seating facilities, is crucial to create a comfortable environment for gathering. Face-to-face building orientation and direct-transparent interfaces between buildings and the street, such as open verandas, create a sense of enclosure and 'soft edges' that encourage social interactions.

Finally, this chapter suggests **the presence of informal systems and mechanisms** that regulate the allocation of street space for different uses in *kampung*. It indicates the presence of politics and power relations played out in the management of *kampung* streets discussed in the next chapter.

6.0. Politics and Control in *Kampung* Streets

6.1. Introduction

Power relations play a major role in how *kampung* streets are transformed, used and accessed as in many other types of public space. Those in control of resources control how a place is created (Dovey, 1999). Therefore, “what is at stake then, and what must be examined is not only the space, nor even the representation constructed within the space, but the power relationships that exist within those spaces” (Kilian, 1998, p. 117).

Using the framework of power contestation as overlapping rights, with their spatial manifestation through territorial claims, this chapter explores how power relations affect the use of and access to *kampung* streets, which is often invisible to those in charge of development interventions in *kampung*. It firstly outlines the historical evolution and actors involved in the development and management of streets in Kampung Keparakan and Kampung Kricak. It then discusses the current control and management of *kampung* streets. The final section of this chapter analyses the politics and conflicts of managing *kampung* streets suggesting that streets are a political tool, as well as part of the physical infrastructure of the *kampung*.

The analysis of the process and actors involved in the planning, development, and management of *kampung* streets in Kampung Keparakan and Kampung Kricak, shows that their creation and management is situated within a complex state-communities-landowners nexus of multilayered power relations. At the city level, these relations are often formal and statutory, but at the grassroots level, local actors and informal processes create a dynamic that demonstrates flexibility and ambiguity in the management of *kampung* streets.

6.2. Historical evolution of *kampung* streets: processes and actors

This section examines the process of development and management of *kampung* streets in Kampung Keparakan and Kampung Kricak. It expands the discussion of two development processes shaping the structure of the street network presented in

Section 4.6.1, but with emphasis on the processes and multiple actors involved – their roles, responsibilities, authorities, and their relationships with other actors. These relations are dynamic, as they are affected by the political environment guiding urban development and shaping the relationship between communities and the state at the national and local levels.

Kampung Keparakan and Kampung Kricak differ in many aspects, particularly their historical occupation and land tenure. Kampung Keparakan was developed on public land, a flood-prone area of the riverbank, historically owned by the Yogyakarta Sultanate but then occupied by squatters. Kampung Kricak was developed on privately owned land and informally subdivided and built on by landlords and tenants. Despite these differences, they also share some commonalities in street management.

This section seeks to understand how street management operated in different socio-political and historical contexts in the two *kampung*. For the analysis, it is useful to divide the transformation into two stages: the initial occupation of the informal *kampung*, and consolidation when the street has undergone changes and gradual improvement.

6.2.1. Initial occupation: the absence of the state

Based on the interviews conducted with key informants in the two *kampung*, it is clear that most streets in Kampung Keparakan and Kampung Kricak were initially not the state's responsibility. Before the 1980s, many city authorities in Indonesia were reluctant to allow informal activities and informal settlements to exist. Informal urban *kampung*, such as those in Yogyakarta along the riverbank, had a bad image as pockets of poverty and crime, and evictions were common (Guinness, 1983; Setiawan, 1998). City authorities avoided upgrading *kampung* streets which would be considered as a sign of government acceptance of informal settlements and a recognition of squatters' rights of occupation.

During the initial occupation, when shortages of low-cost housing and the government's failure to control vacant land enabled squatters to occupy land, many *kampung* streets were initiated by communities and landowners. This process exemplified what Yiftachel (2009; 2015) called 'grey space' coming 'from below', when marginalised groups take advantage of the shortcomings of the formal system.

Later, however, communities ignored by the state were pushed into taking on government roles of service and infrastructure provision.

Community-led initiatives

In Kampung Keparakan, street development was mostly driven by consensus among residents. When the first settlers of the riverbank came during the 1960s to 1970s, there was only a narrow path along the water channel to the paddy fields, which has today become the '*kampung* main street' of Kampung Keparakan. These first settlers had to create the street themselves, opening access to their newly built settlement and creating internal circulation space. This new circulation space was negotiated among plot holders by voluntarily donating a small part of their plot to be used as streets, as noted by an interviewee:

The street here is only '*rukunan*', meaning that land occupiers spare [share a portion of] their plot; the one on the right spares a small piece, the one on the left spares a small piece too [...] Then *kampung* people will declare it, although unwritten, as *kampung* street (Source: Interview RW leader, 2018).

This process was incremental and spontaneous, to meet the needs of the community. Lacking technical design, the street created by communities was often winding and irregular, as described by an interviewee in Kampung Keparakan:

Nothing [planned]. The street was created spontaneously, because of the need of the people [living there]. Someone who built the house would need the street, there has to be a street in front [of the house], [even though] later, the street would appear like a snake (Source: Interview RW leader, 2018).

However, as argued by Silver (2014), this incremental process demonstrates the influence and agency of *kampung* residents in reconfiguring the urban system in their neighbourhoods.

In the area where residents built their houses on marginal land, initiating the street could be more challenging. This occurred in the 1990s, when a group of residents previously living in RT 16 near Kampung Kricak invaded the land on the riverbank. This community was eventually acknowledged as a new administrative unit named RT 26. During the early invasion, there was no proper access because previously the land was used only for cultivation (Raharjo, 2010). Later, *kampung* communities worked together to open the first street connecting the settlement to the 'main street'

(Figure 6.1). Residents recalled the time when communities opened the access, emphasising the hardship residents faced at the beginning:

At the beginning, there was no access. To enter [the settlement], people had to navigate through a narrow space on the edge of the cliff along the river, while holding onto anything they could, like trees and shrubbery. [...] Then residents started to open a new street. The process was very hard, not as easy as it looks nowadays. It was very difficult. The cliff was very high. [The gap between] the level ground and the water surface [of the river] was very deep. So, at that time we used anything to fill, literally anything, including trash, tyres, and coconut shells. So, the ground that we step on now is not purely soil. However, because communities needed the access very much, no matter what, thus they carried out [work] together by themselves (Source: Interview RT leader, 2018).



Figure 6.1 Today's condition of the first street opened by residents in RT 26 Kampung Kricak

Source: Fieldwork, 2018

The initial development of streets in Kampung Keparakan and some areas of Kampung Kricak cannot simply be understood as a gradual physical transformation. Initiation of *kampung* streets by communities represents community struggle over citizenship and their right to be recognised in the city. Incremental transformation of infrastructure in informal settlements solidifies both the physical fabric of the settlement and the status of the community and their perceived right to land tenure (Silver, 2014). It improves the permanence of the settlement and its visibility to the wider public and those who allocate resources and services in the city. As Amin (2014) argued, intermediating community struggle through infrastructure can bring people together to work collectively for their common aspirations and provide more space for social collaborations. Therefore, the state's initial reluctance to take part in

initiating *kampung* streets has instead fostered the continuation and reproduction of life in *kampung*.

Landowner-led initiative

In Kampung Kricak, the landlord emerged as a powerful figure who largely controlled street development in the settlement. During the 1950s to 1960s when the *kampung* was first settled by squatters, streets and alleys followed the landlords' random allocation of plots, as there was no plan prepared for the street layout. Some informants explained how one of the landlords managed to construct the embankment along the river to secure his land from flood, illustrating his powerful influence in *kampung* development and layout. For example, one interviewee said:

He [the landlord] constructed the embankment along the river. He funded the construction from his own money, because it was on his own land. If we had asked the government to help us at that time, maybe they would have helped us. But he refused to do so [and said]: "I will construct it by myself". From here to there, the embankment was built by him. [...] So, basically, it was all from him (Source: Interview RT leader, 2018).

This informant portrayed the landlord as a philanthropic figure who aimed to improve the welfare of ex-barrack residents. However, the landlord's refusal to seek help from the government may have been a political move to secure power to control the land and its development. The landlord may have been concerned that government intervention might lead to expropriation of the land and control of *kampung* development. Thus, the refusal could both protect his property and the tenants from being evicted. Some landowners in *kampung* shared the same concern of expropriation by the government, as reported by a landlord in Kampung Kricak:

For instance, here in my area. Some of my relatives opposed paving his land. The street [on his land] is not allowed to be paved, even until now. I have proposed it, but he, as the owner refused. Although we are related, we have different views. Maybe he was afraid "What if it [the land] would be taken by the government?" But [I am sure] it won't, it won't be taken by the government (Source: Interview landlord, 2018).

6.2.2. Consolidation: a dynamic relationship between state and communities

Street transformation is an important part of the consolidation process in *kampung*, and this sub-section explores the dynamic relationships between the state and communities during consolidation. It is clear that collective action by communities to improve the street network provided a platform for communities to collaborate, while

the state's interventions in *kampung* streets implied a kind of formalisation and tacit acceptance by the government of the existence of *kampung*.

The rise of community power

In both *kampung*, after the settlements were occupied, communities continued to play a major role in improving the *kampung* street network, and sometimes even became the dominant power overseeing *kampung* development. For instance, communities in Kampung Kricak were able to create alleys connecting houses when the settlement became denser, despite the powerful control of the landlord, as noted by an informant:

There used to be only some initial pathways. One was a footpath, stretching from that big gate to the north up to the river. Another one stretched from that corner to the west up to the river, also a footpath. But because this *kampung* became denser, the residents later had to create alleys in order to get access to their houses. Thus, there are many small alleys here now; they were initiated by the residents (Source: Interview senior resident, 2018).

Other residents, such as those living in the area that is now RT 16 with some wealthy new in-migrants, were able to organise and acquire the land from the landlord. They formed a committee responsible for laying out the land after it was bought, and they allocated some places as public streets to provide access for residents. Therefore, most of the plots in the RT 16 section of Kampung Kricak are privately owned by residents, as noted by one informant:

For instance, this section, from here to there, and to the east, used to be vacant land used for cultivation. Then it was bought together, and afterward was laid out. There was a committee, so it could be properly laid out. [...] Then, after [the land] was bought, the street was moved. It used to be a house, the house of the land keeper. But it was then turned into a street. Those living inside did not have any access, but now they have a street this wide (Source: Interview RT leader, 2018).

In Kampung Keparakan, the next stage of *kampung* street improvement was marked by the appropriation of public amenities for the street. The demand for better access by the growing *kampung* population drove communities to appropriate the water channel. The only access at that time was a narrow path along the water channel, which was no longer sufficient for access. Therefore, residents began covering the water channel; to widen the street, as noted by a key informant in Kampung Keparakan:

Afterwards, in the later stage, due to the growing importance of the only street at that time, the water channel was narrowed. [The channel] used to be wider [than it is nowadays], and the street was narrow. Then, the channel was narrowed in order to provide more space for the street. Gradually the channel was entirely covered and used for the street (Source: Interview senior resident, 2018).

Unfortunately, appropriation of the water channel for street widening set a precedent and some residents appropriated the channel for private use, building permanent structures on portions of it to extend their private space closer to the street. Privatisation of space above the channel indicates the significance of this marginal space in the eyes of *kampung* communities, exhibiting their own distinct logic on the value of a particular space. This created conflict between those living along the channel and the rest of the residents who demanded the space to be dedicated for public interests. One of the informants was concerned about the contested nature of the space above the channel:

I have expressed my outcry to *Pak Lurah* [the head of *kelurahan*] several times, also to anyone, "Let's just cover this channel entirely, so it can be used later for the street". [...] But *Pak Lurah* showed a hands-off attitude. [I argued] it's better to narrow, [and] cover it and then use it as a public facility, making the street wider, instead of letting them [some *kampung* residents] use the channel as they wish. They face the channel, [so] they [can] cover the channel and turn it into [their] living rooms. That's an offence, isn't it? But what can we do? If we remind them, we will be hated (Source: Interview RW leader, 2018).

In both Kampung Keparakkan and Kampung Kricak, the common element in street transformation is the exercise of quiet community resistance against the dominant power, resembling Bayat's 'quiet encroachment of the ordinary' (1997, p. 57; 2000, p. 545), that is "a silent, protracted, and pervasive advancement of ordinary people on the propertied and powerful in order to survive hardships and better their lives". However, with *kampung* communities the 'quiet encroachment' was not merely for individual survival, but also for the community's collective interest.

The drivers of 'quiet encroachment' are both necessity and the lack of institutional power (Bayat, 1997; 2000), as seen in both *kampung*. The need for improved access and the absence of institutional arrangements to voice community aspirations urged *kampung* communities to expand their streets and street network themselves, as indicated by a key informant in Kampung Keparakkan:

The authority seems to overlook this [encroachment]. They know that there is an offence, but they ignore it. If this [practice] continues, do they

think that other residents will not be jealous? Of course, they will. [...] The rules of the game are not clear. It is not clear whom the channel belongs to, whom the street belongs to, [they are] not clear. [...] If they want to carry out [the construction], they just do it (Source: Interview RW leader, 2018).

The state's reluctance to take action, the weakened influence of the landlords and their tolerance provided enough time for communities to organise themselves and consolidate their settlements. Community initiatives in the management of *kampung* streets continued until the state started intervening in *kampung* development.

State intervention and institutionalisation of community participation

In Yogyakarta before the start of the 1980s, the state's intervention in *kampung* aimed to control the social and physical problems of impoverished settlements in flood-prone areas by clearing the settlements built on the riverbank. During the 1980s to 1990s, changing attitudes of the state towards *kampung* led the government to become involved in the development and management of *kampung* streets, including in Kampung Keparakan and Kampung Kricak.

The change in Yogyakarta was largely motivated by the growing resistance of *kampung* communities to a government plan to turn the riverbank settlements into greenbelts (Silas, 1992b). Resistance to the 1985 Governor's Decree authorising the settlement clearances was led by Romo Mangunwijaya, an academic and priest, which escalated into an urban conflict between the government and the settlers. Romo Mangunwijaya wrote an open letter to the government published in a local newspaper criticising the decree (Khudori, 2002), while working with the settlers to upgrade the physical and social conditions in their *kampung*. This effort changed conditions in the *kampung* and eventually convinced the government to cancel their demolition plans.

At that time, many central and local government interventions in *kampung* reflected the increasing enthusiasm for physical upgrading and 'beautification' of *kampung* settlements. However, these interventions then changed the way that communities planned and developed their *kampung*, as they necessitated a systematic approach to engaging the community in the process, as well as gaining control over development and community participation in *kampung*.

State interventions in *kampung* streets have undeniably benefited *kampung* communities as they complement the self-help infrastructure provision by

communities. Many *kampung* streets in Kampung Keparakan and Kampung Kricak first built by communities were often in poor condition due to the communities' lack of technical knowledge and resources. When upgrading was undertaken, the streets were soon repaired and upgraded by the city authority using more durable materials and appropriate construction techniques. The improved street quality due to government initiatives was appreciated by *kampung* residents, according to a key informant in Kampung Kricak:

[The use of] paving blocks started in 1992/93. Previously, [the street] was just unpaved soil. It was once covered with concrete. But the street [with concrete] was not durable enough because it was a product of self-help work from the residents. The surface was easily cracked, even the fragments often hurt children. Motorcycles and bicycles often got flat tyres because of the sharp pebbles. So, it was replaced by paving blocks, around the 1990s [by the government], I reckon (Source: Interview RT leader, 2018).

The implementation of many government programmes in *kampung* also improved the image of the *kampung*. A key informant in Kampung Keparakan noted how, in the early 1990s, *kampung* along the River Code were regarded as physically impoverished and socially dangerous and seen to be inhabited by beggars, scavengers, criminals, and prostitutes, until various government programmes were initiated. Nevertheless, since 2000 and after the upgrading, the negative image of the *kampung* along the River Code slowly faded.

However, government interventions in *kampung* came at a cost. They signalled a hidden political and state agenda to control the organic development of *kampung*, to discipline rebellious *kampung* communities, and to gain popular support from these communities. In so doing, the government often employed people from ABRI (Indonesian Military Forces) in *kampung* upgrading projects, such as the construction of the embankment and the street along the River Code (Setiawan, 1998). *Kampung* communities were also required to actively participate and collaborate with ABRI during the projects, as emphasised by a key informant in Kampung Keparakan:

The embankment [in this *kampung*] was constructed in the beginning or the middle of 1996 if I am not mistaken, starting from the north to the south. It was carried out by the AMD [ABRI *Masuk Desa*/literally means ABRI entering the village], because I also participated in the construction. Residents from each RW took turns to carry the materials. [...] A three-day shift by RW 1, then another three-day by RW 2, until RW 13, then it returned to RW 1, worked again, carrying the stones from the

street to the river. All RWs had to and were willing to participate (Source: Interview RW leader, 2018).

Some scholars (e.g. Beittinger-Lee, 2009; Mietzner, 2003) argued that the involvement of military forces in government projects is part of the political co-option of civic life by the ruling regime (i.e. The New Order Regime). The employment of military personnel in the upgrading programmes allowed the government to spy on potential grassroots resistance that could lead to political instability and allowed for surveillance by the authority. The success of the upgrading projects also boosted the military's image in the eyes of *kampung* communities which helped the ruling regime gain political support for the president, a military general. Setiawan (1998) found that most of *kampung* residents at that time considered the upgrading projects, such as the construction of the embankment and the street along the river, an initiative largely funded by the military.

The government often employed a top-down approach to delivering upgrading programmes, despite arguing that these were a platform for community collaboration. Influenced by a strongly authoritarian and centralised regime, community participation also started to be institutionalised through several bodies responsible for facilitating state-community interaction. These bodies were later used by the state as a tool to control political dynamics at the grassroots level.

One of the bodies established to collaborate with *kelurahan* is LKMD (*Lembaga Ketahanan Masyarakat Desa*/Community Self-reliance Council), as part of the *kelurahan* administration based on Presidential Decree No. 28, enacted in 1980. It was designated to operate at the village and *kelurahan* level as a platform for communities (through their representatives – usually RT/RW leaders, and community elites) to discuss and make decisions on development in their neighbourhoods. In order to gain government funding, all development proposals by communities, including those related to *kampung* streets, had to be discussed by the LKMD, who would recommend which programmes should be approved for funding by the city government. Nevertheless, the council was led by the *lurah*, who was a civil servant appointed by the mayor, suggesting that this council represented state's dominance at local level to legitimate the political agendas of the power elite. As explained by Gaventa (2006), this is an example of the exercise of 'hidden power', in which power holders set up the 'rules of the game' to secure noncompliance from others, even before the decision is

made. Despite the space provided for communities to participate in decision-making, *kampung* development was largely orchestrated by the state.

Studies from Silas (1983) and Djajadiningrat (1994) on several government *kampung* upgrading programmes showed that there was a tendency by the state to ignore community participation, especially early in the implementation. Programme implementation was often led by the government through its sectoral agencies, while communities contributed labour and materials during construction. Djajadiningrat (1994) argued that the hierarchical structure of the programmes' organisation and the formal process set up by the government made it difficult for *kampung* communities to participate.

Following the fall of General Suharto's New Order Regime in 1998, institutional and bureaucratic reform throughout Indonesia allowed decentralisation and democratisation to flourish. The reform affected institutions at all levels of governance.

At the local level, the LKMD was transformed into LPMK (*Lembaga Pemberdayaan Masyarakat Kelurahan*/Community Empowerment Council), a council that still exists. LPMK plays a similar role to LKMD at *kelurahan* level. All street development proposals in Kampung Keparakan and Kampung Kricak must be discussed and approved in *musrenbang* meetings (*musrenbang* is an acronym for '*MUSyawarah peREncanaan pemBANGunan*'/Development Planning Forum, a multi-stakeholder public consultation forum on development issues) to be passed onto the *kecamatan* and city government. To put more emphasis on community empowerment and assert its independence from the state's political interests, LPMK is no longer led by the *lurah*. Instead, it is led by a resident through an election (usually through community representatives – RT/RW leaders, and prominent community figures). However, it maintains its position in the formal power structure of *kelurahan*.

Community participation also takes place through an organisation called BKM (*Badan Keswadayaan Masyarakat*/Community Self-help Organisation), a community-based organisation at *kelurahan* level, but not part of the *kelurahan* administration. It was formed to partner with *kelurahan* in managing empowerment programmes, and poverty alleviation programmes funded by international donors. BKM were established to counter widespread public distrust of the government after the crises

that overthrew the regime, as revealed by the coordinator of an upgrading programme, KOTAKU (*Kota Tanpa Kumuh*/City without Slums) in Yogyakarta:

BKM emerged in 1999. At that time, public trust towards government was low after the economic crises. Then, there was a programme called P2KP (Urban Poverty Alleviation Programme). From this history, BKM used to be very exclusive. Why? Because it was established to address the issue of distrust, government institutions were not trusted by the public, because of the crises, and sometimes this historical factor still has an effect until now (Source: Interview Coordinator of KOTAKU, 2018).

BKM is led collectively by volunteers elected by communities to represent their neighbourhood units to ensure its alignment with community interests.

LPMK and BKM have been considered successful in delivering infrastructure projects in Kampung Keparakan and Kampung Kricak, including new street construction, street paving, and street beautification, as acknowledged by residents. However, their co-existence in different positions in the power structure may result in conflict and competition. The history of suppression and distrust between the state and civil society in Indonesia can hamper the communication between the two organisations and affect the success of *kampung* development programmes as a whole.

6.3. Present-day management of *kampung* streets: current control

Present day management of *kampung* streets in Kampung Keparakan and Kampung Kricak exhibits a hybrid model of street management by the state, communities, and individuals (i.e. landowners, land occupiers and tenants), discussed in this section. The section first explores the day-to-day management of *kampung* streets, and then discusses management of street upgrading, including planning and construction of new work.

The findings demonstrate that community participation in the management of *kampung* streets remains strong, showing the high degree of autonomy and communal responsibility of *kampung* communities. Private individuals also contribute to the management of the street by controlling territory. However, the ability of the city authority to intervene in the planning of *kampung* streets implies that the autonomy of *kampung* communities is rather ‘controlled’ by the state, and that some responsibilities of street management are delegated to communities while others are controlled by the city government.

6.3.1. Day-to-day street management

This sub-section explores day-to-day measures taken by actors to maintain and control *kampung* streets. Based on the interviews and questionnaires in Kampung Keparakan and Kampung Kricak, it is clear that *kampung* residents consider the quality of the street as their shared responsibility, with cleanliness, security, and traffic regulation as three key aspects. Communities run this day-to-day street management through collective initiatives (mostly organised by RT/RW committees), establishment of norms and surveillance (set in community meetings and usually enforced together by community leaders and neighbours), and territorial control by street residents – particularly those who have established a strong attachment and shared values with the majority of community members – that involve local politics among residents as elaborated below.

Street cleaning – collective initiatives

Despite their irregular pattern and messy images, observation conducted in the two *kampung* found that *kampung* streets are relatively free of rubbish, indicating the existence of a management system for street cleaning. This system involves both collective and individual actions by communities.

Collective work, known as *kerja bakti*, was organised in both Kampung Keparakan and Kampung Kricak. Residents managed the streets through voluntary activities such as cleaning streets and painting and decorating the street. The operation of *kerja bakti* varies between different neighbourhoods (usually coordinated at the RT level), depending on neighbourhood consensus. Although *kerja bakti* usually takes place regularly (usually monthly or every 35 days), it may be conducted more frequently if issues are urgent, and can also contribute to preparations for annual community festivities, such as Independence Day celebrations. All families in the neighbourhood are expected to take part in *kerja bakti*, but sometimes women may organise their own clean-up activities, as illustrated by an informant in Kampung Keparakan:

We have a 'Clean-up Sunday' movement. It is usually organised by women; they clean up the street together weekly. Streets and small alleys are cleaned up and swept. But in addition to that, we also have monthly *kerja bakti*, which is for everyone (but often men) (Source: Interview RT leader, 2018).

Similarly, in Kampung Kricak, regular *kerja bakti* is also organised by residents to clean up their neighbourhoods, as uttered by an informant in Kampung Kricak:

Here, we have *kerja bakti*, once in a month. That is to clean streets and drains that are full of rubbish. Although [most of] the rubbish has been collected, but rubbish is sometimes blown by the wind and falls into the drains (Source: Interview RT leader, 2018).

In addition to monthly (and sometimes weekly) clean-up activities, residents also organise a solid waste collection system in their neighbourhood. It is particularly prominent in Kampung Keparakan, where most RTs employ waste collectors, usually from their own community. These collectors will regularly walk around the neighbourhood with their carts to collect rubbish from door to door (Figure 6.2). Their collected rubbish will then be taken to the nearest dumpsites that are connected to the city waste collection system.



Figure 6.2 A waste collector collecting rubbish in Kampung Keparakan

Source: Field observation, 2018

In Kampung Kricak, many residents usually take their rubbish directly to the nearby city dumpsite, as noted by an informant:

Here, nowadays there are no waste collectors. Instead, every resident take the rubbish by himself to the designated place. Every day, a garbage truck from the Public Works Department comes to the RW 4 to collect and transport the rubbish. There is a dumpsite next to the RW office over there (Source: Interview RT leader, 2018).

However, the waste collection service is not free. Households have to pay a small fee for the service. Even if there are no waste collectors operating in the area, they still need to pay for using the dumpsite provided by the city government. A hierarchical

power structure is seen in the operation of the service. To ensure that *kampung* residents pay for the service, the city authority charges a service fee to the RW, which charges residents for the service, as reported by an informant in Kampung Kricak:

Here, there is a dumpsite, over there. So, we dispose our waste to that one point. But we pay a contribution [for the waste collection service] together. For an RW, it is charged about 200 thousands [Rupiah] monthly, in this RW. It is then divided by the number of households in this RW (Source: Interview RT leader, 2018).

The collection service fees are usually managed by RT administrators as part of residents' monthly financial contribution to the RT treasury. The money will be spent to fund *kampung* activities, including maintaining *kampung* streets, as confirmed by a key informant:

Here, we also pay, but just a small amount. Every month, each RT organises its own community meeting. [In that meeting] RT collects funds for *kampung* activities, [such as] for waste collection (Source: Interview RT leader, 2018).

The collective organisation of street cleaning exemplifies the concept of “control as participation” (Francis, 1989). Community participation in maintaining the cleanliness of the street shows the control of *kampung* communities over their neighbourhoods, as suggested by Arnstein (1969), that citizen control is the ultimate goal of public participation. Public participation is more likely to happen in small-group situations, where social ties are strong and the desire to maintain good relations with one's neighbours exists (Rydin & Pennington, 2000), as displayed in *kampung*.

The collective waste management can also be seen as co-production of basic services provided jointly by communities and the state, rather than communities stepping in to deliver basic services in the absence of state-based provision. In fact, the system of waste collection run by *kampung* communities is integrated into the system provided by the city government. Thus, this collective initiative both continues rural traditions of communal service provision and is an example of modern practice in waste recycling, where waste is collected to a central location.

This study also found that informal workers contribute to the cleanliness of *kampung* streets. A few respondents in Kampung Keparakan said that their rubbish, particularly recyclables, often goes to informal waste pickers and recyclers living in the area. Although this activity is small-scale, it illustrates the important role of the

informal sector in informal settlements, both economically and environmentally, and demonstrates the presence of a circular economy in *kampung*. Several recent studies (e.g. Allam & Jones, 2018; Ferronato *et al.*, 2019; Gutberlet *et al.*, 2017; Lee *et al.*, 2017) have shown that solid waste management, especially as conducted at the local level, is a key element in the transition to a circular economy, and the engagement of informal waste pickers can contribute to waste recycling and job creation in low-income settlements.

Individual cleaning initiatives

Individual initiatives also play a significant role in maintaining the day-to-day cleanliness of *kampung* streets. Questionnaires distributed in Kampung Keparakan and Kampung Kricak show that the cleanliness of a particular street in *kampung* is a concern shared by the street's residents. All respondents in both *kampung* regarded cleaning and sweeping the street in front of their houses (Figure 6.3) as their responsibility. In both *kampung*, it is taken for granted that residents take care of the street adjacent to their house, as found below:

For the cleanliness of the street, it is the responsibility of everyone adjacent to the street. They [are supposed to] clean the street in their own neighbourhood (Source: Interview RT leader, 2018).

Concerning the cleanliness [of the street], it is [the responsibility] of the closest residents [to the street]. It is unlikely for those living far from the street to clean it, isn't it? (Source: Interview RW leader, 2018).



Figure 6.3 A resident cleaning the street in Kampung Kricak

Source: Fieldwork, 2018

Some argue that residents' willingness to take part in collective street cleaning is inherited from the implementation of KIP where residents had to participate in

development projects (e.g. Djajadingrat, 1994; Silas, 1992a), while others reflect on the value and tradition of *kampung* communities to share the burden and be mutually cooperative (e.g. Rahmi *et al.*, 2001; Sullivan, 1992). However, street sweeping can also be seen as the exercise of spatial claim. The practice by property owners of cleaning and maintaining streets shows an exercise of territorial control (Francis, 1991). Therefore, in the two *kampung*, cleaning the street can also be interpreted as an effort to claim part of the street as private space (see section 5.2.4).

The amount of perceived responsibility over a place may also depend on the degree of real or perceived control (Francis, 1989). A greater sense of control over a particular space may result in a greater sense of responsibility. Therefore, while the exercise of individual territory is an appropriation of public space by private actors, it is also beneficial for maintaining clean streets and cultivating residents' sense of responsibility over the street in front of their houses.

Maintaining security

In both Kampung Keparakan and Kampung Kricak, the security of *kampung* streets is maintained through surveillance and territorial control by communities. As with many other urban *kampung* in Yogyakarta, especially those built spontaneously on public land on the riverbank, Kampung Keparakan and Kampung Kricak were often labelled as places of poor behaviour, where residents were involved in illicit or illegal activities. Crimes and anti-social behaviour often took place on the street and were witnessed by *kampung* residents.

An informant in Kampung Kricak described how anti-social behaviour was common in *kampung* streets in the past:

Nowadays, there are no longer people drunk on the street. In the past, nearly every day there were people drunk on the street, until they slept on the street, in these alleys. That was [what happened] in the past, around 1990s. But since 2000s, this phenomenon seems to disappear; it no longer exists (Source: Interview RT leader, 2018).

As anti-social behaviour declined, many *kampung* residents in Kampung Keparakan and Kampung Kricak perceive their neighbourhoods nowadays as relatively secure. Questionnaires distributed to residents in both *kampung* revealed that around 96 percent and 99 percent out of 157 and 80 total respondents in Kampung Keparakan and Kampung Kricak respectively perceive their neighbourhoods as safe from crimes, especially for women and children. This perception is strongly indicated by the

significant presence of women and children on the street (see section 5.2.2), and the practice of storing private property on the street by residents (see section 5.2.4).

Community initiatives and interventions from the city authority were key factors in combatting crime and anti-social behaviour in *kampung*. For instance, a respondent in Kampung Kricak revealed the significant impact of mosque construction by the community in changing residents' behaviour. The mosque construction has stimulated more religious activities in the *kampung* and encouraged *kampung* residents to participate in such activities, thus reducing their tendency to become involved in crimes and anti-social behaviour. In Kampung Keparakan, some informants suggested that city authority initiatives encouraging *kampung* residents to improve their neighbourhood's image, for example promoting a smoking-free, drug-free, and child-friendly *kampung*, have been key in improving security.

State policing also helped improve the security of the *kampung*. *Kampung* communities actively reported crimes and anti-social behaviour in their neighbourhoods to the authorities, which was followed up by police officers, as mentioned by a key informant:

[The decline of anti-social behaviour] may have resulted from the increased awareness of the community. Then, there were also some frequent operations and visits from the authority in the *kampung* to educate and persuade them. [...] We also often secretly called officers when we saw people drunk, and they would immediately arrest them. [When they are taken into custody] their families were not allowed to pick them up before a week's stay [in jail] (Source: Interview RT leader, 2018).

The willingness of the city authority to respond to community reports and enter the *kampung* to prevent and fight crimes and anti-social behaviour demonstrates a linkage between formal and informal systems that reflects the state's recognition of the existence of *kampung* communities. It is also a good example of mutual collaboration between *kampung* communities and the state that can improve living conditions in informal settlements. Very often, insecurity in informal settlements results from the lack of coordination between communities and police officers; police are often reluctant to enter the settlements to investigate residents' reports, and residents often avoid encounters with police officers to avoid harassment or paying a bribe to the officers (Mutahi, 2011). In *kampung*, this collaboration is instrumental in achieving the agenda of both parties'; it helps the police maintain order and discipline communities in informal settlements, and provide communities a sense of

formality of living in informal settlements; although it might contradict the aspiration of some minority groups in *kampung*.

Community surveillance continues to play a significant part in maintaining the security of streets. In Kampung Keparakan and Kampung Kricak, residents conduct a night watch, known as *ronda*, to patrol their neighbourhoods. The *ronda* is typically organised by RT committees, and performed every night by a number of male adults (heads of households or their sons) who take turns on the watch. During the night, members of the *ronda* patrol the neighbourhood, or gather at a security post (*gardu* or *pos kamling*), while keeping an eye on the traffic and strangers entering the *kampung*. Some neighbourhoods in Kampung Keparakan have stopped doing the *ronda* as residents considered their neighbourhood sufficiently safe. Instead, they trust fellow residents who will watch each other's security and properties.

Neighbourhood policing and surveillance, by communities rather than the state, is an old social institution in Indonesia that was formally institutionalised during the 1970s to 1980s (Barker, 1999; Kusno, 2006). Initially, it was imposed by the New Order regime as part of its national security policy to prevent the spread of communism and political rebellion. Thus, the system functioned as a spatial control to watch and discipline the population (Kusno, 2006). During the 1970s to 1980s, a number of persons had been trained and *gardu* were constructed, including in Yogyakarta *kampung* (Figure 6.4). Therefore, the *gardu* itself has been considered as a visible artefact that exists on *kampung* streets representing security and public order, from which the government, both the state and local power, could oversee the daily life of the street (Kusno, 2006).



Figure 6.4 *Gardu* or *pos kamling* in Kampung Keparakan

Source: Fieldwork, 2018

A set of rules and regulations also complement the *ronda*. Barker (1999) explained that while the night watch is concerned more on checking the visibility of threats (e.g. strangers wandering around at night, unrecognised vehicles), rules and regulations seek to regulate and classify it. They are a legal-moral ordering practice that defines what is appropriate and what is not. Some of these rules are passed down by the city authority that must be enforced by RT/RW leaders and have legal consequences, such as the prohibition of drunkenness, drug abuse, and gambling. Others are social norms based upon the consensus in the community that may result in social sanctions.

These norms regulate people's presence on the street. For instance, the most common norm found in Yogyakarta *kampung*, including the two study areas, is the enforcement of '*jam belajar masyarakat*' (community study hours, usually 6:00pm–9:00pm, see Figure 6.5) instructing children to stay at home during these hours and parents supervising them. Although it aims to prepare children for school the next day, it also minimises the risk of children being exposed to crime during that time.



Figure 6.5 Signboard showing 'community study hours'

Source: Fieldwork, 2018

The norms also regulate the presence of strangers. For instance, the rule of '*1x24 jam wajib lapor*' (must report once in 24 hours) often indicated by signs near the *gardu* or entrance of the neighbourhood (Figure 6.6) dictates that any outsider who stays in the *kampung* for more than 24 hours must report his/her presence to the head of RT/RW. It is to ensure that the identity of any stranger staying in the neighbourhood is recognised by RT/RW leaders.



Figure 6.6 Signboard showing the rule of *1x24 jam wajib lapor*

Source: Fieldwork, 2018

Some neighbourhoods impose norms restricting particular groups from entering the *kampung* because they are considered as threats and troublemakers, implying a potential exclusionary and discriminatory nature of the communities. For instance, some neighbourhoods in Kampung Keparakan do not welcome students from eastern Indonesia, especially Papua, although it is a favourite location for student accommodation due to its proximity to several universities. A key informant in Kampung Keparakan revealed a consensus in his neighbourhood rejecting Papuans from residing in the neighbourhood:

[We have] no restrictions, except for Papuans. They are not accepted here. They often make trouble, sometimes they fight, causing disturbance for the residents. So at the moment we don't accept them. That is the consensus among residents here, [particularly] among the landlords (Source: Interview RW leader, 2018).

In Kampung Kricak, residents of a neighbourhood have reached consensus to ban transgender people from entering their neighbourhood, as noted by an informant:

Especially for this RT, I don't allow transgender people to enter the neighbourhood. That's a special rule applied in this neighbourhood. That's why since then till now, there are no transgender people [living here], while in other RTs there are many. That is a rule from me, and indeed until now they don't [dare to] enter this neighbourhood. [...] When I discussed [the idea] during community meetings, the residents agreed and supported it (Source: Interview RT leader, 2018).

The presence of transgender people has been perceived as a threat to the security of the neighbourhood, and some members of the community show profound dislike towards transgender people, according to the informant:

We reflect upon [what happened] in other RTs. There are many problems pertaining to transgender there. They are not good for the social health [of the community], especially of the children. Actually, we don't strictly ban them, but if we could say no, why shouldn't we? [...] The transgender people often play with the children, they seduce them, and it happens in other RTs. The children are attracted to them, so it's no longer appropriate. [...] We would have been happy to accommodate them if there were no problems when they first came [to this *kampung*]. But because of many problems, sometimes they tried to kill each other, fought with each other and other groups of transgender people (Source: Interview RT leader, 2018).

For *kampung* communities, the norms restricting particular groups from living in *kampung* is a key element in their security system. They activate a natural surveillance to 'cleanse' *kampung* streets of 'the undesirables' through the eyes of community members rather than technology such as CCTV, which could infringe people's privacy. However, this distinctive characteristic of *kampung* communities is under threat from the growing trend of the use of security camera to watch the street, as observed in a house in Kampung Keparakan (Figure 6.7), indicating that they are slowly moving away from trusting the community.



Figure 6.7 A house using a security camera to watch the street

Source: Fieldwork, 2018

Surveillance often works alongside ideas of 'the visually pleasing space', which is based on aesthetic considerations concerning moral principles and appropriateness of behaviour in public space (Coleman, 2005). With this restriction, the visibility of the undesirables on *kampung* streets is often deemed problematic even if their

behaviour is not. As noted by Blomley (2011), rules and norms regulating behaviour on the street are often motivated not only by people's 'right to be safe' but also their perceived 'right to feel safe'. This statement is implied by the informant:

We acknowledge and appreciate individual human rights; we are all human. But [what we do] is for the benefit of everybody and residents here (Source: Interview RT leader, 2018).

The security system observed in this study exemplifies Newman's (1972) 'defensible space' that aims to protect neighbourhoods through surveillance and territoriality. However, *kampung* residents produce their territory by applying a 'territorial strategy' (Karrholm, 2007) that consists mainly of informal and non-physical means, such as organised community surveillance (the *ronda*), *gardu*, and establishment of rules restricting particular groups from entering the neighbourhood. It resonates with Reynald and Elffers' (2009) critique towards Newman's 'defensible space' that tends to neglect social processes shaping territorial functioning.

This study also suggests that *kampung* are in essence 'gated communities', rather than the opposite as often portrayed in dichotomic frameworks (e.g. Zhu & Simarmata, 2015). They function like gated neighbourhoods, yet without physical walls and fences. 'Gated communities' entail the idea of insiders and outsiders: the normal ones, and the suspicious ones to be scrutinised when entering the territory. *Kampung* security systems employ various means through which this categorisation is established, making the exercise of community power over outsiders proceed with more clarity.

However, community policing and surveillance present in *kampung* might be problematic. On one hand, it is another example of co-production of services and a sign of community's commitment in implementing consensus. It empowers communities to internally consolidate themselves and build their own rules in their territories. On the other hand, it may also result in negative consequences, such as the exclusion of certain groups from using and accessing *kampung* streets, particularly minorities who are not represented in decision-making process (community meetings) where the consensus is reached and not considered to belong to the community, as predicted in some literature (e.g. Etzioni, 1996; Guijt & Shah, 1998). Social sanctions and peer pressure enforced by the majority of community members may also be culturally oppressive (Etzioni, 1996), forcing other members to abide by the rules created by the majority, even when contradicting values of wider society,

such as equal access for and inclusion of people of different gender and age to public space.

Regulating traffic on kampung streets

Residents in Kampung Keparakan and Kampung Kricak give much attention to regulating the traffic in their neighbourhoods. The influx of motorised vehicles, especially motorcycles, into the labyrinthine *kampung* streets with the potential to cause accidents and disturbance has raised residents' concern for safety in their neighbourhoods, as noted by an informant in Kampung Kricak:

If we want to see the positive side [of the influx of motorcycles], yes there is the positive side. But sometimes people are not aware of the norm here. Although you are allowed to pass through here, please don't speed too fast. You have to be aware and considerate. What if children suddenly cross the alley? It would be a sorry situation (Source: Interview RT leader, 2018).

Traffic regulation is directed to ensure the safety and convenience of residents who share the street for various uses and different travel modes. Traffic regulation is managed and controlled by *kampung* communities through physical interventions and the establishment of rules and norms regulating people's behaviour on the streets. This study shows that pedestrians take priority on *kampung* streets, demonstrating the value of *kampung* community life and the importance of *kampung* streets as a place for social activities (see section 5.3).

One of the most common ways of regulating traffic in both Kampung Keparakan and Kampung Kricak is the installation of speed bumps (known as *polisi tidur*, literally a sleeping policeman), that exemplifies an 'overt measure of control by design' (Varna, 2014). They are installed to reduce the speed of motor vehicles and reduce the risk of accidents, particularly where children play, as noted by informants in Kampung Keparakan and Kampung Kricak:

If we didn't install *polisi tidur*, those vehicles would speed up. There were many people who nearly had accidents, and were nearly hit (Source: Interview RW leader, 2018).

[*Polisi tidur*] are targeting those who ride motorcycles too fast. Just to prevent the worst-case scenario to avoid children being hit (Source: Interview senior resident, 2018).

Installation of speed bumps is usually initiated by residents living in the streets or neighbourhoods affected by excessive traffic. Ideally, like other development programmes in *kampung*, the idea of installation needs to be proposed to the RT

leader and discussed during community meetings to get approval from other residents. However, in both *kampung*, sometimes this process is bypassed. Approval from the RT leader is often considered sufficient to justify the installation, as indicated by an informant in Kampung Kricak:

[The installation] was agreed. RT residents also agreed. It's true that the initiative came from residents living there. But they proposed [the idea] to the RT leader and said, "We feel disturbed at night because there was no *polisi tidur*". The RT leader replied, "OK, then carry on". It means that it was agreed by RT residents, wasn't it? (Source: Interview resident, 2018).

Although neighbourhood leaders' approval is usually powerful enough to back up the proposal, in fact, power relations between neighbourhood leaders and *kampung* residents is reciprocal. An interviewee in Kampung Keparakan indicated how powerful *kampung* residents control the traffic regulation of streets in their neighbourhoods, and can put neighbourhood leaders under pressure to approve proposals for the installation of *polisi tidur*. Referring to the installation of *polisi tidur* in other neighbourhoods, the informant stated:

The initiation [of *polisi tidur*] must have come from residents, or their families [who are affected by the traffic], obviously those who do not speed. But the *kampung* committee are not given other choices [but to approve], or perhaps they do not dare to choose [another option] that tells [these residents] that *polisi tidur* do not solve the problem, rather they even create new problems. What's supposed to be addressed is residents' conformity with the norm "if you are in *kampung*, you should ride you motorcycles considerately, don't speed" (Source: Interview RW leader, 2018).

Similarly, an informant in Kampung Keparakan illustrated how the urgency to address speeding traffic has brought residents from affected neighbourhoods together to exercise their communal power that enables them to contravene the rule regulating installation of speed bumps:

For instance, we eventually installed *polisi tidur* although it was not allowed actually. But we were in a dilemma. If we didn't install *polisi tidur*, those vehicles would speed up. [...] But, if we installed it, we would contravene the rule. That was dilemmatic. But eventually, we, particularly those in affected RTs, didn't care. There must be *polisi tidur*. Even with *polisi tidur* there are still people who speed, what if there are not any (Source: Interview RW leader, 2018).

Residents' ability to pressurise figures in authority, such as RT/RW leaders, and contravene the rules pertaining to the street epitomises the 'power to' possessed by

communities. As Dovey (1999) explained, 'power *to*' comes with a more positive connotation as a capacity to make decisions and do something for the benefit of all. It results from the social interaction of different people coming together to achieve common goals, rather than from one agent or group trying to impose compliance on others. Thus, in *kampung*, power does not necessarily reside centrally in authoritative figures and institutions, but also is dispersed among community members who can make impactful actions when they are united.

Traffic in Kampung Keparakan and Kampung Kricak is also regulated by rules and norms that apply to residents and outsiders to prevent harm. Depending on the community consensus, these rules and norms may either allow pedestrians and motorcycles to mix in *kampung* streets (Figure 6.8), or restrict them. Some neighbourhoods, mostly inhabited by tenants through the *ngindung* practice, allow motor vehicles throughout the settlement although pedestrians still take priority. Here, the nature of the street as a shared space is recognised, and everyone's right in using streets is respected, as conveyed by a key informant in Kampung Kricak:

During the day, everyone, including residents and visitors of this *kampung*, may ride their motorcycles all the way through all streets here, even the alleys. Even when there are people sitting on the street [who may block the way], it is okay to ride motorcycles. No problem, we already get used to it, because we have no choice (Source: Interview RT leader, 2018).



Figure 6.8 Pedestrians and motorcycles sharing the street

Source: Fieldwork, 2018

Some neighbourhoods restrict the use of motorcycles in particular streets, especially in alleys and narrow secondary streets (see the hierarchy of *kampung* streets in

section 4.6.1). For instance, a number of signboards have been created by communities in both *kampung* to instruct drivers to slow down or even switch off the engine when they pass through particular streets in *kampung* (Figure 6.9).



Figure 6.9 Signboard instructing to slow down and switch off the engine

Source: Fieldwork, 2018

The time at which motorcycles can access the street may also be regulated, reflecting a strong solidarity among community members. For instance, drivers are instructed to switch off the engine during night hours (usually between 10:00pm to 5:00am) to avoid the engine noise waking other residents, as noted for instance by an interviewee in Kampung Kricak:

We apply this rule to reduce the noise during night hours. The distance between houses and the street is very close, and many residents sleep on the floor due to limited space [in the house]. The noise and vibration from engines often disturbs us. So, because we all suffer it, we unanimously made this rule (Source: Interview RT leader, 2018).

The response to violation of these norms differs depending on the level of association with the *kampung* that the offender has. Outsiders and newcomers are more likely to receive more assertive control, compared to local residents, as the author experienced during fieldwork in Kampung Keparakan, as this extract from my fieldnotes records:

This was the first day I visited Kampung Keparakan for my fieldwork. I rode my motorcycle to move around the *kampung*. I passed through a narrow street along the river. I saw three to four children playing on that street. I turned my motorcycle into a small alley, where I saw a signboard “Harap matikan motor”, and “motor harap dituntun” meaning “Please switch off” and “walk your motorcycle”. However, I wasn’t aware. I was rebuked by a lady standing at the end of the alley, when she assertively said “You should have read the sign over there, but you have already reached this point, just carry on”, pointing to the sign I mentioned earlier (Source: Fieldnotes, 2018).

Local residents, especially those who have lived in *kampung* for a long time, are more likely to be approached politely or even tolerated when violating the norm, as noted by an informant in Kampung Kricak:

The rule is usually enforced by those who witness and hear [the noise]. Most of the residents sleep on the floor, while the motorcycle engine is very noisy. When they hear that, they would get out of the house to warn, politely. But it has never caused any problem. But what is important is that every resident should be considerate and apologise [when making a mistake]. Most of those who violate the rule are not from here, while local residents are already aware [of the norm] (Source: Interview RT leader, 2018).

Traffic controls in *kampung* often prioritise pedestrians over vehicles. In contrast to the more usual approach to traffic management where streets are often transformed into ‘municipal space’, where people and street life are considered as obstruction to the public flow (Blomley, 2011), in *kampung*, many residents deem traffic flow to be an obstruction to their privacy and communality. This finding demonstrates the latent potential of *kampung* to be developed as a walking-friendly environment, as advocated by many authors (e.g. Appleyard, 1980; Gehl, 2010; Jacobs, 1961; Whyte, 1980)

The physical alteration of the street and enforcement of traffic control measures implies that residents perceive *kampung* streets as semi-private territory. In many formal developments, private developers often limit traffic to create private or semi-private streets, usually approved by the local authority (Southworth & Ben-Joseph, 2003). In *kampung*, the right to control traffic flow is attributed to the residents of particular streets or neighbourhoods, while outsiders have to comply with the norm they establish. The more private and intimate the street is, the more likely traffic control measures will be enforced. Therefore, violation of traffic measures in alleys is more likely to be resisted than those in other streets in *kampung*.

6.3.2. Planning and construction of street improvements

This section focuses on how planning and construction of new works for *kampung* streets are managed, including repairs, upgrading and new streets. It first explains the division of responsibility in maintaining and upgrading city streets in Yogyakarta, before looking at how this process takes place. It also highlights the recognition of the

city government towards the important role of *kampung* communities in street improvement,

Division of responsibility in street management in Yogyakarta

There is a clear division of responsibility in the management of city streets in Yogyakarta. City government through its Public Works Department, is responsible for maintaining, upgrading, and constructing most public streets in the city. The Mayor issued a Decree No. 71 in 2018, listing 490 streets in the city which are the responsibility of the city government as key links in the road network. Most streets in *kampung* are not listed, except for a few streets that are wider than three metres and asphalted, because listed streets have to be built and maintained to standards set by the Public Works Department, as an official noted:

Streets wider than three metres are under the responsibility of *Bina Marga* [a division under Public Works Department]. This is the management authority. [It is because] special treatment according to the standard in *Bina Marga* has to be applied [in the maintenance and construction of the streets], [such as] use of certain equipment and materials, etc (Source: Interview government official, 2018).

If they [the streets] are not listed in the decree, but the surface is asphalt, although their status is a neighbourhood street, they become our responsibility, because they are already surfaced with asphalt (Source: Interview government official, 2018).

As the city government focuses on major public streets, the responsibility to maintain, upgrade, and construct most streets in *kampung* is delegated to the neighbourhood, showing the shift to decentralised urban governance. This division of responsibility is considered in line with the Mayor's vision to promote citizens' engagement in urban development, as noted by a key informant:

This [division of responsibility] is in line with the Mayor's vision: *Mbangun Kampung* [literally means 'to develop *kampung*']. So ideally, *kampung* communities know what and where the problem is, then they maintain by themselves (Source: Interview government official, 2018)'

At the neighbourhood level, communities may decide to plan and carry out street improvements informally using their own resources, or go through formal processes, depending on the scale of the problem, as conveyed by an informant in Kampung Kricak:

Usually for small problems, we do it ourselves. For instance, if there is a small hole in the street along the river [...], we will handle it by ourselves, at the RT level, if the problem is small. But, if there are many

holes or the street is heavily damaged, we will propose to the RW leader. Who knows, the RW leader may have a solution, or he/she will look for funds from somewhere (Source: Interview RT leader, 2018).

Street improvement by communities: between communal and individual responsibility

If communities agree to repair or upgrade the street by themselves, they will usually conduct *kerja bakti*. Neighbourhood leaders, particularly RT leaders, play a key role in initiating and persuading residents to take part in *kerja bakti* to repair and upgrade the street. They also arrange meetings and fund collection from residents for a community treasury that could be spent on street maintenance, as illustrated by a key informant:

Let's say, for instance the street surface subsides, or needs to be upgraded. The RT will expend the money to buy cement and sand because we have a treasury. Every month we have a meeting to collect the money (Source: Interview RT leader, 2018).

However, sometimes residents are expected to take individual responsibility to fix the problem in front of their houses. This expectation is higher in Kampung Keparakan, where many of the residents have tenure rights either as legal landowners or informal land occupiers whose ownership is recognised by communities and most people are not tenants. An informant in Kampung Keparakan implies this expectation:

If the street subsides, usually there will be a report [to the neighbourhood leader], "Sir, the street over there subsides". [What we expect], please, try first to fix [the problem] in front of their houses. [...] The residents should have been already aware that it is for our communal interest (Source: Interview RW leader, 2018).

While in Kampung Kricak, especially in neighbourhoods where most residents are tenants, it is almost taken for granted that repairing a damaged street is a communal responsibility, as stated by some key informants:

[Repairing streets] is the responsibility of residents together. Thus, if there is a damage, we work together to fix it. We are a cohesive community. Although not all residents can fulfil their obligation [to participate in *kerja bakti*], at least we always ensure that it is performed. So, if there is any damage to public facilities, such as the street, which needs to be fixed, we schedule *kerja bakti* with our own resources and fund (Source: Interview RT leader, 2018).

For instance, in this neighbourhood, if there is any damage to the street, then it is our communal responsibility in this neighbourhood [to repair it] (Source: Interview RT leader, 2018).

The differing responsibility expected from *kampung* residents apparently results from different tenure relationships with housing. As Francis (1989) argued, the degree of responsibility people feel for a place is related to their real or perceived control. This study shows that the responsibility for the street results not only from the perceived control over the street, but also the occupied land adjacent to the street. Therefore, although residents in both *kampung* control the street adjacent to their houses (e.g. by using it for private uses and cleaning it), their responsibility may differ. Individual responsibility is more likely to be accepted when residents' perceived control over the land adjacent to the street, as reflected in the tenure status, is more secure.

Street improvement through formal processes: politics, problems and challenges

When major street improvement is required, *kampung* communities can lobby for a grant from the city government or improvement under programmes sponsored by international donors. These projects are usually proposed as part of the annual neighbourhood development plan prepared in every *kelurahan*, whose process is very political.

The grant application process is usually formal and multistage, moving from community proposals to the city level (Figure 6.10). Project proposals usually emerge from the community during community meetings. These proposals will be discussed and compiled at the RW level. Proposals will then be brought to the *musrenbang* (Development Planning Forum) at the *kelurahan* level, where proposals from all RWs in the *kelurahan* are discussed and approved. Proposals are then passed to the *musrenbang* at the *kecamatan* level, then to the city government as an input for the next annual budget. Sometimes, the city government receives funding from international donors, either directly or through national government programmes. In this case, communities usually go through the same process, except at the *kelurahan* level it is managed by the BKM, that communicates directly with the city government.

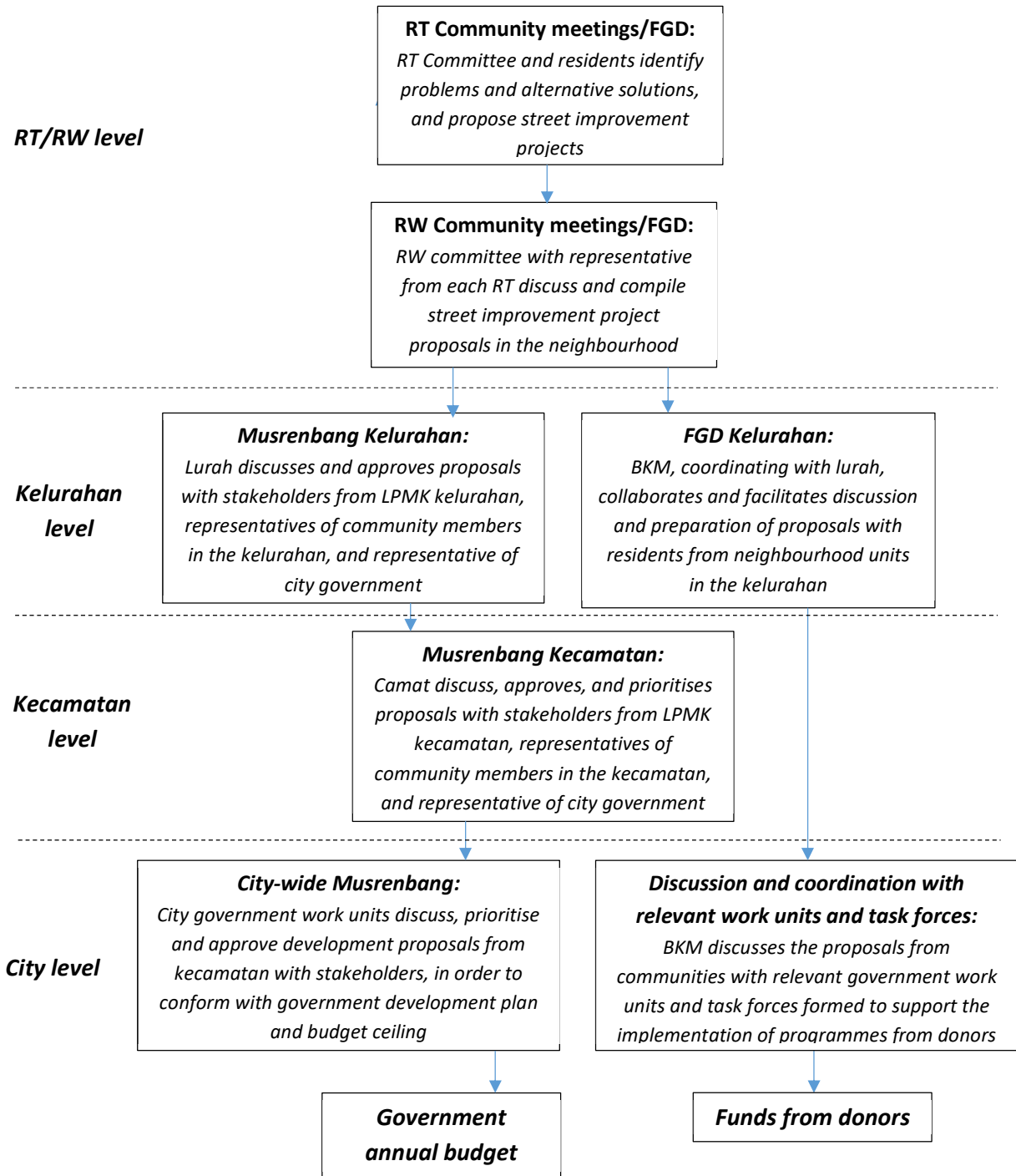


Figure 6.10 Ideal process of grant application for street improvement projects in kampung

Source: Author's construct

The game of power at the lower level largely influences the design and prioritisation of development programmes in *kampung*. Access to funds is very competitive, due to the limited funds allocated to each *kecamatan*, especially among neighbourhoods within the same *kelurahan*. Participation in *kelurahan* decision-making plays a crucial role in securing funds for community projects. Some informants said that having powerful figures representing their neighbourhoods at the *kelurahan* level is a key factor in winning development grants. Many projects prioritised by the government are often located in the neighbourhoods where members of LPMK and BKM live. An informant highlighted the challenge in accessing government funds for projects in his neighbourhood:

[...] because those who are involved in the discussion at the *kelurahan* are not from this neighbourhood. As we know, projects are usually proposed through BKM or LPMK, but those people are not from this neighbourhood. Therefore, they most likely prioritise proposals from their own neighbourhoods (Source: Interview RT treasury, 2018).

Those in key positions in community-based organisations, such as LPMK and BKM, often take advantage of their key role to advance personal or communal interests, by prioritising proposals from their own neighbourhoods, as the current BKM coordinator in Kampung Keparakan admitted:

Yes, it's true that conflict of interests comes into play. Who becomes the coordinator will be able to get more. That is the process before and after I became the coordinator. [...] When the coordinator is from a neighbourhood of north Keparakan, all grants were directed to the north. When I'm the coordinator from south Keparakan, I direct the grants to the south. It's time to take turn, to take revenge (Source: Interview BKM coordinator, 2018).

As a result, jealousy among neighbourhoods is often sparked during *musrenbang*, especially at the *kelurahan* level. Neighbourhood leaders often demand that the forum shares the money evenly among neighbourhoods, ignoring the urgency of projects, causing the implementation of development programmes often not optimal, as noted by an interviewee:

In *musrenbang*, RTs and RWs will propose their programmes. At the *kelurahan* level, we also have a budget ceiling, let's say it is 500 million. There has to be a consensus on how such 500 million would be spent. [...] However, usually there are so many projects proposed. In the last *musrenbang*, we finally had to reduce the volume [of the projects] to make sure that all would get an equal share. However, as a consequence, if they [residents] proposed for a 100-metre [street], perhaps they could get [money] only for 50 metres. For the remaining 50 metres, it has to be

proposed again next year, because if they got the money fully for 100 metres, the money wouldn't be enough to fund other projects [in other neighbourhoods], and [this idea] would have been rejected by other residents. So eventually, in that forum, they agreed to share the fund evenly (Source: Interview *lurah*, 2018).

Another problem is that formal street improvement projects often do not meet the needs of *kampung* communities. To some extent, this issue is related to the competitive nature of the processes, causing long delays, as noted by an informant:

Often, what we propose today, will eventually be implemented in the next three or four years. Very often, those who proposed [the scheme] have already forgotten what they proposed, or the members of the *kampung* committee will be no longer the same persons. So, [when the project is implemented], they will wonder "I didn't propose [the project] in this location, instead I proposed it there" (Source: Interview RW leader, 2018).

The lack of coordination between the city government, the *kampung* committee, and *kampung* communities also contributes to the problem. Projects pertaining to *kampung* streets are sometimes implemented by the city government without consulting *kampung* communities, and government officials often pressurise communities to accept the programmes despite their incompatibility with community needs. An informant in Kampung Keparakkan recalled the project of traffic mirror installation in Kampung Keparakkan to illustrate this problem:

For example, that recent traffic mirror installation - suddenly it was about to be implemented. It turns out that some of the mirrors were about to be installed in the middle of the street. That was obviously rejected. [The project] was from the Transportation Department, if I'm not mistaken. [We asked] "Why [is it installed] here?" They replied "This is an order". [We replied] "Why do you follow the order? Your bosses don't understand the situation here. What if the mirror is hit, it would be a waste of money. [...] Instead, you should tell your bosses: 'Sir, here is the situation in the location', take pictures if necessary, so that your bosses will understand." [...] but eventually, the installation of some of those mirrors was cancelled. I don't know how the story ended, there was no follow-up after that (Source: Interview RW leader, 2018).

Although the causes of this problem were not identified through fieldwork, some scholars (e.g. Hayat, 2018; Obermayr, 2017; Salahudin *et al.*, 2017) suggest that the presence of multilayer informal political power-play contributes to the failure of the formal *musrenbang* process to effectively address community needs. For instance, Obermayr (2017) noted that the Javanese hierarchical culture, which honours people with higher socio-economic status, has led to 'elite capture'. Community meetings are

often dominated by a few individuals, particularly community leaders and intellectuals, who are powerful enough to steer the discussion, as indicated by a member of staff of KOTAKU Yogyakarta:

For instance, when we are talking about programme prioritisation, we can neither say that all processes are good, nor they all are bad. [...] But, if we are talking about the presence of some individuals [who steer and control the process], yes it's true. There are few individuals who possess that character, especially in the neighbourhoods selected as project locations. They even tend to compel [their views]. [...] But we cannot deny that sometimes we need those people, who can steer, in a positive sense. Otherwise, the projects will not proceed smoothly (Source: Interview staff of KOTAKU Yogyakarta, 2018).

At both *kelurahan* and city-wide levels, as Salahudin *et al.* (2017) pointed out, clientelism politics between community leaders, government officials and politicians is a factor hindering the effectiveness of *musrenbang* in delivering development programmes in *kampung*. Meetings at the *kelurahan* level are often attended by the same people, usually neighbourhood leaders, particularly members of LPMK and BKM, who often build a collaborative relationship with government officials in *kelurahan* for their own benefits. Salahudin *et al.* (2017) found that practices such as cutting the budget, making false financial reports, and diverting development projects to other locations are common. City government officials and politicians are also believed to have manipulated development projects to release money from the government budget so that they can embezzle the money, while fulfilling their obligation to deliver the programmes as required by the budget performance assessment.

Community participation

Community participation is at the heart of every street improvement project in *kampung*. While the city government plays a key role in community self-help street improvement projects, there is also recognition of the important role of *kampung* communities in street improvement. Based on the fieldwork, it is clear that *kampung* communities in Yogyakarta have been given more freedom to manage street improvement projects in their neighbourhoods, showing the tendency of the city government to employ a more participatory approach in managing *kampung*. The execution of the projects is no longer entirely top-down. The city government has delegated small-scale street improvement projects to sub-districts (*kecamatan*) that often hire local contractors to undertake the construction, as stated by an informant:

In recent years, LPMK has collaborated with the Labour Department to train local people to be construction workers. [...] Thus, small-scale projects at the neighbourhood level nowadays are usually carried out by the locals. It doesn't mean that everything has to be performed by them, but at least unskilled work is undertaken by the locals (Source: Interview RW leader, 2018).

The practicality of the new approach has convinced the city government to use it for *kampung* development projects, as noted by a city government official:

Therefore, we deliver the authority [to manage street projects] to the sub-district level, so that local contractors can undertake direct procurement of goods for the construction. It will be much easier. They know best what's on the ground. Also, the execution won't take long since tenders are not required for small-scale projects (Source: Interview government official, 2018).

Community cohesion and solidarity are more clearly displayed during construction. *Kampung* residents are keen to participate in construction work by any possible means. Male residents usually contribute labour through *kerja bakti*, while female residents voluntarily prepare food and drink for the labourers, as conveyed by an informant:

The mutual cooperation in the management of this *kampung* is indeed extraordinary. If there were *kampung* projects running, everyone would like to participate, such as preparing food and drinks. Even if the contractors already pay construction workers, they still care for the people who work there (Source: Interview RW leader, 2018).

Women's participation is also encouraged during the planning phase. Women are very enthusiastic and attend community meetings and FGD at the RT/RW level, as told by an informant:

There is an FGD for planning, to capture aspirations and gather proposals. Women and children have almost the same role as men. Most of the men attending the meetings are usually from the RT/RW committees only, but women are very enthusiastic about attending the meetings. During RT meetings, members of women's associations will turn up. In community meetings, again women will show up. [...] Although there is a requirement for the involvement of women, in reality, that is not what makes them keen to attend. Those who are invited are often men, but those who attend are women instead (Source: Interview BKM coordinator, 2018).

Nevertheless, although women attend the meetings, their capacity is underestimated, and they are seen as lacking the competence to talk about *kampung* development, particularly about physical infrastructure. An interviewee made this point clear by saying:

Women are more talkative. They have more proposals, especially for sanitation and open spaces programmes. But during FGD, they are usually involved a lot in social sectors, because they don't understand much about drainage and streets. For physical infrastructures, they can only chirp (Source: Interview BKM coordinator, 2018).

The finding on women's participation in this study is contrary to that of Beard (2005) who found that women's participation in community development in Indonesia is rather restricted. However, Beard's study was based on the Indonesian Family Life Survey (IFLS) that does not specify women's participation in *kampung*. In *kampung*, as shown in this study, women are actively engaged in the planning process. However, their voice is not appreciated despite being present in the decision-making process. As pointed out by Listerborn (2007), sometimes the involvement of women from marginalised communities in a participatory planning process is a showcase rather than a 'real engagement'. In the context of *kampung*, it may be that women's participation is seen as a requirement of the project.

6.4. Conflicts and politics in *kampung* streets

This section discusses conflicts and politics associated with the use and management of *kampung* streets in Kampung Keparakan and Kampung Kricak. From key informants in both *kampung*, it is clear that *kampung* streets are the subject of conflict and disputes, yet have become a tool for negotiation to achieve political agendas.

The first part of this section examines several conflicts in Kampung Keparakan and Kampung Kricak, the actors involved, their role in the conflicts, and the power relations between them, which reveals the asymmetric power structure defining the use of and access to *kampung* streets. It is then followed by a discussion on political dynamics and the role of the street as a bargaining entity in negotiations.

6.4.1. Conflicts and disputes in using and accessing *kampung* streets

Three types of conflicts were identified during the fieldwork in Kampung Keparakan and Kampung Kricak: disputes relating to 1) use of the street, 2) territorial control, and 3) ownership claims on the street. These conflicts reveal an asymmetric power structure in *kampung* communities, which defines the way people use and access the street. Residents' origin, length of stay, tenure, and degree of control over the

neighbourhood and land near the street play a crucial role in defining power relations among actors.

Conflicts and disputes related to residents' behaviour using streets

Based on the information collected in Kampung Keparakan and Kampung Kricak, the competing use of streets by individuals often instigates conflicts between street users. These conflicts are mostly related to “a display of incompatible public behaviour” (Madanipour, 2004). Individual appropriation of the street, either temporarily or permanently, compromises the opportunity of others to use and access the same street. Inappropriate behaviour while using the street also often causes inconvenience for others which can result in conflicts and disputes. Therefore, street use has to rely upon consensus among *kampung* residents.

Several disputes caused by inconsiderate street use were repeatedly reported by key informants and respondents. Most disputes are linked to the appropriation of *kampung* streets for domestic and private uses. For instance, disagreement on what is appropriate for public display often triggers friction, often unvoiced, as reported by an interviewee in Kampung Keparakan:

Yes, there is small friction. [For example], there is some laundry that should not be displayed in the front of one's house. There is some laundry which is appropriate and some which is not. If the laundry is appropriate [to be displayed publicly], perhaps it would be no problem. But, if it is inappropriate, it can be disturbing (Source: Interview senior resident, 2018).

Conflicts over the ‘right of use’ between those using the street for personal uses and those whose right has been restricted are common. The right to use the street adjacent to their house is often claimed by residents, as implied from an interview with a senior resident in Kampung Keparakan:

For example, [they] raise chickens, the cages [are placed] on the street, because [they] think that “It is in front of my house, so I am allowed [to do so]”. Also, the laundry, unused furniture, and useless stuff are placed there (Interview senior resident, 2018).

Due to this perceived right of use, residents often assume that using streets for their private interests is acceptable, as suggested by an interviewee in Kampung Kricak:

Because we dry the laundry in front of our own house, also, we keep our stuff in our own space, and we do not obstruct the street. So, other residents apparently do not have any problem with that (Source: Interview RT leader, 2018).

However, some residents exercise this perceived right inconsiderately, which often results in friction with other street users.

Using the street adjacent to houses of other residents without permission is considered against the norm. Several informants conveyed stories of how the use of *kampung* streets for private parking has obstructed the access into and out of their houses, for example, as reported in Kampung Keparakan:

[about] parking. Sometimes, it consumes much of the street [space]. It is hard for people to pass through. Sometimes, it becomes a problem. Problems always exist, even if they are small. Even though sometimes [problems] with other people, not only with residents. They park [their vehicles] here, sometimes without asking permission, [because of that] the homeowner cannot get out (Source: Interview RW leader, 2018).

This finding supports the argument that the access to and use of public space is regulated by a complex system of rights (Brown, 2006), which in the case of *kampung* is often implicit. The expectation that permission is needed from house occupants to park vehicles on the street emphasises the existence of the social norm that urges people to respect the right of residents to control the streets adjacent to their houses. Therefore, maintaining good relationships and social ties with neighbours is crucial, both to maintain the membership of the *kampung* in general (Sullivan, 1992), and as a prerequisite to access and use the street space adjacent to one's house. This social norm represents symbolic control of streets (Francis, 1991) by individuals, namely residents who perceive that their private space extends into the public domain.

The magnitude of the dispute seems to be influenced by the distribution of power in the *kampung*. In Kampung Keparakan, where most of the residents own their land (either through buying or informal occupation) and power is more equally distributed among residents, disputes triggered by the appropriation of *kampung* streets for private uses were more prevalent, although rarely escalated into a prolonged conflict. Instead, *kampung* residents often took them for granted, and used polite negotiation to resolve the dispute, as noted by an informant in Kampung Keparakan referring to the friction caused by using the street for hanging laundry:

There is no competition. Yes, sometimes [there are problems]. That is a need of the lower groups, and when they have a chance to hang the laundry [they do it]. But *Alhamdulillah*, if sometimes [it happens] and people say, "excuse me, I want to pass through, but the space is not enough", then they will remove it. If later they return it, then no problem, [because] what is important, [is that] people can pass through when they want to. [Another example], my neighbours have motorcycles, I also have

three [motorcycles]. If all motorcycles are parked on the street, I would not be able to get out. Sometimes they do not feel guilty [of doing it], making me upset. But, yes, we have to understand. So, when we want to pass through, we kindly ask them [to move] the vehicles (Source: Interview RW leader, 2018).

Migrants and newcomers tend to avoid direct confrontation in dealing with disputes. They are considered more careful in using *kampung* streets, and more likely to capitulate in disputes, as conveyed by an informant:

Native residents and those who have lived here for a long time are more difficult to relent [in disputes]. As for migrants and newcomers, because they were not born here, they don't own the land here either, usually they are more considerate (Source: Interview RW leader, 2018).

In Kampung Kricak where many residents are tenants, and power is more concentrated in the hands of landlords and long-standing residents, the disputes are less prevalent and seem to be more tacit. Tenants and newcomers are in a weak position to voice their grievances or claim their right to use the street adjacent to their houses. Therefore, tenants tend to avoid arguments about the use of the street, as an informant said:

Alhamdulillah, people here are self-conscious. Because there are many migrants here, if they are just new [here], they don't dare [make trouble]. Tenants here do not dare to do such things. Therefore, disputes over the street do not exist here (Source: Interview RW leader, 2018).

However, the behaviour of powerful actors has become a serious challenge for others in using and accessing *kampung* streets. For instance, when using the street for family ceremonies, a few powerful long-standing residents in Kampung Kricak often violate community conventions concerning street closure, and do not observe the closure hours allowed by neighbourhood leaders, according to an interviewee in Kampung Kricak:

For me, the biggest challenge [in using the street] is when there are some people who have resided long here who arrogantly close the street. Let us say that the street is supposed to be closed for the ceremony between 1:00pm and 3:00 or 4:00pm. But these people would close the street until night. [...] In dealing with natives and those who have resided long here, to be honest, we are a bit timid. They are very powerful and influential here. They can evade what they promise about the closure. They often don't reinstate the street after the closure (Source: Interview RT leader, 2018).

Conversely, powerful actors often complain about street closures by newcomers and young residents and wish to reopen the street immediately if their access is obstructed, as the interviewee commented:

As for us, ordinary residents, we can only follow what they want. [...] On contrary, if there are some other people using the street, and perhaps they use the street a little longer, those people will protest “Hey, why is it not dismissed immediately?” They are very powerful and will get furious if their access is disturbed (Source: Interview RT leader, 2018).

Madanipour (2004) found a similar tendency in his study on marginal public space in European cities, where tension between newcomers and old residents is common. The longer residents stay in a particular neighbourhood, the more likely they will develop stronger emotional links to the neighbourhood, which later create a sense of territory being invaded when newcomers arrive. This explanation is confirmed by an interview with an informant:

Perhaps, native residents feel that their existence is threatened. Only a few of them still remain here. Many have left, they sold their land and moved out (Source: Interview RW leader, 2018).

Conflict and disputes resulting from community territorial control

Territorial control can also create friction among street users. Protests and complaints often come from other street users whose access is obstructed because of the territorial control measures applied by communities. Different perceptions by street users on how *kampung* streets should function and be managed often underlie the friction.

Installation of speed bumps is a common source of friction between streets users in *kampung*, despite the aim to improve safety. Tension often occurs between those who support it for safety reasons and those who regard it as a nuisance. An informant in Kampung Keparakan recalled a dispute over the installation of speed bumps in a street to the north of Kampung Keparakan, between residents of his neighbourhood and residents from a neighbouring *kampung*. Although this dispute started at the grassroots, it was eventually brought to the *kelurahan* level, involving officials from the two *kelurahan*, as conveyed by the informant:

When the first time our residents constructed *polisi tidur* [speed bumps], the residents of the neighbouring *kampung* protested, perhaps because the surface [of the street] was elevated too high. [...] The head of the

neighbouring *kelurahan* approached our *lurah* and ask him to reprimand us. [...] That's why, for us, it was a dilemma. However, we just kept silent and disregarded [the protest]. Over the time, they got tired [of protesting]. [...] That was a dilemma. We understand that it was not allowed because it disturbed others, but we need it (Source: Interview RW leader, 2018).

Two different visions of *kampung* streets are contested by two groups of users. The first group are residents who consider *kampung* streets part of their home territory, for whom installation of speed bumps is a necessary safety measure to control traffic and avoid accidents, as conveyed by an informant:

If we didn't install *polisi tidur*, those vehicles would speed up. There were many people who nearly had accidents, nearly being hit (Source: Interview RW leader, 2018).

The second group consider speed bumps as an obstruction of people's mobility, applying to both outsiders who pass through the *kampung*, and local residents who are not directly affected by traffic, but concerned about vulnerable street users. For them, streets are to facilitate movement and therefore should not be altered, as noted by an informant:

Because of speed bumps, the street is no longer convenient [for movement]. It is not good for aesthetic, not for safety. There will be many elderly people, who now move with stagger, encountering more difficulties while moving. If they stumble upon the speed bump, they would fall down, then who is going to be responsible? Also, street hawkers who move with their pushcarts will be impeded by the street bumps. I think, communities have to be taught that the street is to facilitate movement and make the movement convenient (Source: Interview RW leader, 2018).

In Kampung Kricak, installation of speed bumps has divided communities within the same neighbourhood. A senior resident expressed his disagreement on the installation of speed bumps, arguing that speed bumps have marginalised elderly people:

The street needs to be equipped with street bumps because many young people tend to speed up while driving. Therefore, speed bumps are installed to slow them. But for elderly people, speed bumps are not needed because they are already slow (Source: Interview senior resident, 2018).

Despite disagreements, it is clear that residents of the affected streets and neighbourhoods possess a communal power that allows them to resist complaints

and pressure to remove speed bumps, sometimes by using neighbourhood leaders to back them, as one informant recalled:

I have once reported to the RT leader concerning a speed bump installed near a turn. I complained “Sir, let’s say it’s ok to install a speed bump, but could it be moved a bit further? It’s too close to the turn. I nearly fell down because of it every time I approach the turn”. He said “Oh yes, please move it”. But when someone told [the residents installing the speed bump] to move it, they insisted [by saying] “It has been consulted with the RT leader, and he has allowed us” (Source: Interview senior resident, 2018).

City authorities take a hands-off approach towards this practice, which affirms the powerful territorial control by communities over neighbourhood streets. Although the installation of speed bumps may create conflicts among residents and affect the wider public, the authority leaves the dynamic of street control to communities, as noted by an official:

The authority to regulate traffic [in *kampung*] has been delegated to the neighbourhood. [...] but [we suggest] please seek advice from the Transportation Department. However, [what happened is] they usually just construct it by themselves. Particularly residents who feel the street in front their houses is affected by the traffic (Source: Interview government official, 2018)’

There is also an imbalance of power between native and migrant residents. Native residents seem to be able to evade rules and norms regulating driving behaviour in *kampung*, while territorial control is more strictly enforced towards tenants and newcomers. Several informants in Kampung Keparakan revealed how native and long-standing residents were often inconsiderate riders and did not comply with the rule to slow down and switch off the engine in *kampung* streets, but received lenient treatment from other residents.

Conflicts and disputes related to ownership claims of the land

This study found that the land where *kampung* streets are situated mediates power relations among actors, and the complexity of land tenure in *kampung* often causes conflicts among them. The status of *kampung* streets as ‘*rukunan*’ streets and the practice of ‘*ngindung*’ often result in prolonged conflicts in *kampung*. While the first one is more related to overlapping claims over ownership of the street, the latter represents greater control over the street through land ownership.

'*Rukunan*' is a term used in Javanese *kampung* to describe a type of street whose ownership is shared among land possessors (not necessarily legal owners) along the street who voluntarily give a small portion of their land for communal circulation space. Those small portions are then combined together to form a linear space that becomes *kampung* streets and alleys. The possessors of the land still maintain the ownership of the land that is acknowledged by *kampung* residents.

Although *rukunan* streets represent community cohesion, they are also vulnerable to conflicts, as several informants noted. For instance, an informant in Kampung Keparakan recalled a conflict pertaining to the appropriation of the street for private uses between two neighbours:

[Conflicts caused by *rukunan* streets] often occur. Look at those houses [pointing to two houses away from his house]. There is a dispute over the street between those two, because both owners are stubborn. They don't want to give in, until the street is eventually blocked. The street belongs to both of them but one of them is willing to share his land [for the street] while the other wants to reclaim the land and dominate its use (Source: Interview RW leader, 2018).

Neighbourhood leaders and community members had tried to mediate the conflict, but were unsuccessful because the person who wants to reclaim the land asserted his right of ownership over the land:

We even discussed this conflict in community meetings. We called and asked this person, but he replied "that is my own land" (Source: Interview RW leader, 2018).

Several key informants in Kampung Keparakan recalled a more prolonged and harsh conflict related to a *rukunan* street, which was sparked when a resident sold his land to a housing developer for a small housing complex. As the developer started the construction, one of his neighbours started making trouble. As he disapproved the construction plan, he built a semi-permanent building in the middle of the street, blocking access to the construction site. He claimed that he had the right to do so because the land used for the street belonged to him. The key informants who related this story thought that the dispute was triggered by personal issues between the two residents.

The conflict continued for about two years without any resolution, despite initiatives proposed by various stakeholders. Neighbourhood leaders and the head of *kecamatan* tried to mediate, but failed to bring reconciliation. Neighbourhood

residents even offered to collectively buy the land to maintain harmony in the neighbourhood, but the offer was rejected. The tension was so intense that community members started excluding him from social and communal activities. The case eventually reached the city authority who offered to acquire the land, but he insisted on not selling his land.

After a long process of negotiation involving various stakeholders, eventually a solution was offered. He agreed to release his land only if he were granted another piece of land owned by his adjacent neighbour, a relative of the person who sold his land to the developer. Despite being reluctant to give up the land, the neighbour finally agreed to the condition. The government then carried out land acquisition for the small piece of land used for the street, the person took a piece of land of his neighbour adjacent to his land, and his neighbour got compensation.

Such conflicts essentially represent a tension over rights to define public space. In this case, they are property rights of individuals and access rights of the community and public. Although in many cases property rights in *kampung* lack official status because of unlawful occupation, communities recognise such informal property rights. Therefore, the challenge in using and accessing public space is not merely about mitigating privatisation of public space, as assumed in much of the literature (e.g. Banerjee, 2001; Carmona, 2010a; Loukaitou-Sideris, 1993; Madanipour, 1999; Mitchell, 1995; Nemeth & Schmidt, 2011). In *kampung*, it is also about perpetuating the public status of private space.

Schindler (2018) noted that among the concerns regarding privately owned public space are the lack of legal structures governing this type of space and the lack of inclusion of diverse users. It is evident from this study that an exercise of property rights over public space could challenge the use of and access to that space. The vague status of *rukunan* streets creates tension between competing rights over the street, because there are no clear rules and norms governing *rukunan* streets. Instead, publicisation of space rests on sensitivity and shared values among the communities and their ability to respond to common problems (Terzi & Tonnelat, 2017). Consequently, public use and access to the street in *kampung* rely on tolerance, consensus, and social relations among residents, as implied from this interview:

[Norms governing] *rukunan* streets are not written. It is merely based on trust and tolerance from every resident. Like in my neighbourhood, there are no written norms. That's it, we just use it as a street. We try to

respect each other because we are part of the community (Source: Interview RW leader, 2018).

Another type of conflict derived from an ownership claim is related to the practice of '*ngindung*'. '*Ngindung*' refers to the traditional practice of residing on rented land that is privately owned by individuals. In the *ngindung* system, tenants pay a low rent to the landlord every year for the occupation of the land. The house may or may not be owned by the tenants, but construction of infrastructure, including streets, requires permission from the landlord.

The landlord is so powerful that he can exercise a great control over housing, infrastructure, and the tenants residing on *ngindung* land. In Kampung Keparakan, for instance, the landlord can impose a rule that prohibits tenants from improving the condition of their house, which leads to the formation of slum areas. However, the landlord cannot easily evict the tenants, as conveyed by an informant:

The tenants are not allowed to repair and improve their house. The landlord gives a condition to the tenants, "You may rent the land, but under one condition, that you must not repair and upgrade the house", regardless of the fact that some of the houses were built by tenants. The tenants have resided for a long time, and the landlord cannot easily evict them. Therefore, he makes a condition that tenants may reside on his land but they must not repair the house. That's what makes its slum condition difficult to change (Source: Interview staff of KOTAKU Yogyakarta, 2018).

Any development project that is going to take place on *ngindung* land requires a written consent from the landlord. If the landlord disapproves, the project cannot be undertaken, as explained by some informants:

Development projects can be carried out as long as the landlord gives his consent, whether through endowment, permit to pass through, and permit to use. If he does not give consent, it means that the project is not allowed (Source: Interview staff of KOTAKU Yogyakarta, 2018).

Because this is related to private properties. The government, if they want to develop, have to get a written consent from the landlord (Source: Interview RT leader, 2018).

Hence, management of *kampung* streets on *ngindung* land is subject to the attitude of landlords, and conflict can arise when the agreement with landlords is not reached.

Several key informants recalled a conflict between the city government and a landlord in Kampung Keparakan, delaying the implementation of a street construction project. A central government upgrading programme included the construction of a new

street in a slum neighbourhood situated on *ngindung* land. The project committee asked the consent of the landlord to start the project, but the consent was refused, because the landlord was suspicious that the project committee and the government would grab his land. Consequently, he refused to negotiate.

The project was delayed for about two years, until the landlord passed away and his descendants inherited the land. The project committee then requested permission of the new landowners to carry out the project. After a long negotiation, an agreement was eventually reached granting permission for public use and access of the street for 20 years. This agreement may be problematic in the future, as no one knows the attitude of the landowners (or their heirs) when the agreement ends.

In contrast, tenants seem to be powerless to resist development projects from the landlord and the government. Key informants in Kampung Kricak told a story about how a landlord exercised his power to execute a street-widening project to address problems of accessibility resulting from incremental development. Despite being affected by the project, tenants could not oppose the project affecting their houses, as one informant noted:

So, they [the tenants] would not protest, they could not protest. Even if they wanted, they would not dare. They were just submissive. As long as they are safe here, why should they protest? (Source: Interview RT leader, 2018).

Tenants also have difficulty in opposing government plans. For instance, in Kampung Kricak, the city government has proposed a setback of three metres from the riverbank to provide open space and access, which means that a number of *kampung* residents will have to be relocated. Interviews with *kampung* residents suggest that tenants are powerless to fight this plan, as one affected tenant said:

Those who reside along the river are only tenants, they don't own the land. So, no matter what, if we are asked to free the riverbank, then we have to do so. I heard that there is already a plan to relocate us to a vertical housing prepared by the government, not far from here (Source: Interview RT leader, 2018).

This type of conflict illustrates the competition for public space that revolves around the control of land (as noted by Madanipour, 2004). In his study, he also found that poor residents are often disadvantaged in influencing the process of transforming their neighbourhoods. More importantly, these findings add to the list of conflicts in informal settlements associated with land control, emphasising how crucial is the

issue of land tenure in informal settlements. Brown (2006) argued that an understanding of the systems of rights and land tenure governing public space is required to recognise the needs of the poor in space transformation. This study shows that land tenure should be carefully considered in understanding informal settlements, both because it is critical for housing provision and livelihoods, and to ensure equal access of public space in informal settlements.

6.4.2. *Kampung* streets as a political instrument

This part discusses the role of *kampung* streets as a political instrument to achieve political agendas. It focuses on the political processes and interactions intermediated by the street, rather than manifested in the physical occupation and use of the street. It is clear from this study that *kampung* streets have been used by politicians to get support and votes from their constituencies, by the state to control the squatters, and by communities to improve their neighbourhoods. This point is illustrated in the discussion below on the role of the street in negotiations between politicians and communities, and the state and communities.

Kampung streets as a political commodity between politicians and communities

For many politicians, *kampung* streets are a favourite political commodity that is used to gain support from grassroots communities in their constituencies. They are used by politicians to boost their image and entice *kampung* communities to vote for them. The practice by politicians of approaching *kampung* communities with street-related programmes is prevalent, particularly near elections. Candidates running for election often promise to facilitate street improvement projects in *kampung* if they are elected, taking advantage of the competition between *kampung* communities for government funding, as admitted by some informants:

As far as I know, there were already some [candidates making a promise regarding streets]. They will usually come more frequently during political years. For instance, some promised to upgrade [the street] here, others promised to pave [the street] there, or providing funds, and so on (Source: Interview *lurah*, 2018).

If we are talking about [the involvement of] political parties, indeed street projects are closely related to those in the House of Representatives. So, it is true that those political parties usually will come when a legislative election is approaching (Source: Interview RT leader, 2018).

Current members of the Regional House of Representatives (known as DPRD) wishing to run for the next election have adopted this tactic. Several informants reported that DPRD members often visit *kampung* during recess asking communities to propose development projects, of which street improvements are often a priority. Sometimes, they directly ask which parts of *kampung* streets need intervention, as implied by an official:

Politically, such *kampung* streets are a good political commodity, allowing politicians to say [to communities] “Alright, which streets do you wish to upgrade? Tell me, and I will propose them [to be funded]” (Source: Interview government official, 2018).

Visible, short-term projects such as street improvements have become a tactical choice for these politicians to boost their popularity, reaching a large number of beneficiaries, which is important in shaping public perception of such politicians. An official illustrated the logic behind this approach:

I mean, if I were a candidate running for the election next year, obviously I would need physical projects in my constituencies this year (Source: Interview government official, 2018).

Street improvement projects in *kampung* can be executed quickly as they are usually managed by local actors at the neighbourhood level (see also Section 6.3.2 on community participation), and can thus boost the popularity of the politicians among grassroots communities within a relatively short time as groundwork for an electoral campaign.

Nevertheless, the use *kampung* streets as a political commodity should not be understood only as a one-way process motivated by politicians to improve their public profile. *Kampung* communities also use this route as a timesaving way of delivering street projects, bargaining with politicians for street improvements in exchange for political support. As this mutual relationship becomes established, there is a growing tendency of unnecessary and unjustifiable street projects to be carried out, as commented by a staff from KOTAKU Yogyakarta:

In some locations, because of limited options for project locations, sometimes proposals are put forward to repair a slightly damaged street which is still only three years old. Let alone if they [communities] have connections in DPRD, just because of a little damage, the street can be entirely re-paved (Source: Interview staff of KOTAKU Yogyakarta, 2018).

A few examples of how communities have benefited from political transactions with politicians were reported in the fieldwork. In Kampung Keparakan, a resident, who was a member of a political party, contacted his connection, who was a member of the Regional House of Representatives, asking him to help the *kampung* community get their proposal for a postponed street improvement project funded by the city government – the project was shortly approved. In Kampung Kricak, a key informant reported a quick execution of a street and embankment construction project sponsored by a candidate for the next mayoral election, the current Deputy Mayor:

Not a long time ago, the street and embankment in RT 26 was constructed [with support] by Mr Imam. Surprisingly, the proposal was approved straightaway. At that time, he still served as the Deputy Mayor. Since he was going to run for the next election, it seemed that he tried to do a campaign covertly, as early as possible. Materials and logistics [for the construction] arrived shortly after he talked to the community, because at that time he was running for election as Mayor (Source: Interview RT treasury, 2018).

Underlying such political intercessions to deliver street improvement projects are the politics between city legislative and executive powers. As a legislative body, DPRD does not have the authority to manage budgets and execute development programmes because budgets are proposed and executed by the executive and delegated to technical departments. However, DPRD may steer the governing actions of the executive and has an authority to approve and amend the budgets.

An official from the city authority said that after recess, politicians often return to office with many proposals from their constituencies. Although they do not have the authority to disburse money for projects, they often push technical departments to amend their budget plans and alter on-going work to accommodate political agendas, as noted by the official:

Because of this political play, our work often gets disrupted. For instance, we have plotted our budget for this year's activities. If politics entered, it would significantly affect [our work]. We often receive additional programmes [from politicians]. They are often too many. And we know that, if they have said "these streets have to be repaired soon", we have to follow-up immediately. They want to make sure that the fund is allocated. In fact, we don't receive extra funds. Consequently, we often cannot accomplish our ongoing projects (Source: Interview government official, 2018).

Several previous studies have shown that informal politics between communities and state actors have become an everyday reality in informal settlements. Hossain (2011)

found that such negotiations were crucial for access to urban services in informal settlements, as a result of the state's reluctance to recognise informal settlements. However, this study shows that recognition does not stop informal politics from happening. In this context, this study agrees with the perspective of de Soto (2000) and legalists in seeing informality as a response to complex bureaucratic obstacles to join legal processes (Chen, 2012; Hawkins, 2020; Roy & AlSayyad, 2004). A long and uncertain process to get funding from the government for development projects in *kampung* has provided space for informal politics between communities and politicians to pervade.

Kampung streets in political negotiations between the state and communities

This study also suggests that there is a strong link between *kampung* streets and political negotiations between the state and communities. In Yogyakarta, street development has appeared as a key subject in the city government effort to regularise the development of *kampung* on the riverbank. It has become a coherent bargaining entity to settle the competing interests in the regularisation process: between the city government, which seeks control to create a safe environment on the riverbank, and *kampung* communities who pursue security of tenure.

The role of street development in the negotiation between the state and communities was clearly illustrated when residents of RT 26 Kampung Kricak took the opportunity of the *Pendaftaran Tanah Sistematis Lengkap* (Systematic and Comprehensive Land Registration, known as PTSL) to formally use Sultan Ground.

PTSL is a national government programme to accelerate land registration in Indonesia by registering all types of land occupancy at the same time in the same *kelurahan* and villages. It aims to clarify land status, provide security of tenure over the land occupancy, and minimise land conflicts. In Yogyakarta, PTSL targets not only the land of individuals, but also Sultan Ground land which is scattered over the region.

Since the Law No. 13, 2012 about the exceptional status of Yogyakarta Sultanate in the administration system of local governance in Indonesia came into effect, the Sultanate has the right to reclaim land that used to belong to it, known as Sultan Ground. As the status of Sultan Ground is based on the customary land tenure, it needs to be registered under the statutory land registration system managed by the National Land Agency (BPN).

Reclaiming Sultan Ground by the Sultanate sometimes creates land conflicts. Since 2012, the Sultanate has traced back and registered its land assets. Although the Sultanate may issue '*kekancingan*' (right of use of Sultan Ground) through *Panitikismo* (traditional land agency of the Sultanate) to other parties who wish to use the land, the claim made by the Sultanate can amend and annul the land ownership previously retained by individuals. Consequently, resistance to land claims made by the Sultanate has been taking place for several years throughout Yogyakarta.

For communities in RT 26 Kampung Kricak, this momentum is an opportunity to obtain tenure security. Driven by their aspiration for tenure security, they applied for land registration when PTSL was launched in Yogyakarta, as noted by an informant:

At that time there was a programme from the government called Systematic and Comprehensive Land Registration, or PTSL in short. We were aware that we were residing on a land with a vague status. It is not legal because we don't have any documents to show, but it is not illegal either because we occupied [the land] by building our houses by ourselves. Eventually, the community realised that it would be much better if they had a clear tenure status. So, finally the community agreed to take part in the registration (Source: Interview RT leader, 2018).

Since RT 26 Kampung Kricak is situated on the riverbank, which according to the prevailing law belongs to the state, residents are not entitled to register their plots under private ownership. Instead, the land was listed as Sultan Ground, and can be used by the residents through *kekancingan* (right of use of Sultan Ground). Nevertheless, the buildings that residents constructed can be registered as private properties, and they can receive a right of ownership and use of the buildings, as noted by an informant:

Because this land was on the riverbank, we applied for land registration through PTSL managed by the National Land Agency (BPN). When the process is completed, the status of the land later will become Sultan Ground. As for houses, their tenure status will be registered as right of ownership and use. [...] However, to get such right of ownership and use of the buildings, a copy of a reference letter concerning the status of the land as Sultan Ground has to be attached in the application (Source: Interview to an RT leader, 2018).

Residents who wish to use Sultan Ground have to apply for *kekancingan* to the Sultanate. To receive *kekancingan*, they must first ask for a recommendation from the Land and Spatial Planning Department, which forms part of the request for *kekancingan*.

At the same time, the city government has been promoting the M3K movement, an abbreviation of '*Mundur, Munggah, Madhep Kali*' (meaning 'stepping back, elevating, and facing the river') through its Land and Spatial Planning Department to control and regularise the development of *kampung* along the river. This movement aims to create a healthy and safe environment along the river by establishing a minimum three-metre setback between buildings and the river, elevating buildings along the river as a compensation for the setback, and reorientating them to face the river.

This movement seems to be impractical to implement in many *kampung*, because it entails an adjustment to the building. Affected buildings will have to be trimmed, leaving a tiny living space on the ground floor, or even removed completely to provide space for the setback. Therefore, the implementation of the M3K movement has not been progressing very well despite having been widely advocated to *kampung* communities.

Therefore, the city government has seen applications submitted by the community for a recommendation from the Land and Spatial Planning Department as an opportunity to control riverbank development and implement the M3K movement. To receive this recommendation, the Land and Spatial Planning Department required the community to reserve three metres of the riverbank, so that a street can be constructed by the city government. At the beginning, there was an ambivalence within the community towards this requirement, as conveyed by an informant:

It's true that it was hard for the community. However, they realised that what they were doing is for their own benefit, to clarify their status. It was not easy; there were pros and cons during the process. Sometimes we argued with each other because everyone had different opinions, and it took time [to resolve] (Source: Interview RT leader, 2018).

Eventually the community finally agreed to fulfil the requirement. Afterwards, they even started preparing for the street construction, and some people voluntarily carried out partial demolition to the buildings that protruded beyond the required setback from the river, as uttered by an informant:

We communicated with community members, local authorities, *kelurahan*, *kecamatan*, and community social institutions until we reached a consensus. Afterwards, we started conducting partial demolition of the buildings, because without the minimum three-metre distance from the river, we would not be able to submit our application. We estimated how the street would appear on the ground; buildings that extended beyond such distance from the river were trimmed. They were

trimmed voluntarily by the community without receiving any compensation (Source: Interview RT leader, 2018).

The street was eventually constructed by the city government and the community was granted right of use of Sultan Ground by the Sultanate. This street provides access to the neighbourhood, and acts as a barrier to control *kampung* development along the river. As the land is now Sultan Ground, residents no longer have the right to claim the ownership of the land and the street, which is expected to reduce street encroachment and conflicts pertaining to streets, as uttered by an informant:

As for the street, we will use it as a public facility. Land occupiers behind the street are not supposed to claim or appropriate it. [...] Although some segments were created by them, when all segments are already joined together, the street should belong to the public. So, it should not be appropriated by individuals (Source: Interview RT leader, 2018).

This case demonstrates how street development in *kampung* has emerged as a negotiation tool that can be used to settle competing interests for controlled development and tenure security. It is also important to see how the tenure status of the new street was later clarified and recognised by residents. Brown and Rakodi (2006) argued that it is important to clarify rights of users to public space in order to provide more security and allow more effective management for the space. This point also seems to be relevant in the management of streets in *kampung*. Clarification of the tenure status of the street will help to minimise conflicts and ensure equal access to the street.

6.5. Concluding remarks

This chapter addresses the question of politics and power in *kampung* streets. It has discussed the role of different actors and their power relations in the creation and management of *kampung* streets through an examination of three main themes: 1) the **historical evolution** of *kampung* streets, 2) **present-day management** of *kampung* streets, and 3) **conflicts and political negotiation** identified in this study. These three themes indicate a number of key findings which are useful in the understanding of *kampung* and their streets.

Firstly, it is clear that *kampung* streets are situated within the **state-communities-landowners nexus**, and that the use and management of *kampung* streets are shaped by power relations and political interactions between these three actors at all scales,

transcending the geographical boundary of the *kampung*. At the national level, the transition from a centralised system to a decentralised one has left a mark in the current management of *kampung* streets, which have changed from being a tool of the regime for social control to becoming a platform for community engagement. Similarly, political dynamics at the city level, such as electoral events and community resistance to government plans, can affect the management of *kampung*. Politics played out by elites at the *kelurahan* and city-wide levels could determine the fortune of a neighbourhood in executing street projects. Informal politics have been pervasive, even in a formal political terrain, and play a key role in the management of *kampung* streets. All these points imply that *kampung* are **intricately connected** to the urban system – physically, socially and politically.

This chapter also found that **the state's reluctance** to take part in initiating *kampung* streets has instead fostered the **continuation and reproduction of life** in *kampung*, and that streets play a crucial role in *kampung* consolidation. During the initial land occupation, streets were formed by community struggle that helped *kampung* communities strengthen their social ties through **collective initiatives**. Later, state interventions in street development controlled the organic development of *kampung*, implying a sort of legitimacy and acceptance towards the existence of *kampung*.

Furthermore, it also became apparent that once *kampung* had been consolidated, they operate like **gated neighbourhoods** where insider–outsider categorisation is established to maintain the street and its civil order. This categorisation is enforced through **collective actions, surveillance, and territorial control** which are employed to various degrees by communities. This categorisation underlies residents' decisions to participate in collective actions and undertake individual responsibilities in maintaining the quality of *kampung* streets. It also defines perceived threats to *kampung* communities, which activates neighbourhood security systems through norms and surveillance. With this categorisation, *kampung* communities treat traffic flow as an obstruction to privacy and communality. Therefore, community cohesion is essential in the management of *kampung* streets because it assigns the collective identity of 'the insiders' to *kampung* residents.

Finally, this chapter shows that management of *kampung* streets is an expression of **power contestation** by the state, communities, and landowners. In *kampung*, controls over streets are not merely used to symbolise the power of the state; rather power is dispersed among community members, and their power seems to be more

prominent. Communities could exercise collective power through territorial control to protect their neighbourhoods, and require others to observe it. Individuals exercise their power through territorial and land ownership claims. Examination of conflicts pertaining to *kampung* streets reveals the presence of imbalanced power relations in *kampung* communities. These relations recognise rights of ownership and use of the street perceived by communities and individuals, but imply that these rights largely rely on tolerance, negotiation, and social relations among actors. **Length of stay**, **residential status** of residents, and the **degree of control** over the neighbourhood and land where the street is situated play a crucial role in defining power relations among actors. In particular, the issue of land ownership is crucial in *kampung*, both because it is related to housing provision and community livelihoods, and it is central to minimising conflicts and ensuring access and use of the street as a public space for everyone in *kampung*.

7.0. Conclusion

7.1. Introduction

Streets in informal settlements are the setting for the vibrant social and economic life of their communities, and yet have attracted much less research focus than streets in European and North American cities. This research addresses that gap by focusing on the significance of the street for marginalised communities in cities of the developing world. It also addresses a major gap in knowledge about informal settlements, which have been seen as largely homogenous entities with, until recently, little attempt to understand the nuanced variation of their spatial structure or the importance of the street as a key element of spatial structure. To address this gap, it examined three aspects of the street – spatial structure, use, and power relations – shaping the creation, use, and management of the street in urban *kampung* in Indonesia.

Kampung are vernacular urban settlements resulting from an incremental yet continuous process of self-help housing development. They usually begin with unauthorised land occupation on marginalised public land, or informal land subdivision by legal landowners. As they are continuously evolving, the type of land tenure in *kampung* varies. Some residents have been granted formal land titles, while others still live on rented land owned by individuals or the government, or reside on land with ambiguous land tenure. Their key characteristics as informal settlements rest on their dense organic spatial pattern resulting from gradual processes, and their inhabitants' unique lifestyle that exhibits a hybrid of rural and urban life. In Yogyakarta, where this study was situated, *kampung* are well-defined communities with tight social networks and diverse socio-economic backgrounds.

This research was based on case studies of two contrasting *kampung* in Yogyakarta, Kampung Keparakan and Kampung Kricak. The data from both case studies were collected through a series of observations in four time periods (morning, noon, afternoon, and evening on a weekday and a weekend), key informant interviews, and questionnaires distributed to households in the two *kampung*. The mapped and

qualitative data were analysed to explore commonalities and discrepancies between the two cases.

This concluding chapter presents the summary of key findings, and offers reflections on the three research objectives outlined in Section 1.4, covering how the physical aspects and characteristics of streets in *kampung* have evolved and been assessed, how they are used, and the power relations shaping the creation and management of the street in urban *kampung*. In doing so, the following sections draw out together the key findings presented in Chapters 4, 5, and 6 in the context of the literature review, and identifies key contributions to the existing body of knowledge and implications for urban planning and management. At the end, limitations of this study and recommendations for future work are presented.

7.2. Summary of key findings

This study demonstrates that streets in urban *kampung* are more than just an infrastructure; they are closely linked to spatial and social processes shaping the settlement, and a comparative analysis of two contrasting case studies reveals how they work in different settings. Some differences and commonalities in street management and street life in the two case studies were highlighted in the analysis, and it is clear that different conditions in the two *kampung* influence the spatial structure, use, and management of their streets.

This study shows that historical land control and settlement development processes, particularly during the initial occupation of *kampung*, influence the spatial structure of *kampung* streets. Kampung Keparakan's street network is more connected and permeable than that of Kampung Kricak. The self-organised process driven by active participation of Kampung Keparakan's residents, enabling them to negotiate and make consensus about plot allocation and circulation space, has resulted in this spatial structure; while in Kampung Kricak, development initiatives and land allocation were dominated by the landlord. This finding helps to explain the variation in current structures of informal settlements and how they emerged in the first place.

Characteristics of residents and their tenure status also influence how *kampung* streets are used. In Kampung Keparakan, active sociability in the street is more dominant than passive sociability. In contrast, passive sociability is more prominent

in Kampung Kricak. This study suggests that the established and stable communities of Kampung Keparakan, having resided together in the *kampung* for generations, have created a strong attachment and sense of belonging to the *kampung*, which helps to initiate active contacts among community members. In Kampung Kricak, this ingredient is lacking due to the flux of tenants moving into and out of the *kampung*.

The two case studies also demonstrate how different power structures shape the management of *kampung* streets. In Kampung Keparakan, power is distributed among residents as they claim the ownership of the land they occupy (formally and informally). Most streets and alleys are formed through their voluntary setbacks, prompting attempts to defend their perceived right to control, use and maintain this space. Therefore, in Kampung Keparakan, street maintenance is often an expected responsibility of adjacent land occupiers; yet encroachment onto and disputes over the street are often explicit. In contrast, in Kampung Kricak, most streets are laid on landlords' land, and tenants are in a weak position to exercise control over adjacent streets. Therefore, street maintenance is considered as a communal responsibility, and encroachment and conflict tend to be tacit here.

Furthermore, this study also poses three significant findings to the conception of the street. Firstly, it shows that *kampung* streets in both study areas are **multifunctional shared-use areas** that play a key role in the existence and continuation of *kampung* communities. This finding blurs the traditional divide between the public and private realm, which views the street as part of the public domain. In *kampung*, the street is an arena where collective identities are celebrated; social, economic, and political exchanges take place; and the spillover of private and domestic life is the norm. It is where private properties are used for public uses, while public facilities are appropriated for private uses. Therefore, it calls for a new paradigm in understanding the concept of public space, particularly in the organic spatial form of informal settlements.

Secondly, this study found that **communities have a major role in creating, claiming and managing streets**, implying that the conventional division of responsibility between government (responsible for the public realm) and the household (responsible for the private realm) does not apply in *kampung*. This finding demonstrates a share approach of co-production of spaces and basic services that gives the community a role in street management, in addition to government

initiatives. However, it is also important to note that *kampung* streets are situated within the community–landowner–state nexus. The three-way tension between these actors has implications for the future design, use, and management of streets. Therefore, a situated analysis of how these three actors interact is necessary to prescribe an appropriate approach that can ensure the functioning of the street and minimise conflicts.

Thirdly, the **diversity of street use and management** in the two *kampung* suggests the **importance of community involvement in street interventions** for informal settlement upgrading. The ability of communities to capitalise on their limited land assets by transforming the street into productive, multifunctional and vibrant places demonstrates the significant potential of places and communities in informal settlements. It adds depth to the understanding of the function of streets in informal settlements and the role of communities, which has implications for urban planning and interventions in informal settlements.

7.3. Physical and spatial characteristics of streets in *kampung*

Research Objective 1 considers the question of how the design and physical characteristics of the street can be assessed and described and how the street has evolved. Informal settlement literature to date has mostly concentrated on the issue of land, housing, and public health, and there is a clear gap in knowledge about the morphology and spatial structure of informal settlements (Kamalipour, 2016; Kamalipour & Dovey, 2020; Lombard, 2014) to which this thesis contributes. This section draws on all three analytical chapters, Chapters 4, 5 and 6.

The findings demonstrate that the structure of the street network is a product of both **historical land control** and **processes of land occupation**. Although both *kampung* have grown organically, the growth process is different in the two case studies, resulting in different patterns of street networks. Kampung Keparakan demonstrates the process of informal occupation of vacant land on the riverbank that, according to the law, belongs to the state. However, state control was insufficient to prevent land invasion, so the early *kampung* settlers had the freedom to allocate plots and develop the street network gradually as the settlement grew and *kampung* residents needed better access. Community consensus was crucial in initiating and developing the

street network. The early settlers built adjoining houses and the circulation space was negotiated between plot holders with shared ownership. This process results in a loose, irregular grid pattern with short blocks, allowing for direct movement between places.

In contrast, Kampung Kricak demonstrates a process of informal land subdivision on privately owned land. Here, the street network developed incrementally following unplanned land allocation dominated by the landlord. This process produced a random movement network within the settlement in which some of the streets and alleys are not well-connected.

It is clear that the production of streets and the spatial patterns that result are a product of the three-way tension between **community-landowner-state**. Landowners control physical development on their land, and the state intervenes in the street through street upgrading projects. The communal element of street production and management is also critical. This study reveals how community-led collective responses can lead to better connected street networks. In the absence of formal planning, a self-generative process driven by community needs, as shown in Kampung Keparakan, results in a spatial configuration that provides for effective pedestrian movement, in comparison to a process controlled by the landlord, as shown in Kampung Kricak.

This finding suggests that **individual agency** is critical in urban management, as advocated by Jacobs (1961). Individual agency allows *kampung* residents to take part in collective actions that shape their environment. Silver (2014) argued that the influence and agency of *kampung* residents in reconfiguring the urban system in their neighbourhoods is demonstrated by the incremental process of *kampung* development. For example, in Kampung Keparakan, residents participated in initiating streets, providing space for circulation, and connecting pedestrian networks in their neighbourhood. Therefore, interventions in informal settlements should allow communities to define what is best for their environment rather than imposing the vision of policy-makers on informal settlements. They should also allow flexibility for *kampung* residents to shape the development process in their neighbourhoods.

Analysis of the street hierarchy in both *kampung* reveals a **spatial order** that exists in the organic form of informal settlements. Using three variables most often used for conventional street classification (Marshall, 2005) – street width, the relative position

of the street with respect to other network elements, and types of traffic on the street – it is clear that spatial order in *kampung* seems to revolve around a logic which balances the traffic flow and social function of streets. This finding is useful to challenge a pervasive stereotype viewing informal settlements as disorderly and unorganised that is often used as a pretext by authorities to justify settlement redevelopment (Lombard, 2014).

In general, streets in *kampung* can be classified into three categories: **main streets**, **neighbourhood streets**, and **alleys**, each associated with different types of street uses and how public–private life in informal settlements is structured:

- *Kampung* ‘main streets’ function to connect the *kampung* to the wider transport network of the city. They are more public, where exchanges between residents and outsiders take place more often, such as transactions with street hawkers.
- ‘Neighbourhood streets’ play a vital role for the circulation of *kampung* residents and the provision of access for emergency vehicles, as well as *kampung* social life. They are pedestrian oriented, but have a capacity to carry a small volume of vehicular traffic. They are communal territory where most residents gather and socialise.
- ‘Alleys’ are the smallest element of the network, penetrating the entire settlement and provide connections for pedestrian movement. They provide the most intimate experience of space for the users and often function as semi-private territory for residents.

This finding highlights the urgency of understanding the street hierarchy as a key element of the spatial structure of informal settlements. While this study uses only three variables, other relevant variables could be incorporated in the analysis. Mapping informal settlements and creating a set of spatial data, both at the macro and micro levels, are crucial and should become a prerequisite for any planning intervention. This would provide a powerful resource to represent the reality in informal settlements and contest dominant interpretations of informal settlements (Dovey *et al.*, 2018; Rasmussen, 2013).

Finally, this study shows the **social functions of the street** are much **more important** than their role in accommodating vehicles, in contrast to conventional land subdivision processes which have overemphasised the design of streets for

vehicular movement (Dumbaugh & King, 2018; Gehl, 2010; Riggs *et al.*, 2018; Southworth & Ben-Joseph, 2003;). The spatial arrangement of some streets in the two *kampung* suggest that they function mainly as community gathering places, while others are arranged as extensions of private space. Therefore, this study suggests that, in addition to the movement network, it is also important to consider alternative factors in designing streets, particularly in informal settlements.

7.4. The use of streets in informal settlements by communities

Research Objective 2 looks at how communities use *kampung* streets. Through grounded analysis, this study reveals a new four-type categorisation of street uses in informal settlements – **ceremonial use, social use, economic use, and domestic and private use** – as discussed in Chapter 5. This finding has gone some way towards enhancing understanding of the reliance of marginalised communities on access to the street, beyond the limits of existing literature, which mostly address the economic significance of the street for these communities (e.g. Brown, 2006; Lupala, 2002; Marsoyo, 2012).

Further analysis shows that *kampung* streets are a vibrant place of **rich social exchange**, shared by various social groups. Children and women were constantly present during different observation periods in both *kampung*; in contrast to the research studies that portray them as being excluded from the street and public space due to safety concerns and the feeling of being out of place (Bondi & Rose, 2003; Harden, 2000; Mahadevia & Lathia, 2019; Valentine, 1997; Valentine & McKendrick, 2007; Viswanath & Mehrotra, 2007). Parents were confident of their children's safety playing in the street, and children found enjoyment playing there. Women were also often seen socialising in large groups around several gathering places, while looking after and supervising their children. This finding implies that children's and women's exclusionary experience in streets and public space depicted in some of the literature is not evident in *kampung*.

This study also shows that the street was **a supportive working environment for women**, unlike other studies (e.g. Cohen, 2000; Muiruri, 2010; Pratt, 2006). In *kampung*, where communities are tight-knit and willing to look after each other and share space, women are prominent business operators who feel safe conducting business on the street. Also, the expectation that women should stay at home to look

after family and domestic affairs does not prevent them from doing business on the street near their homes, which suggests that the concept of home and domestic space in *kampung* includes space beyond the physical boundary of homes.

Analysis across the four types of street uses shows that **community and collective mechanisms** are essential, both for the process of creating streets (Section 4.6.1), and for the functioning and allocation of streets for different activities. This finding adds to the existing body of knowledge which indicates the importance of social capital for neighbourhood and community development in informal settlements (Assheuer *et al.*, 201; Doyle, 2017; Grant, 2001; Magigi & Majani, 2006; Sullivan, 1992).

Collectivism is embedded in many forms of street use in both *kampung*, and the richness and intensity of social exchanges on the street suggests the presence of strong social ties among *kampung* residents. The willingness of communities to watch over children creates a safe playground for children on the street. Ceremonial uses exemplify community solidarity in sharing the burden of space needs for festivals, weddings or funerals, by allowing temporary street closures for ceremonial activities. Using the street for economic activities encourages social interaction among residents and provides business owners with an opportunity to socialise with neighbours and expand their social networks. Even the appropriation of the street by private actors, which is common, is not exclusive, but is often temporary, and is subject to community acquiescence and approval. This is new to the concept of streets and public space, where space has multiple, overlapping uses and community consensus is a key factor governing the use of the space. This process of land sharing demonstrates a powerful new paradigm in the concept of street use and space sharing. It provides an alternative to the traditional public–private dichotomy that in practice often uses formal ownership, attached to property rights, as a basis for governing space (Blackmar, 2006; Ruppert, 2006; Webster, 2007).

This study also provides a **critique of urban street discourses**, as largely shaped by the way urban elites perceive and use the street. Exploring streets in informal settlements, which are often stigmatised and overlooked, can provide a different perspective on the role of the street. For instance, it is clear that rejection of street economies is more often driven by the vision of urban elites to prioritise vehicular traffic and create an image of controlled public space (Bromley, 2000; Brown, 2006; Yatmo, 2008) rather than the actual problems created by street economies. In a

pedestrian-oriented and informal environment such as an urban *kampung*, where informal checks and balances exist to ensure sharing of the available street space, street economies tend to be accepted and provide social and economic benefits for communities.

Although critiques of the privatisation of streets and public space often focus on the appropriation of public space as a product of the capitalist economy leading to commodification of urban space by urban elites (Banerjee, 2001; Carmona, 2010a; Loukaitou-Sideris, 1993; Madanipour, 1999; Nemeth & Schmidt, 2011), it is not always the case. Private uses of the street by communities in informal settlements are often driven by the temporary need to appropriate the street, often providing broader social benefits for private actors who do not have space inside the home for their livelihood and domestic activities.

This study also demonstrates the **spatiality of street use** in informal settlements, which addresses a knowledge gap about the spatial dimensions of informal settlements that contributes to marginalisation of settlements (Lombard, 2014). To some extent, the observations of the spatiality of street use reaffirm existing theories, for example that the spatiality of street economies is associated with connectivity and visibility of locations (Bell & Loukaitou-Sideris, 2014; Brown, 2006; Dierwetcher, 2002; Setsabi, 2006; Yankson, 2000). This information also provides new ways of understanding particular places as it makes the invisible visible (Dovey *et al.*, 2018), through a rare documentation of the heterogeneity of informal settlements that are so often treated as homogenous. It highlights the nuanced characteristics of street use in different places in informal settlements and demonstrates a natural pattern of resident's use of space that needs to be carefully examined to help planners and policy-makers prepare responsive policies and plans.

Finally, the appropriation of the street for a variety of non-movement uses demonstrates the **wasted land asset of streets** designated predominantly for the single use of vehicular movement. In contrast, sharing the street for non-movement uses provides social and economic benefits for urban residents and creates a vibrant atmosphere in the neighbourhood, which is consistent with a number of studies (Biddulph, 2012; Monheim, 2003; Moore, 1991; Stevens, 2007). Negotiation among residents exists as a mechanism to share available space and minimise conflicts. Thus, this study calls for a changed mindset in the prevailing urban planning and design practices to review the role of the street as a multi-faceted area which is not

exclusively for carrying traffic. This entails a reconsideration of street standards and regulations to allow sharing of street space for a diversity of street uses, as advocated by many authors (Appleyard, 1980; Gehl, 2010; Jacobs, 1961; Southworth & Ben-Joseph, 2003; Whyte, 1980).

Flexibility and spontaneity in using spaces according to the needs of users, without being overly controlled by design, are key factors for the vibrancy of *kampung* streets. Therefore, this study questions planning practices that seek physical transformation and aesthetic quality through predetermined design concepts. Instead, this study substantiates the argument that **planning and design interventions should reinforce existing social life in urban spaces** (Gehl, 2010; Jacobs, 1961; Whyte, 1980), and that physical transformation is a means to achieve this. Incremental and bottom-up interventions through gradual and scalable projects based on users' needs in a few strategic locations, such as gathering places in neighbourhood streets, may improve the living conditions of informal settlements. Such incremental approaches provide opportunities for communities to engage in upgrading, in comparison to top-down, massive and radical physical redevelopment that disrupts the supportive social life of informal settlements.

7.5. Power relations in the process of street creation and management in informal settlements

Research Objective 3 looks at politics and power games in informal settlements that affect the use of, and access to, the street are rarely understood, although access to public space often becomes an everyday struggle in informal settlements (Hackenbroch & Hossain, 2012). Struggles in informal settlements are often framed as tension between the state and communities over urban land and services (e.g. Chitekwe-Biti, 2009; Huchzermeyer, 2009; Morrison, 2017; Skuse & Cousins, 2007; Winayanti & Lang, 2004), but the internal dynamics and power relations within the settlements that influence the creation, use, and management of the street have gained little attention in existing research and policies. Research Objective 3 addresses this gap by focusing on power relations among actors in the creation and management of *kampung* streets. It was largely addressed in Chapter 6, focusing on the political processes and controls involved in street creation and management in *kampung*.

First, the findings show that the creation and management of *kampung* streets are shaped by a tripartite nexus of **community–landowner–state**. The power struggle over streets and the link between actors and mechanisms in the transformation of informal settlements are often misunderstood. This misunderstanding often results from the tendency in the literature to see informal settlements as static, ignoring the reality of their evolution (Setiawan, 1998). Consequently, a number of important details of the dynamics of political interactions and power games which take place during the evolution of informal settlements are often absent, leading to an inaccurate description of processes in informal settlements.

The research shows that space in informal settlements is produced through a **complex interplay between different actors**, and is not an autonomous process by communities independent of state intervention (e.g. Leaf & Setiawan, 2008; Reerink, 2015). Although communities play a major role in the production of streets in informal settlements, this is only true when there is no dominant control by the landlord, especially during the early stage of *kampung* development. As the *kampung* grew and became consolidated, the state also intervened in the production and management of *kampung* streets. This finding also demonstrates potential roles of communities and private actors in the management of infrastructure and space in informal settlements which often relies on state provision. In *kampung*, the state, communities, and individual landowners exercised power driven by different motives to influence the creation and management of streets.

The state exercises **inherently political power** in the creation and management of *kampung* streets, highlighting the connectedness of informal settlements to the formal political system of the city. As the government's stance moved from stigmatising informal settlements and a policy of eviction to acceptance of the need for upgrading, infrastructure investment in informal settlements became a way to buy political support. During the former authoritarian military regime, this political agenda was executed through the employment of military personnel in infrastructure upgrading in informal settlements, which was used by the ruling regime as a tool for social control and to boost the military's image. The government also controlled the process of grassroots decision-making by establishing several bodies responsible for facilitating community participation.

After the authoritarian regime fell in 1998 and the decentralisation of the political system, gaps remained for political actions in informal settlements, suggesting that informal settlements are influenced by **city level political dynamics**. As this study shows, politicians often use street-related projects to gain political support from grassroots communities or to embezzle the money from government budgets, which often involved informal politics played out between the city's legislative and executive organisations. This finding also contributes to the existing body of knowledge about the relationship between the state and communities in the production of informality. Although it has been argued that the lack of state recognition of informal settlements encourages informal politics and clientelism (Hossain, 2011), this study suggests that recognition itself does not necessarily stop informal politics from happening. To some extent, this issue is related to the complex and cumbersome nature of bureaucratic processes involved in government procurement processes, which resonates with the legalist's view of informality (Chen, 2012; de Soto, 2000; Hawkins, 2020; Roy & AlSayyad, 2004).

Street transformation in informal settlements, particularly during their early stages, represents **community struggle for survival and recognition**, which resonates with Amin's (2014) argument that infrastructure intermediates community struggle in informal settlements. The abrogation of state power in designating and managing streets in urban *kampung* has empowered communities, initially forcing them to work together to create streets, which resulted in a collective entity and voice. Communities in both *kampung* formed streets as they sought better connectivity to the urban system as well as the higher visibility and permanence of their settlements to secure their tenure.

These findings also suggest a new perspective on **the relationship between the state and communities** in the production of informality, highlighting that binary classifications are insufficient to portray the complexity of informal settlements. Challenging Yiftachel's (2009; 2015) argument, informal settlements do not arise from insufficient government control, nor from deliberate actions that allow powerful and well-connected groups to evade formal regulations, laws, and plans. This study shows that the state contributed to the production of informality by deliberately avoiding intervention both in the initial stages of land occupations and in the later consolidation of informal settlements, forcing communities to collaborate and organise themselves.

This study also found **community control mechanisms** indicating that communities have a major role in the management of their streets and neighbourhoods. These control mechanisms exemplify Newman's (1972) "defensible space", turning informal settlements into gated neighbourhoods where an insider-outsider classification is established, enabling communities to exercise communal power in controlling streets and neighbourhoods. This classification is established through social processes that have persisted since the emergence of the settlements, shaping collective identities, developing mutual trust, and strengthening social bonds and solidarity in informal settlements.

Such control mechanisms demonstrate an application of defensible space without relying heavily on physical design, as implied in the original concept (Reynald & Elfers, 2009). In contrast to Kilian's (1998) criticism, informal settlements demonstrate an application of defensible space that becomes more a tool of collective community empowerment than an instrument of passive and repressive surveillance. As this study suggests, in a place where formal design is absent and settlements grow organically, a strong sense of community is central in the creation of defensible space.

In urban *kampung*, social processes are critical mechanisms in the creation of defensible space, which are neglected in Newman's defensible space concept, as noted by Reynald and Elfer (2009). In both case studies, non-physical means, such as collective action, surveillance, and territorial control have been used to maintain and protect territories. Social mechanisms exist to ensure that these non-physical methods function. Peer pressure, social sanctions, and a sense of belonging to the community encourages residents to participate in undertaking collective work and responsibilities, and street surveillance is based on community consensus on what is appropriate and permissible, and what is not.

Social processes in the community are also vital for **conflict resolution in informal settlements**. As discussed in Section 6.4.1, street-related conflicts in the two case studies are often caused by a display of "incompatible public behaviour" (Madanipour, 2004, p. 272), an exercise of territorial control, or an ownership claim of the land where the street is situated. There is a wide range of conflicts of varying scale, ranging from disputes between individual street users to intense conflicts involving the state. Various approaches were used to resolve the disputes, showing community eagerness to maintain harmony in their neighbourhood. Small internal disputes between residents were resolved by polite negotiation. Larger conflicts in

both *kampung* were addressed by community elders and leaders, such as RT/RW authorities, using persuasive approaches to mediate conflicts. If conflict is violent and prolonged, or conflict mediation is ineffective, social sanctions and boycott may be used to pressurise the conflicting parties to end the conflict, as shown during a violent conflict in Kampung Keparakan where a street was partly blocked by a conflicting party for almost two years.

Although community collective control was central to maintaining the quality of the street environment, confirming Bierstedt's (1950) point on the importance of power in controlling chaos and facilitating order, it may also result in **the exclusion of other groups**. For example in Kampung Keparakan, community control led to the exclusion of Papuan people from some neighbourhoods, while in Kampung Kricak transgender people are not allowed to enter certain neighbourhoods. These findings highlight Killian's (1998) argument about the paradox of public-private power relations, in which mechanisms that enable particular groups to maintain their identity in public space paradoxically limit the access of other groups.

These findings also reveal the internal power dynamics in *kampung* that demonstrates the exclusionary nature of *kampung* communities. which supports Guijt and Shah's (1998) argument of the mythical notion of community cohesion calling for recognition of conflicting interests within communities to replace simplistic assumptions of homogeneity and harmony within communities. This study shows that community empowerment does not always mean inclusion; community consolidation and empowerment over their territory has resulted in increased exclusion and delineation of who does and does not belong to the community.

The perceptions of power holders are a key factor in these power relations. As Coleman (2005) and Blomley (2011) argue, the surveillance and social norms used to control streets are often based on the perception of appropriateness of behaviour and perceived 'right to feel safe'. Papuan people and transgender people have been restricted in the respective *kampung* because they are perceived as threats by communities. Therefore, it is also important to interrogate perceptions of streets users towards each other in addressing imbalanced power relations in streets and public space.

The power of individuals within the community to shape the management and use of streets in *kampung* is determined by three key factors: **length of stay, tenure**

status, and their **degree of control** over the land where the street is situated. Landlords could control the management of their land, and their consent is necessary to carry out infrastructure projects. In the case of *rukunan* streets, landholders can exercise control over the street constructed on part of their land, overriding public use rights. Long-standing residents can dominate the use of the street and evade norms of behaviour on the street, while tenants and newcomers tend to be in a weaker position.

This finding fills a major gap in knowledge about power struggles over streets and public spaces in informal settlements by revealing individual actors within the community in the power nexus and their relationships. It goes beyond the framework of seeing power struggles over the street and public space merely as evidence of tension between the dominant state and the resistant communities. The tension involving long-standing residents in informal settlements is consistent with the findings of several previous studies (e.g. Barry *et al.*, 2007; Madanipour, 2004), but the **exercise of power by individual landholders** is rarely considered as an important internal factor, although informal land tenure has been widely identified as a contributing factor in many conflicts in informal environments (Lombard & Rakodi, 2016). Therefore, this study suggests that understanding land tenure and overlapping claims between landholders is critical both for housing provision and livelihoods, and to ensure equal access of public space in informal settlements.

7.6. Limitations and recommendations for future work

Despite its contributions to the existing body of knowledge about streets in informal settlements, some limitations should be noted particularly related to the design of the study and time and resource constraints. This section outlines these methodological limitations and highlights several issues which were not sufficiently addressed, indicating areas for future studies.

Firstly, there were inevitably some limitations in the data collection methods employed. The street uses identified in this study were recorded through observations on weekdays and weekends (both Saturday and Sunday) at four different periods (morning, noon, afternoon, and evening). Although the observations were conducted in parallel across all streets in both case studies (with the help of research assistants) in order to document streets uses as accurately as possible, this

method could not record all the activities that actually happened on the street. Street activities which took place outside the observation periods may have been left out of the documentation. Therefore, this study cannot claim that the street uses presented are exhaustive.

Secondly, any study based largely on qualitative data is necessarily subjective in its analysis. For instance, although street uses were documented as observed, their classification into the categories presented in Chapter 5 may have omitted some details. The four categories of street uses identified in this study are often interrelated, and there may be some overlap whereby recorded activities could feature in more than one category. However, the researcher's personal judgement was used to categorise the activities. Nevertheless, as argued by Bailey (1994) regarding the advantages of typology, this classification certainly adds to the understanding of the street by reducing the complexity of street activities and making sense of various patterns of street uses in informal settlements.

Urban *kampung* in Yogyakarta have very specific characteristics, and it would be useful to investigate whether the pattern and type of street uses identified here are similar across different geographical, historical, and cultural settings of informal settlements in Indonesia and beyond. Different methods of data collection and analysis could be considered in future research. For instance, the use of time-lapse video cameras, or camera drones to provide aerial views of the study area – subject to community approval – would be helpful for settlement and activity mapping and minimise the omission of street activities from documentation. In addition, quantitative analyses, for example using space syntax, could be incorporated to reduce subjectivity.

Another limitation of this study is that it did not include an in-depth micro-spatial analysis of the street, its use, and power dynamics shaping it. The level of data used to analyse the street, the dynamics of the use, and the politics involved was mostly at the settlement level. Consequently, it lacks the detail of how the street is contested and negotiated at the microscale of informal settlements, which remains critical to the social and economic functions of public space (Kamalipour & Peimani, 2019). Despite this limitation, the study offers valuable insights into how the design, use, and management of streets in informal settlements are linked to various forces and actors at the wider scale. The settlement-scale analysis allows this study to encompass a

broader range of critical issues pertaining to the design, use, and power shaping streets in informal settlements. Further studies can be directed to exploring the microscale dynamics of the street, its uses and power play in informal settlements, such as how street economy actors negotiate street space between them and with property owners, or how micro politics and tactics are played by residents in informal settlements to negotiate the need for parking spaces and spaces for private and domestic uses.

There is also a scope to look into public–private divisions in informal settlements. This study has shed light on the concept of home and domestic space in informal settlements that seems to be distinct from that of formal areas. The blurred boundaries between public and private space due to the complexity of public life and ambiguity in property ownership have influenced how public–private division is constructed in informal settlements. Further studies can be conducted to investigate how home and domestic space is perceived by residents in informal settlements and the key factors underlying such perceptions, which are critical to the understanding of public–private division in informal settlements.

7.7. Concluding remarks

This thesis has explored two important topics closely associated with the life of marginalised communities – the street and informal settlements – and their intersection which is underexplored. It is an attempt to address a gap in knowledge about the significance of the street for the urban poor, as well as to extend understanding of the potentials and variation of streets in informal settlements,

The empirical findings of this study suggest that streets in informal settlements are multifunctional. In contrast to the monofunctional and exclusionary streets of many towns and cities, which demonstrate the wasted land asset of public space, streets in informal settlements are vibrant shared spaces of central significance to communities. Far from being disorderly and unorganised, the variations in spatial characteristics of the street imply a spatial logic in informal settlements that governs the way streets are used and managed by residents, demonstrating the heterogeneity and nuanced significance of places in informal settlements. They are also a blurred boundary between the public and private realm and subject to negotiated community

management, suggesting a major role for communities in producing and managing the street, as well as ensuring the sharing of the available street space for various uses.

The vibrancy of ordinary streets in informal settlements provides a completely new paradigm in urban development. In general they create a safe and inclusive environment in which children may grow up and women socialise, although some outsiders are still excluded. Although they may be hidden from the public gaze, they provide a friendly place for the urban poor to work and to escape from their busy days. The richness of community life in a largely pedestrian-oriented and self-generative setting of low-income urban settlements presents hopes for the future of informal settlements. This research has filled a major gap in knowledge about the design, function and power struggles over streets in informal settlements.

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Appendices

Appendix 1: Interview guide

Interview guide (for key informants)

Date of interview : _____

Time : _____

Personal details

Name : _____ Position: _____

Age : _____ Origin : _____

Gender: _____ Address: _____

Length of residence: _____

_____ Contact: _____

1. Historical context

1. When was this kampung firstly inhabited, and how?
2. What was the origin of this kampung? Is there any story behind the name?
3. Who are the first occupiers of this neighbourhood?
4. What kind of major spatial changes have occurred in this kampung?

History of streets

1. How did the street look like when you first came to this kampung?
2. What kind of spatial changes have occurred with the streets in this kampung?
3. Is there any difference on how the street is used in the past (since your stay) and nowadays?

2. Social and cultural context:

1. Who are the residents of this kampung? Are they native, non permanent migrants, or permanent residents? Renters or owners? Where do they come from?
2. How is the demographic composition of this kampung? (by family size, religion, newcomers/old residents, ethnic/cultural group, political association)
3. How is the status of land ownership in this kampung?
4. How do the residents get access to the land? (claiming, buying, inheritance, renting?)
5. How is the quality of basic services in this kampung? How are they provided?
6. How is the accessibility of the residents to basic services in this kampung?

7. Is there any special customs, cultural or social practices and norms practiced in this kampung?
8. What do you think about government attitudes towards the residents of this kampung? Do they formally recognised the residents? Why do you think so?

3. Economic context

1. What is the dominant occupation of residents in this kampung?
2. What is the dominant economic status in this kampung? (low, middle, high income?)
3. What is the most important economic problem in this kampung?

4. Network configuration:

1. What are important buildings, landmarks, places, and other physical structures in this kampung? (Map them)

5. Uses and users:

1. For which purposes are streets in this kampung usually used?
2. Have streets in this kampung everbeen used for any economic, cultural, religious, ceremonial, or political activities? Please mention.
3. Where and when do they normally do such activities? How often?
4. Who or which groups of people use streets in this kampung?

6. Meaning and perception:

1. How important is the street in this kampung to you and to everyday life of the residents? Why?
2. Is there any symbolic significance of streets and elements of streets (gates, murals, etc.) in this kampung? Why are they important? What do they symbolise?
3. What is your opinion about the ownership of the street in this kampung?
4. What is your opinion about the inclusiveness of the street in this kampung?
5. What is your opinion about the accessibility of the street in this kampung?
6. What is your opinion about the management of the street in this kampung?

7. Actors and structure:

1. What is your role in the management of streets in this kampung?
 2. What is your motives and interest to be involved in the management of streets in this kampung?
 3. What do you envision about streets in this kampung?
 4. Who are other internal and external actors involved in the decision-making process of planning and transforming this kampung and particularly streets in this kampung? What are their roles?
 5. Who are other internal and external actors involved in the management of this kampung and particularly streets in this kampung? What are their roles?
 6. Who is responsible to do day-to-day maintenance and to control the use and access to the street in this kampung?
 7. Is there any religious, social/ethnic, and political groups competing in this kampung to control the street? Who are they? What are their motives and interests?
 8. What do you think about their involvement? Are they helpful? In what ways?
 9. To what extent do the government are involved in the management of this kampung and particularly streets in this kampung? Is their involvement helpful? In what ways?
-

10. Is there any programme from the government implemented in this kampung which is particularly related to streets?

8. Relations:

1. How would you describe the relation among the actors that you have mentioned, with regard to planning, transforming, using, and managing the street?
2. In your opinion, who is the most influential actor in the in the process of planning, transforming, using, and managing the street in this kampung? Why?
3. Have you ever witnessed or known any conflict with regard to the planning and designing the street? Please explain.
4. Have you ever witnessed or known any conflict with regard to access to and the use of streets? Please explain.
5. When conflict arises, how do different actors decide on the use and design of streets? What are the strategies to resolve the conflict?

9. Expression of power:

1. Could you explain the process and procedure in planning and transforming streets in this kampung?
2. Whose specific values or consideration will be prioritised in the decision on planning and transforming streets in this kampung? Why?
3. To what extent do the communities are involved in the planning, transforming, using, and managing the street?
4. What measures have been take to manage and maintain the street?
5. Are there any particularly powerful groups or individuals controlling the access to and use of the street? How do they do that?
6. Is there any norm practiced in this kampung regulating the access and use of the street? Who creates and enforce the norm?
7. Is there any restriction in accessing and using the street in this kampung? Are there any activities or groups of users which are not allowed on the street?
8. Is there any regulation from the government and other external parties regulating the use of the street in this neighbourhood?
9. Is there any specific measure in terms of physical design of streets applied to control access and the use of streets for particular groups?
10. Is there any mechanism applied to control access to this kampung?

Final remarks

1. What is the most important problem related to the design and morphology of the street? Why?
 2. What is the most important problem in accessing and using the street? Why?
 3. What are obstacles in planning, designing, and using streets?
 4. What is your suggestion to improve the situation?
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Interview guide (for government officials)

To local authorities (Head of '*kelurahan*' and '*kecamatan*')
 1) **Socio economic context**

1. Who are the residents of this kampung? Are they native, non permanent migrants, or permanent residents? Renters or owners? Where do they come from?
2. How is the status of land in this kampung?
3. How do the residents get access to the land? (claiming, buying, inheritance, renting?)
4. How is the quality of basic services in this kampung? How are they provided?
5. How is the accessibility of the residents to basic services in this kampung?
6. Is there any special customs, cultural or social practices and norms practiced in this kampung?
7. What is the dominant occupation of residents in this kampung?
8. What is the dominant economic status in this kampung? (low, middle, high income?)
9. What is the most important economic problem in this kampung?

2) Expression of power

1. Is there any policy and programme launched by *kelurahan/kecamatan* related to streets in kampung? What are they?
2. Could you explain the process and procedure in planning and transforming streets and public space in this kampung?
3. To what extent do the communities are involved in the planning, transforming, using, and managing the street?
4. Whose specific values or consideration will be prioritised in the decision on planning and transforming streets in kampung? Why?
5. In your opinion, who is the most influential actor in the in the process of planning, transforming, using, and managing the street in this kampung?
6. What measures have been take to manage the street? Who is responsible to do?
7. Are there any particularly powerful groups or individuals controlling the access to and use of the street? How do they do that?
8. Whose specific values or consideration will be prioritised in the decision on the use of streets? And why?
9. Is there any restriction in accessing and using the street in this kampung? Are there any activities or groups of users which are not allowed on the street?
10. Is there any regulation regulating how people use streets and public space in kampung?
11. Is there any regulation regulating the access and use of the street issued by *kelurahan / kecamatan*? Who creates and enforce the norm?
12. Is there any specific measure applied to control access and the use of streets for particular groups?

Final remarks

1. What is the most important problem related to the design and morphology of the street? Why?
 2. What is the most important problem in accessing and using the street? Why?
-

3. What are obstacles in planning, designing, and using streets?
4. What is your suggestion to improve the situation?

To urban planners in city level (in the dept. of public works; planning agency; etc.)

1) Political context

1. What is your opinion about the existence of kampung in Yogyakarta?
2. What is the general policy of the authority with regard to informal settlements?
3. Is there any change in government attitude towards informal settlements?
4. Is there any specific programme related to kampung development in general, and in the study areas? Please explain.
5. Is there any specific policy and programmes related to streets and public space in informal settlements?
6. If there is any development programme in kampung, please explain the process of planning and implementation. Who are involved? How do community can contribute?

2) Expression of power

1. What measures have been take to manage the street and public space in informal settlements? Who is responsible to do?
2. To what extent do the communities are involved in the planning, transforming, using, and managing the street and public space?
3. In your opinion, who is the most influential actor in the in the process of planning, transforming, using, and managing the street in this kampung?
4. Whose specific values or consideration will be prioritised in the decision on the use of streets? And why?
5. Is there any regulation regulating how people use streets and public space in informal settlements?
6. Is there any regulation from the government and other external parties regulating the use of the street in informal settlements?
7. Is there any specific measure applied to control access and the use of streets for particular groups?
8. Is there any design standard applied to streets and public space in kampung?

Final remarks

1. What is the most important problem related to the design and morphology of the street? Why?
 2. What is the most important problem in accessing and using the street? Why?
 3. What are obstacles in planning, designing, and using streets?
 4. What is your suggestion to improve the situation?
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Appendix 2: Household questionnaire

Questionnaire (for households)

(please only interview the head of household, or the spouse)

Date: _____ Interviewer: _____ Interview Number _____

PART A: About YOU and your HOUSEHOLD

1. OBSERVED INFORMATION

No	Question	Answer	
1.1	Location of interview	1. Kampung Keparakan	2. Kampung
1.2	Address	RT:	RW:
1.3	Location of house (e.g. street name, house number if any)		
1.4	Width of the street/alley in front of the house	1. 0-1 m 4. 3-4 m	2. 1-2 m 5. > 4 m 3. 2-3 m
1.5	Dominant types of traffic condition	1. Heavy vehicular traffic 3. Busy pedestrian traffic	2. Moderate vehicular traffic 4. Quiet street
1.6	Types of street surface	1. Asphalt 4. Unpaved	2. Paving block 5. Other, please specify 3. Concrete/cement
1.7	Position of the building relative to the street edge (or other houses in the same side)	1. Behind the street	2. Encroaching the street 3. At the edge of the street
1.8	Does the house have a porch or veranda?	1. Yes	2. No

2. YOU and HOUSEHOLD

No	Question	Answer		
2.1	What is your gender	1. Male	2. Female	
2.2	How old are you?	1. <18 4. 36-58	2. 18-25 5. 58-64	3. 26-35 6. 64+
2.3	Where were you born?	1. Yogyakarta 4. Kulonprogo	2. Sleman 5. Gunungkidul	3. Bantul 6. Other(please state)
2.4	Have you lived in other cities or districts before?	1. Yes	2. No	
2.5	Where did you live before coming to this kampung? <i>Write cities, towns, or districts</i>			
2.6	What year did you start living in this kampung? <i>Write year</i>			
2.7	Why did you move to this kampung?			
2.8	What is your religion?	1. Islam 4. Hinduism 7. Other, please state:	2. Catholic 5. Buddhism	3. Protestant 6. Kong Hu Cu

2.9	What is your ethnicity?	1. Jawa 4. Betawi 7. Bugis	2. Sunda 5. Melayu 8. Tionghoa	3. Batak 6. Minangkabau 9. Other, (pls. state)
2.10	What is the highest level of education that you have completed?	1. None 4. Senior (SMA/SMK) 7. Other (please state)	2. Primary (SD) 5. Diploma	3. Junior high (SMP) 6. Degree
2.11	What is your marital status?	1. Single 4. Widowed	2. Married 5. Other (please state)	3. Divorced
2.12	What is your main occupation? Write occupation			
2.13	How many households live in this house? Write No.			
2.14	How many people live in this house? Write No.	No. of Males:	No. of Females:	
2.15	How many children (under 18 y.o) live with you? Write No.			
2.16	Do you support other children?	1. Yes	2. No	
2.17	How many children other than your own do you support? Write No.			
2.18	How many elderly (above 64 y.o) live with you? Write No.			
2.19	What is your LAND tenure status?	1. Privately owned by respondents 2. Privately owned by someone else, agencies or foundations 3. Sultan ground (owned by the sultanate family) 4. Owned by the state 5. Owned by the community 6. Other, please state:		
2.20	How do you get access to the LAND?	1. Buying 4. Occupying	2. Renting 5. Other, please state	3. Inheritance
2.21	What is you HOUSING tenure status?	1. Owned house	2. Rented house	3. Other, (pls state)
2.22	How do you get access to THIS HOUSE?	1. Self-help built 4. Inheritance	2. Buying 5. Other, please state	3. Renting
2.23	What is your monthly expenditure? Write in IDR			
2.24	Can you tell us ANYTHING ELSE about you or your family?			

PART B: About the use of STREETS

No	Question	Answer
3.1	Are you aware of any cultural and social events and festivities taking places on streets in this kampung?	1. Yes 2. No
3.2	If Yes, which cultural and social events taking place on streets?	1. Independence Day Celebration 2. Community meetings at RT/RW level 3. Religious event (e.g. <i>pengajian</i>) 4. Sports event 5. Wedding party

		6. Funeral 7. Eid celebration 8. Other, please state:		
3.3	In your opinion, why are such activities held on the street?			
3.4	How often do you do chat with your FAMILY on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.5	How often do you do chat with your NEIGHBOURS on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.6	How often do you do SIT and RELAX on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.7	How often do you EAT and DRINK on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.8	How often do you PREPARE FOOD on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.9	How often do you WASH LAUNDRY on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.10	Do you DRY LAUNDRY on the street?	1. Yes	2. No	
3.11	If Yes, Why do you dry your laundry on the street?			
3.12	How often do your children PLAY on the street?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.13	How often do you and your family BUY something from street vendors on the street in this kampung?	1. Several times a day 4. Once a week	2. Daily 5. Never	3. 2-3 times a week 6. Other, please state:
3.14	If Yes, What do you usually buy from street vendors?			
3.15	Do you STORE your stuff (furniture, household utensils, etc.) on the street?	1. Yes	2. No	
3.16	If Yes, what do you usually store on the street?			
3.17	If Yes, Why do you store your stuff on the street?			
3.18	Do you use streets for INCOME-GENERATION activities?	1. Yes	2. No	
3.19	If Yes, what type of income-generation activity do you do?			

3.20	What are the advantages of doing that activity on the street? Give <i>FULL</i> details	
3.21	What are any OTHER ACTIVITIES do you and your family usually do on the street?	
3.22	Can you tell us ANYTHING ELSE about how you and your family use the street?	

Part C: About Inclusiveness of STREETS

No	Question	Answer	
4.1	Who usually uses the street in front of and next to your house?	1. You and your family 3. Shared: street residents 5. Everyone / no pattern	2. Your neighbour(s) 4. Shared: residents of RT 6. Other, pls state
4.2	Who usually passes by the street in front of and next to your house?	1. You and your family 3. Shared: residents of RT 5. Other, pls state	2. Shared: street residents 4. Everyone / no pattern
4.3	Who do you usually chat with on the street?	1. Family members 3. Residents of RT 5. Other, pls state	2. Neighbours: street residents 4. Everyone / no pattern
4.4	Is there any social norm regulating interactions of different genders on the street in this kampung?		
4.5	Is there any norm and rule regulating children and youth activities on the street?		
4.6	Are you aware of any other norms and rules in the community regulating people's behaviours in using streets?	1. Yes	2. No
4.7	What are other norms and rules you are familiar with?		
4.8	Who initiates those rules and norms?		
4.9	Who enforce those rules and norms?		
4.10	What kind of restrictions and limitations do you face in using and accessing streets?		
4.11	Can you comment further on the norms and rules regulating people's behaviours in using streets?		

PART D: About accessibility

No	Question	Answer	
5.1	Do you own vehicle?	1. Yes	2. No
5.2	If Yes, what vehicle do you own?		
5.3	If Yes, Where do you usually park your vehicle?	1. Inside your house 2. On the street in front of your house 3. On the street in front of your neighbour's house 4. In the nearest accessible main streets 5. Other, please state	
5.4	What is your dominant mode of transportation to get out of this kampung?	1. Walking 4. Private car	2. Cycling 3. Private motorcycle 5. Other, please state...
5.5	What is your dominant mode of transportation to get around this kampung?	1. Walking 4. Private car	2. Cycling 3. Private motorcycle 5. Other, please state...
5.6	Do you have any problem in getting around this kampung?		
5.7	How easy to get to your house from the main street?	1. Very easy 3. Quite uneasy	2. Quite easy 4. Very uneasy
5.8	How do you explain your address to outsiders?		
5.9	How easy to give directions to outsiders in order to get to your house?	1. Very easy 3. Quite uneasy	2. Quite easy 4. Very uneasy
5.10	How does this level of accessibility affect you (could be in a positive or negative way)?		
5.11	Can you tell us ANYTHING ELSE about the accessibility of your house?		

Part E: About the management of STREETS

No	Question	Answer	
6.1	Who usually SWEEPS the street in front of your house?	1. You and your family 3. Shared: you and your neighbour(s)	2. Your neighbour(s) 4. Other, please state
6.2	Who COLLECTS the RUBBISH from street in front of your house	1. You and your family 3. Shared: you & your neighbour(s) 5. Cleaners appointed by RW 7. Other, please state	2. Your neighbour(s) 4. Cleaners appointed by RT 6. Cleaners from City government

6.3	Is there any event organised to clean streets together in your neighbourhood?	1. Yes	2. No		
6.4	If Yes, When is it?				
6.5	If Yes, Who organises it?				
6.6	Who usually REPAIRS the street in front of your house If there is any damage with the street?	1. You and your family 3. Shared: you & your neighbour(s) 5. Maintenance men from RW 7. Other (<i>please state</i>)	2. Your neighbour(s) 4. Maintenance men from RT 6. City government		
6.7	Who is responsible for the beautification (e.g. painting, vegetation, etc.) of the street in front of your house?	1. You and your family 3. Shared: street residents 5. Shared: RW residents 7. Other, please state	2. Your neighbour(s) 4. Shared: RT residents 6. Kelurahan		
6.8	Who controls the SECURITY and safety of the street?				
6.9	How safe is the street in front of your house for women?	1. Very safe	2. Quite safe	3. Quite unsafe	4. Very unsafe
6.10	How safe is the street in front of your house for elderly?	1. Very safe	2. Quite safe	3. Quite unsafe	4. Very unsafe
6.11	How safe is the street in front of your house for children?	1. Very safe	2. Quite safe	3. Quite unsafe	4. Very unsafe
6.12	Please comment further on the safety of the street in front of your house				
6.13	What do you do to ensure safety and security of the street in front of your house?				
6.14	How safe are the streets in the Kampung in general?	1. Very safe	2. Quite safe	3. Quite unsafe	4. Very unsafe
6.15	Do you have any problems of crime?				
6.16	Do you have any problems of traffic?				
6.17	Who provides lighting on the street?	1. You and your family 3. Shared: residents of RT 5. Kelurahan 7. Other (<i>please state</i>)	2. Shared: street residents 4. Shared: residents of RW 6. City government		
6.18	Who provides public utilities (sewage, drainage) in the street?	1. You and your family 3. Shared: residents of RT 5. Kelurahan 7. Other (<i>please state</i>)	2. Shared: street residents 4. Shared: residents of RW 6. City government		
6.19	Who maintains public utilities and facilities in the street?	1. You and your family 3. Shared: you & your neighbour(s)	2. Your neighbour(s) 4. Maintenance men from RT		

		5. Maintenance men from RW 7. Other (<i>please state</i>)	6. City government
6.20	Can you elaborate more about your contribution and engagement in the management of streets?		
6.21	Have you ever been invited to a meeting discussing the planning and management of the street?	1. Yes	2. No
6.22	If Yes, who organised the meeting, when and what did you contribute? Please EXPLAIN		
6.23	Are there any problems in the management of streets?		

Part F: About MEANING and PERCEPTION:

No	Question	Answer	
7.1	How do you perceive the ownership of the street in front of your house?	1. Your territory 3. Shared territory: you and your neighbour 5. Shared territory: RT residents 7. Other, please state	2. Your neighbour's territory 4. Shared: street residents 6. Public facility
7.2	What is your perception about outsiders getting around streets in this kampung?		
7.3	Could you explain what you understand about undesirable and inappropriate behaviours on the street?		
7.4	Could you give some examples of undesirable and inappropriate behaviours on the street?		
7.5	How important the activities on the street FOR YOUR LIFE?	1. Very important 3. Quite unimportant	2. Quite Important 4. Very unimportant
7.6	Why do you think so?		
7.7	How important the activities on the street to the SOCIAL LIFE IN THE KAMPUNG?	1. Very important 3. Quite unimportant	2. Quite Important 4. Very unimportant
7.8	Why do you think so?		

Part G: About Conflicts and Relations

No	Question	Answer
8.1	Have you ever had or observed any conflict taking place on the street?	1. Yes 2. No
8.2	If Yes, could you please provide more details?	
8.3	Have you ever got any complaint regarding the way you use the street from your neighbours? Over what issue(s)?	
8.4	Have you ever complained your neighbours regarding the way they use the street? over what issue?	
8.5	How do you solve the conflict regarding the use of streets?	
8.6	What sort of competition do you face with your neighbours in using the street?	
8.7	Have you ever heard any programmes or projects related to streets and settlement development from any political parties, NGO's, and other external parties which have been implemented in this kampung? Please explain what you know about them.	
8.8	Do you know any development programmes and plan (especially related to streets and settlement development) by Kelurahan, City Government, or other government bodies in this Kampung? Please provide details.	
8.9	Can you comment further on those programmes and plan?	

Part H: Final remarks

No	Question	Answer
9.1	In your opinion, what is the most important problem related to the street?	
9.2	What is your main challenge in accessing and using the street?	
9.3	What is your suggestion to improve the situation?	

We would like to undertake follow-up interviews. If you are happy to be contacted again, please provide your name/ phone number.

10.1	Name	
10.2	Cell number	

Thank you for your time and for participating in our survey.

NOTES