Doctoral Dissertation

A study on the relationship between street typology and human behavior activities in inner-city and peripheral kampung of Jakarta, Indonesia.

（インドネシア、ジャカルタ都心部ならびに縁辺部のカンポンにおける街路類型と人間行動の関係に関する研究）

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ABSTRACT

Jakarta, Indonesia's mega city, like many developing cities, is experiencing a high urban population growth rate of 1.61% (UN-Habitat, 2015) without significant supply in affordable housing for majority of the population. This has resulted in expansive growth of kampung in the city. Originally rural settlements surrounding the city, they are now a core socio-spatial component of the city due to urban conglomeration. Although kampung settlements feature both low-income and middle groups, but conditions such as organic layout, poor housing conditions, and infrastructure deficits are common. Since the early 1960s, attempts to improve conditions have emphasized upgrading and infrastructure extensions. Building on this, this study aimed to understand the spatial structure from the aspect of street typology and human behavior as analytical framework to provide critical insights on contextual planning and design improvements while preserving potentials and positive aspects.

Based on two field surveys conducted in selected neighborhoods inner-city and peripheral kampung of Jakarta, the spatial structure and the relationship between street typology and human behavior were analyzed. In terms of spatial structure, the study revealed that street and alleys defined the space and negotiated house conditions, accessibilities to services and social and economic use. Wider and more open streets or alleys (I, L, and Z-type streets with more than 2.5 meters) had houses in good conditions and diverse social, economic and stationary activities. The exception was that some narrower alleys (less than 1.2 meters) such as cul-de-sacs were socially active due to appropriation of street space by residents. Generally, street spaces that had seating facilities, trees, or tents had more social activities since it provided comfortable situation for residents. More so, the elderly was the least observed group in social, economic, and stationary activities due to both the lack of open spaces and the unsuitability of the spatial environment to their specific needs.

The study concludes that in both inner-city and peripheral kampung the street pattern and human behavior provides an alternative for reorganizing the space through minor land adjustment and re-blocking with lots to enhance permeability and free up space for more a diverse and active kampung. This study therefore contributes to the sustainable planning and improvement of informal settlements through bottom up approaches then preserve positive characteristics.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADB	**Asian Development Bank**
BPS	**Badan Pusat Statistik / Central Bureau of Statistics**
BTN	**Bank Tabungan Negara / State Mortgage Bank**
CBD	**Central Business District**
CSIR	**Council for Scientific and Industrial Research**
EBS	**Environmental Behavior Studies**
GDP	**Gross Domestic Product**
HRW	**Human Rights Watch**
ILO	**International Labor Organization**
JICA	**Japan International Cooperation Agency**
KIP	**Kampung Improvement Program**
NMSC	**National Main Street Center**
RT	**Rukun Tetangga / Neighborhood Unit**
RUSUN	**Rumah Susun / Flats**
RW	**Rukun Warga / Community Group**
SDG	**Sustainable Development Goals**
UN-HABITAT	**United Nations Commission for Human Settlements Program**
UN-DESA	**United Nations Department of Economic and Social Affairs**
UNDP	**United Nations Development Program**

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Consolidated urbanization processes have partly contributed to the shift in population from rural to urban areas since 1950s. Particularly, half of the world's population resided in urban areas in 2007 and the process has continued unabated in cities in the Global South. The trend is expected to persist and by 2050, the world urban population would have reached around 66 percent or two-thirds of world's population (UN-DESA, 2014). Similarly, Indonesia, with an average annual rate of change of 1.5 percent (higher than the world's 0.9 percent) is projected to reach an urban population of 71 percent by 2050 (UN-DESA, 2014). This immense urbanization trend is more pronounced in major cities on Java Island (the most-populous island in the world with more than 56 percent of Indonesian population or about 145 million inhabitants live here) such as Jakarta, Surabaya, Bandung and Semarang. This is partly due to the disproportionate development of Indonesia which is only skewed towards Java Island.

In similar patterns to several megacities in the Asian sub-region and elsewhere, Jakarta which is the center of government and economic activities experiences a rate of urban population growth faster than its planning and infrastructure capacity. The city of Jakarta that was originally planned for a population of around 500.000 people in the beginning of the early colonial period or 1640s (Tunas, 2008) has become one of the fast-growing cities with an average annual rate of change of urban population 1.61 percent, and an estimated current population of around 10 million inhabitants (UN-Habitat, 2015). The overpopulation, continuous rapid urbanization trend and overstretched infrastructural capacity have placed Jakarta on a challenging urban development trajectory where quality and adequate affordable housing, access to livelihoods and socio-economic services remain a daunting challenge, especially for those in low-income communities such as kampung[1] (Budiarto, 2003).

The emerging of urban kampungs—loosely termed as informal settlements in cities and towns throughout the country as safe havens or accessible and affordable alternatives for some

[1] Based on spatial dictionary, kampung is defined as a high dense unplanned settlement dominated by medium-low income people bringing their habits or lifestyle from their hometown or villages and having no proper infrastructure in the common sense.

at the bottom of the socio-economic ladder has made its development become uncontrollable, dominant and spatially extensive across geographical space and territory. Reported that in 1969, not less than 75 percent of the Jakarta total population resided in kampungs (Tunas, 2008). Even though, it has been argued that the prevalence of kampung has declined since the 1980s, it still covers about 60 percent of Jakarta total area (Budiarto, 2005). This confirmed that what local authorities initiated in the 1970s to stop kampung growth and demolish their existence systematically has failed, even though, it has slowed down its pace of development. UN-Habitat (2003) estimated that around one-fourth of the population of Jakarta Province live in kampungs either in inner-city or periphery areas, with an additional 4 to 5 percent in illegal dwelling along riverbanks, floodplains, and empty lots.

As a dominant feature of the urban landscape, the existence of kampungs has created a complex dualism in the city of Jakarta. On one side, they provide a cheap solution for urban poor to be able to survive in the city; they are also considered as the main threat for the formal society (since they are different in cultural values, behavioral patterns, physical appearance and organization of space) on the other hand. By having a different socio-spatial system from other parts of the Jakarta urban region, they are always underestimated, marginalized, and often associated with poverty, urban decay, or 'slumness' which rationalizes arguments for their eviction and removal from certain parts of the city.

In an attempt to address sub-standard conditions (poor housing quality, limited access to basic infrastructure such as water and sanitation, and low level of physical accessibility), several urban policies and renewal strategies have been applied without any success. Indonesia was one of the first countries to introduce a program for the socio-physical improvement of kampung in cities, known as the Kampung Improvement Program (KIP). This was partly financed by the World Bank in 1969. The program provided pathways, water supply, and sanitation services among others. This has been followed by other programs such as Public or Private Housing Schemes (1970s), Slum and Kampung Clearance and Relocation (1990s) and the Million Housing Initiative of the early 2000s (Tunas, 2008). In reality, there is a mismatch between the real needs of urban poor residents and local improvement strategies (Nareswari, Shiozaki and Kondo, 2013).

At present, sky rocketing land prices and intense land speculation in the inner core have triggered an apparent silent process of shifting the geography of kampung from usually inner areas to other areas (typically outlying areas) without necessarily fixing the impoverished

conditions. Inner-city kampungs, by virtue of their strategic locations and access to opportunities in city center for the low-income are also susceptible to evictions and redevelopment projects usually initiated by real estate sector with support from public authorities for so-called urban development of the city. Consequently, a considerable proportion of those living in the inner-city kampung are being forcefully or latently pushed out of the city center to peripheral areas where they seek to rebuild their lives and livelihoods. This has resulted in the gradual consolidation of kampungs in peripheral areas which were hitherto rural in character. The periphery kampungs have been more important in terms of supporting those in need and much denser—the density level could be diverse depending on the supporting economic activities surrounding areas.

Due to the consolidation of kampung and its shifting geography in Jakarta continue, thus, it is necessary to reorient efforts towards contextually based understanding of their existing structure (socio-spatial) and hints for their improvement through bottom-up community based development. Specifically, using the case of inner-city Kampung Kebon Kacang (Central Jakarta) and peripheral Kampung Kapuk (West Jakarta), this study posits that having a balanced view of both areas is critical to provide proper notions in improving their conditions. The next section discusses the context of the problem and sets the background for this case study research in Jakarta's inner-city and periphery kampungs.

1.2 Statement of the Problem

The expectation of better life, income and facilities has been pulling factors of massive and unpredictable in-migration from rural to major cities like Jakarta. Based on studies in urban demography, the population of Jakarta is dominated by young rural-migrants having lack of skill and low educational attainment. Unfortunately, by virtue of their capability, most of these youngsters end up in informal employment with unstable income that often eliminate them of getting housing loan from formal institutions. This is aggravated by the failure of formal sector agencies such as local government and developers in providing affordable housing for all group of citizens. Consequently, urban informal settlement in the form of kampung that has been housing lots of urban poor having no access to the formal housing scheme to survive living in the city becomes a predominant figure in the urban landscape.

Since then, kampung which is an inseparable part of the city has been mushrooming all over the city, in Jakarta itself, kampung represents about not less than 60 percent of all residential areas (Budiarto, 2005). However, their existence without planning guidance and

regulation, local government support, limited financial capacity and know-hows put kampungs in precarious situation socially, economically, spatially, environmentally and politically. For instance, they grow in disorder, deal with lack of basic and public facilities, unhealthy living condition, economic pressures and judgments as a scapegoat of many problems such as fire, flood, chaotic or 'slummness', and even the emergence of illegal houses in the city.

Many different strategies have been applied by the government such as Kampung Improvement Program, and low-cost housing to control their development, overcome emerging problems, and improve their conditions, but most to a large extent have been ineffective. Primarily, failure of past efforts has been due to carpet solutions that generalize all kampungs, structured within top-down solutions that disregards the existing socio-spatial patterns of kampungs. It is therefore unsurprising, that recent forecasts indicate the persistent growth in informal settlements (including kampung in Indonesia) about 28 percent of urban population would be living in informal settlements in South-East Asian cities by 2020. This warrants the need for significant attention to the challenge of kampungs and to guide their development before they spurn out of planning and development control—if they are not already. Otherwise, the current conditions might aggravate and contribute to illegal housing and slumming of the city.

Generally, deprivation and poor physical and social conditions are prime in informal settlements, which residents at the mercy of private capital, are often willing to sell and relocate to other informal areas of the city. The urban authorities, on the other hand, have been trying to address kampung development and improve its condition by applying many top-down based programs without any success. To counter this practice, local context based specific understanding for planning and design is needed, if not urgent. In fact, a significant number of studies about kampung has done from the point of view of architecture, urban planning, history, sociology, and anthropology, however, in order to advance strategies towards the improvement of condition of kampungs, there is the need for an investigation based on understanding the spatial structure in order to illustrate this aspect in relation to residents' behaviors and social interactions in daily urban life. The research is dealing with specific following two research questions guided the study:

- What is the spatial structure of kampung in terms of street network, hierarchy and typology?
- What is the relationship between human behavior activities and street typology in kampung?

1.3 Objectives of the Study

The focus of this study is to understand the existing socio-spatial conditions of kampung by drawing on the relationship between human behavior and street typology. It is anticipated that this kind of approach can offer an in-depth understanding and strategic insights on social and physical aspects of inner-city and periphery kampungs in devising some locally embedded or community-based specific strategies for the sustainable improvement. This research basically has two main objectives, including:

- To analyze the existing socio-spatial structure.
- To examine the relationship between human behaviors and street typology.

1.4 Scope of the Study

The main themes considered in this research include the socio-spatial structure of inner-city and peripheral kampungs and the human behavioral patterns embedded within the existing spatial patterns. The first case study area, Kelurahan[2] Kebon Kacang, is one of the seven kelurahans in Tanah Abang Sub-district of Central Jakarta administrative city that is considered as one of few remaining inner-city kampungs within the Central Business District (CBD) of Central Jakarta. It is surrounded by the city's most important and prestigious commercial, business and service areas such as Plaza Indonesia and Grand Indonesia Shopping Mall, Grand Hyatt Hotel, the Japanese Embassy, and the UN local headquarters. Another study area that constitutes a representative of peripheral kampungs in West Jakarta administrative city is Kelurahan Kapuk, known as the most populated kelurahan within Cengkareng Sub-district. This periphery kampung is located near Soekarno-Hatta International Airport, Tangerang City, Banten and neighboring to one of the most prestigious residential areas of Pantai Indah Kapuk, North Jakarta administrative city. Additionally, both study areas are a stark demonstration of spatial inequalities that is common in several areas of the Jakarta city.

1.5 Significance of the Study

The phenomenon of urban kampung in Indonesian cities has attracted lots of scholars from diverse disciplines to examine conditions and mechanism of their consolidation and improvement. Nevertheless, none of them focuses on the socio-spatial structure of inner-city

[2] The hierarchy of government administration system operates from municipality, sub-district and administrative 'village'. Kelurahan, loosely translated as village, refers the lowest level of government administration system in the city's hierarchy. In each of the village, there could be several Rukun Warga (RW) / community groups and Rukun Tetangga (RT) / neighborhoods units.

and periphery kampungs and the human behavioral patterns embedded within the existing spatial patterns. The significance of this study is three-fold. First, in terms of existing literature on kampung in Jakarta, it furthers existing research by looking at kampung from spatial dimensions in terms of street patterns and human behavior. In this vein, it combines the spatial and the human component to unravel the intersections between space and people in kampung settlements. Secondly, and in relation to the former, the study provides an alternative perspective on the transformation and improvement of kampung. Several local governments often resettle or evict residents instead of in-situ improving due to poor understanding of their structure and condition. This study shows that streets and alleys can serve as important elements for improving kampung settlements and make them livable, social and economically active spaces for residents. Thirdly, this study provides key insights for urban planning and other built environment professional on other mechanism through which kampung settlements can be improved through bottom up approaches that support residents' local life and livelihoods. In this vein, it contributes to the SDG 11 on making cities safe, sustainable and inclusive by protecting the local environment of low-income residents in kampung.

1.6 Previous Studies

Jellinek (1991) highlighted the evolution of Kampung Kebon Kacang since the 1920s including its rural origins, transformations, settler experiences and the external forces that shape it. Based on field-based interviews, she found that rehousing project and the demolition practice executed by government have disrupted lots of residents every day life in terms of livelihoods and social ties and such interventions short-lived and faded over time. Her study points critical issues of contextualization of kampung improvement to local needs and necessity for inclusive participation in planning and design programs for the urban poor. Yokobori (1986), also analyzes the process of clearance type government-led redevelopment of Kampung Kebon Kacang. In this case, the process of redevelopment which involved Japan International Cooperation Agency (JICA) team included a participatory process (soft side) of decision making at each level (musyawarah) and flexibility to reflect residents changing needs. The design aspect (hard side) also incorporated corridor-type housing to allow for continuity in community and collective life typical of kampung. Additionally, the design feature stores on each floor, supportive of economic activities in kampung. Contrary to Jellinek (1991), this study suggests how government-led redevelopment project can be contextualized to unique characteristics of a specific kampung. Also, the importance of connecting housing policy to customary institutions and their socio-economic context.

Funo (1987) has detailed out the transitional process and housing system of kampung. In Surabaya Metropolitan Area, as an example, he described the transformation before and after Kampung Improvement Program occurred (including fringe and rural kampung). In his study, he argued that every single kampung is a unique entity with diverse characteristics in terms of location, composition of income groups, mobility of population, history, and physical condition. Funo suggested that integrated, incremental, participatory process of improving kampung with emphasis on prototype house, use of local building materials, and conservation of positive aspects. In addition to this, Funo et al (2009) added that rising population density and modification of old houses into multi-story units. Their conclusions correspond to what Okyere et al (2018) found with regards to the socio-spatial fluidity and diversity of resident profiles of informal settlements in rapidly urbanizing developing cities of the Global South.

Additionally, Budiarto (2003) explores the correlation between the typology of kampung settlement and the socio-economic activity of kampung inhabitants in three different types of kampung in Jakarta—the inner-city, peripheral and woodland. He adopted space syntax to ascertain the spatial structure of a kampung, the socio-economic life of its residents and the specific way these kampungs connect to the larger city. His study revealed that in fact, kampung which is not pre-conceptually designed to accommodate its inhabitants' economic activity, yet produces adaptive space sustaining inhabitants' everyday socio-economic activities by means of organizing either the access or desired level of interaction between dwellers and strangers. The case of inner-city kampung showed that the great number of junctions between kampung and the secondary level super grid that ensures spatial permeability is significant to inhabitants' street-level businesses.

Outside of Indonesia, Nabizada and Kita (2013) look at the relationship between open spaces and outdoor activities in Kabul (Afganistan), whereas Okyere et al (2017) focus on human behavior in indigenous spaces of La-Accra (Ghana). In this research study, we focus on the micro-level of neighborhood both in inner-city and peripheral kampung to understand the relationship between the street typology and human behaviors. We opine that such approach enables to improve the physical environment without interfering the positive aspects of the urban kampung structure.

1.7 Limitation of the Study

The main limitation encountered during the study include the following:

Residents were unwilling to disclose income details since they considered it as a private issue of their personal life. Secondly, residents were not comfortable with physical measurement or internal observation of their houses since they considered a threat of possible removal or displacement from local government. This occurs due to the vulnerability of residents of kampung to such attacks of evictions from 'state' or local government agencies.

Also, there was the existence of research 'fatigue' among residents. This occurs over a period when residents have been subjects to several field research studies but have yet to see significant impact of the research on their lives and in their communities. It leads to difficulty in cooperation and unwillingness to provide vital data. The researcher overcome this by careful and attentive explanation of the academic rationale and prospects of the study to such residents.

Finally, the issue of data availability and accuracy was a limitation for this study. The researcher encounters multiple data, in population and demographic figures for example, which made adoption quite difficult. Harmonization of statistical data is still far from reach within and among different local agencies. Some officers also did not have readily available data. Data storage and processing appears to be a challenge here. It is in light of these limitations that the research relies on empirical information and field based observation.

Nonetheless, the results of this research and validity of the findings are in no way negated by these limitations. The study findings are grounded in field observations and empirically based interviews that respond to the major questions for this study.

1.8 Organization of the Study

This thesis is arranged into seven chapters.

- Chapter 1: It contains a general background of the research as well as specific problem statements and the objectives. Moreover, along with a brief explanation regarding the study areas and how far this research could contribute for the future development of urban kampung in Indonesia, several previous studies related to kampung and human behavior were discussed to support this research. Last but not least, the difficulties appeared during data collection or field survey are presented here.
- Chapter 2: This chapter provides a review of relevant literature ranging from the concept of informality, urban informal settlements as a part of informality, kampung as

a manifestation of urban informal settlement in Indonesia, informal human behavior to the meaning of streets as a social space. Through these concepts and theories, the theoretical dimensions underlying the study could be more easily comprehended.

- Chapter 3: It narrates an overview of the urban development process of Jakarta including various issues such as socio-economic transformations and also emerging urban challenges as a result of rapid urbanization process. Based on analysis of historical records and previous studies, it tries to give a comprehension of what have triggered the current situation of kampung in Jakarta.
- Chapter 4: Through this chapter, the methodology adopted for this study including case study design and how the data were collected and analyzed are presented in detail. Furthermore, it explains all study areas—inner-city Kampung Kebon Kacang and periphery Kampung Kapuk and reasons behind the selection.
- Chapter 5: This analyzes the empirical data from field survey in the first study area of Kampung Kebon Kacang (RW 3 and RW 8), Central Jakarta administrative city and discussed the results. In general, it describes the profile of study area, its history, events and also consolidation processes. It specifically includes socio-economic characteristics of residents, conditions of houses, spatial structure, and human behavioral patterns.
- Chapter 6: This describes the data from fieldwork in the second study area of Kampung Kapuk (RW 13), West Jakarta administrative city and discussed the results. The profile of study area, its history, events and consolidation processes as a basic information are also presented here. In particular, it also depicts socio-economic characteristics of residents, conditions of houses, spatial structure, and human behavioral patterns.
- Chapter 7: This chapter presents summary of findings, conclusion, and recommendations based on the result of the analysis to improve the condition of kampung in both inner-city and peripheral areas. It also identifies areas for future research in view of understanding residents' practices and socio-spatial patterns towards sustainable improvements in existing conditions in the study area and beyond.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section of the study relates to a literature discussion of the main concept and practices that underpin this research study. Specifically, the concept of urban informality and the phenomenon of urban informal settlements including kampung as an example are reviewed in its historical dimension. Also, the use of street spaces that is a crucial factor in the scope of urban informal settlement is going to be discussed.

2.2 Informality

In general, informality is described as a problem or unplanned reality, however, on the same time as the representation of persistence of low-income communities dealing with social, political, economic, and geographic exclusion (Banks et al, 2020). As a concept in the 1970s informal sector that relates to the movement of labor to cities in the 1950s and 1960s according AlSayyad (2004) should be kept in mind as a base of each discussion of informality. This concept has been introduced since 1954 in the work of William Arthur Lewis that suggested a dual-sector model in order to figure out the correlation between the movement of people and their employment (Okyere, 2017). The term of 'informal sector' has also been adopted by the International Labour Organization (ILO) in their Kenya report 1972 for classifying activities and designing intervention programs in towns and cities especially in the developing countries.

Its emergence has been very popular topic amongst scholars and triggered a broader comprehension of it, therefore, a logical understanding in which the informality is comprehended as whole by looking at its origins is really needed. Along with this, the ILO in 1972 has classified informality into following attributes: '(a) ease of entry; (b) reliance on indigenous resources; (c) family ownership of enterprises; (d) small scale operations; (e) labor-intensive methods of production and adaptive technology; (f) skills acquired outside the formal school systems; and (g) unregulated and competitive markets' (McKay and Round, 1996 in Edusah, 2013). Another classification was proposed by Keith Hart (1973) based on the economic anthropology perspective. It covers diverse living supporting activities occurred in the urban areas by people outside the formal sector mainly those at the bottom of the socio-economic ladder. His classification is as follows: '(a) primary and secondary activities

including farming, market gardening, self-employed artisans; (b) tertiary enterprises with relatively large capital inputs such as housing, transport, and commodity speculation activities (e.g. land speculators); (c) small scale-distribution—petty traders, street vendors, resellers and dealers; (d) other services—domestic servants, shoe-shiners, photographers, vehicle repairs and other maintenance workers. These classifications proved that informality has become an inseparable part of practices and activities that is totally different from the norm of what ought to be (Roy, 2009).

Some scholars have critiqued informality due to its failure to take into consideration of other factors beside economic reasons such as legalistic, socio-cultural and behavioral matters. For example, Varley (2013), Okyere and Kita (2016) and Meagher (2007) have emphasized the need to give more attention to social and behavioral aspects. It is important as urban informality which is a combination of 'survival strategies' and natural responses to the complicated state regulations and procedures (Hernando De Soto, 2000) is usually associated with the illegal conception. According to Afenah (2009) and Ojong (2011), this situation has been used for justifying redevelopment projects and eviction of informal settlements by stakeholders—politicians, local authorities and private developers. As a representation of urban informality, the informal settlements are generally seen as a problem to be fixed. Hence, there is the need to shift our focus on what the informal settlements really are and their formation processes including positive matters behind them.

2.3 Urban Informal Settlements

2.3.1 Definition and Characteristics of Urban Informal Settlements

The informal settlements that have been a predominant figure in the urban landscapes are not well comprehended in terms of its definition and formation processes and have triggered negative discourses over the years. As Nguluma explained in 2003, other terminologies such as squatter settlements, slums, unplanned settlements are frequently used interchangeably with informal settlements in urban studies. There are several characteristics of informal settlements that include physical, social and economic aspects. For instance, in terms of physical characteristics, Lombard (2014) and Okyere (2017) mention irregular land tenure, self-build housing, residents' low wages and inadequate or poor infrastructure. On the other hand, the UN-Habitat (2003) defines informal settlements as having the following characteristics: 'inadequate access to safe water, sanitation facilities, and other infrastructure, poor structural quality of housing, overcrowding, and insecure residential status' (in Okyere, 2017). However,

the UN-Habitat definition which only focuses on the physical and legalistic matters needs to be improved on complexity of social dimensions (Gilbert, 2007). Dealing with this, Dovey and King (2011) define informal settlements as urban neighborhoods that usually grow without any planning regulation or authorization by the state. However, they pointed that the informal settlements are not the same as slums.

In order to shed light on this emerging confusions, critical understandings that look at current conditions and practices should be introduced and implemented. A work on planning and urban studies by Huchzermeyer (2008) underlined that informal settlements are a manifestation of continuous process of changes that need to be comprehended as fluid actions rather than permanent. Being generalized to slums by media and international organizations and too much focus on physical appearance of informal settlements have led into misconception of it—understood as a problem to be solved without seeing its potentials and generated more political responses than science (Yelling, 1986 in Gilbert, 2007). The responses or strategies adopted by politicians or local authorities for addressing the issues surrounding urban informal settlements frequently do not match what they really need and seem to be a trial and error experiment.

2.3.2 Approaches to Urban Informal Settlements Improvements

Diversity of approaches and programs that have been applied in dealing with the challenges of urban informal settlements still remained without any success. Hence, it is necessary to learn from the past on how they have been handled (what kind of mechanisms have been executed and their weaknesses) and modified over time in order to provide proper strategies for the future improvements. As the UN-Habitat (2003) has done to their policies where they modified their approaches that initially unconcerned about local people living in the informal settlements to protecting their rights and helping them to improve both income and living environment. Through this section, some dominant approaches and interventions would be narrated as follows:

1. Negligence

Being comprehended as a negative temporary phenomenon that will disappear through economic development has left informal settlement without no solution/intervention/planning from both local and national authorities (see the global report on human settlements 'The Challenge of Slums' by the UN-Habitat, 2003). This scheme was very popular and had been adopted in the Global South until the 1970s. Having a misconception regarding subsidized low-

cost housing that was believed could be a solution for informal settlements and imitated what developed countries have done without any adjustments or control were the root of the failure of this strategy. For instance, the mass public housing they developed misdirected the beneficiaries where those really in need—middle-lower groups got nothing from these programs. Also, according the UN-Habitat (2003) it has worsened social inequalities and spatial segregation.

2. Eviction

This practice related to shifting geography of informal settlements from the strategic locations such as inner-city to urban peripheral areas in order to give an access for urban development projects. According to Azizi (1995 in the UN-Habitat, 2003), this is an approach that was popular amongst policymakers and involved harassment or pressure on urban informal inhabitants, no democracy and recognition of civil society effort. Besides, Obeng-Odoom (2013, 2015) highlighted this strategy as the most brutal intervention against the existence of urban informal settlements. The characteristics of it were (see Okyere and Kita, 2016; Okyere, Tasantab and Abunyewah, 2018) having no room for negotiations or win-win solutions for informal settlement dwellers. Generally, it triggers diverse serious problems range from losing livelihood and social bond to deteriorating environment in the former, surrounding (the emerging of new informal settlements or even worse version of it along the riverbanks, railway tracks among others) and even new areas due to lack of support, planning and control by the authorities.

3. Sites and Services

The idea of this program was to stimulate citizens to construct their own houses on their own ways, resources and abilities by providing the sites including land tenure certificate and basic infrastructure (CSIR, 2000 in Wekesa, Steyn and Otieno, 2011). On the other words, it is a representation of incapability of both local and national government in dealing with the housing backlog in general and solving the housing problems of the marginalized groups in particular (Keivani and Werna, 2001 in Wekesa, Steyn and Otieno, 2011). Its emerging in the 1970s and 1980s has become very prominent and even influenced the World Bank in which they recommended to refer to the success of this scheme (Balbo, 2001; Wekesa, Steyn and Otieno, 2011, Lombard, 2014). However, according Keivani and Werna (2001), this pro-poor program was not long-lasting due to several reasons such as the imbalance between the output and high demand, high project cost has eliminated the targeted groups, lack of technical and

financial support, and the location of the sites which is quite far from the city center or working place made transport costs became more expensive.

4. Informal Settlement Upgrading

Perceived as a relatively cheaper scheme compared to the others has made it become one of the most popular topics discussed in the field of planning and urban studies. The discussions were very diverse ranging from its origins and mechanisms to successes and failures behind it (Baken and van der Linden, 1993, Huchzermeyer, 1999, Balbo, 2001, Abbot, 2002, UN-Habitat, 2003, Wekesa et al., 2011). This program which according to Abbot (2002) brings a positive impact to the quality of life of local residents was promoted as a main reference in development thinking by the World Bank in the 1970s and 1980s. The basic idea of this program was the physical environment improvement by providing or improving basic infrastructure and services such as safe water, sanitation, drainage, and accesses (Acioly, 2002; Menshawy et al., 2011 in Nazire, 2016). Last but not least, based on Imparato and Ruster, 2003 and Wekesa et al., 2011, the legalization of land status was one of its important priorities. Apparently, its success in dealing with physical, environmental and economic issues and mitigating the number of death by water-related diseases has not been followed with competent authorities, consequently, the impact was no more successful than site and services.

5. Housing Delivery and Mode of Production

This was aiming to stimulate the development of social and economic aspects of urban poor living in the informal settlements by providing affordable housing. It includes self-help housing, cooperative housing, and social housing (Wekesa et al., 2011). Acknowledged by United Nations New Millennium Task Force as the most suitable and relatively cheaper solution for developing countries (UN-Habitat, 2006 in Wekesa et al, 2011), the self-help housing involves future occupants as the main actor in providing conventional housing where the time, labor and materials should be on their sides. On the other hand, cooperative housing that does not really reach to the poor has been popular amongst developed countries particularly Europe (Wekesa et al, 2011 in Okyere, 2017). While, social housing is a non-profit program offering tenure security to the middle-lower earners where government was the responsible sides in providing it.

Above mentioned approaches including their deficiencies indicated that a better strategy that involves local residents in the informal settlements as the main actor is urgent to be developed for future improvement of urban informal settlements. As the real manifestation of

informal settlement within Indonesian cities, kampung and its issues would be presented further in the next section.

2.4 Kampung as a Manifestation of Urban Informal Settlement in Indonesia

Emerging as safe havens or accessible and affordable alternatives for some of those at the bottom of the socio-economic ladder has made kampung dominates the urban landscape of Indonesian cities. However, its emerging has attracted lots of critiques, misunderstanding—seeing it as a problem to be solved, and even inappropriate policies, approaches and programs. Hence, it is necessary to comprehend it as whole from its origins, process behind its formation and transformation, typology, legal status, solutions to deal with the emerging problems, to related applied policies.

2.4.1 The Definition of Kampung

Kampung which is the word derives from a Malay Indonesian word refers to a settlement in rural surroundings that comes into being within urban conglomerations without proper infrastructures, services provision, planning, and environmental conditions (Budiarto, 2003). Kampungs are generally occupied by middle or low-income inhabitants bringing their habits or lifestyle from their hometowns or villages. Their existence in the terms of urban planning is often generalized with slums, favelas, or squatters and naively associated with urban decay, poverty, informality, dirtiness and chaotic settlement (Budiarto, 2003; Tunas, 2008).

According to McCarthy (2003), kampung and slum are different type of settlements since kampung accommodates a mix of lower and lower-middle class or even in many cases the upper-middle class. Kampung manifestation points to the outdated relevance of formal/informal or poverty/richness categorizations in the analysis of cities in the Global South (Roy, 2005, 2009). Thus, kampung could not be placed in a solid category since there are different types of kampung exist in the city (see the typology of kampung, Table 2.1).

During the late 1960s or early 1970s, Indonesia experienced a population explosion where urban population in Jakarta increased drastically from 2.9 to 4.4 million (Tunas, 2008). This phenomenon was due to natural growth and also rapid flow of rural-urban migration. The main pull factor for many was job opportunities offered by the booming manufacturing industries in 1960s, which of course could not absorb the labor supply. Confronted with severe socio-economic problem, coupled with migration, the local authority declared Jakarta as a closed city in 1970. As mentioned earlier, kampung offered most migrants in the city an alternative

occupancy. Accordingly, 75 percent of the Jakarta total population lived in kampung in 1969, mostly without basic infrastructures and public facilities—making the condition of kampung become even more complicated.

Table 2. 1: The characteristics of kampung

Types	Location	Characteristic
Inner-city Kampung	In between colonial structures and new centers	High density 100 thousand per square km Severe environmental problems Main attraction: access to employment
Mid-city Kampung	Close to fashionable residential districts and the commercial spines	Density 20-40 thousand per square km Better environmental conditions Benefit from urban services provision Good employment opportunities
Rural Kampung	Rural area but slowly engulfed by the city	Lower density Almost no infrastructures and service provision Less transient population
Temporary Squatter Kampung	Scattered throughout the metropolitan area Sites without amenities Transition areas	No legal tenure Severe environmental and hygienic condition

Source: Ford, 1993.

2.4.2 The Typology of Kampung

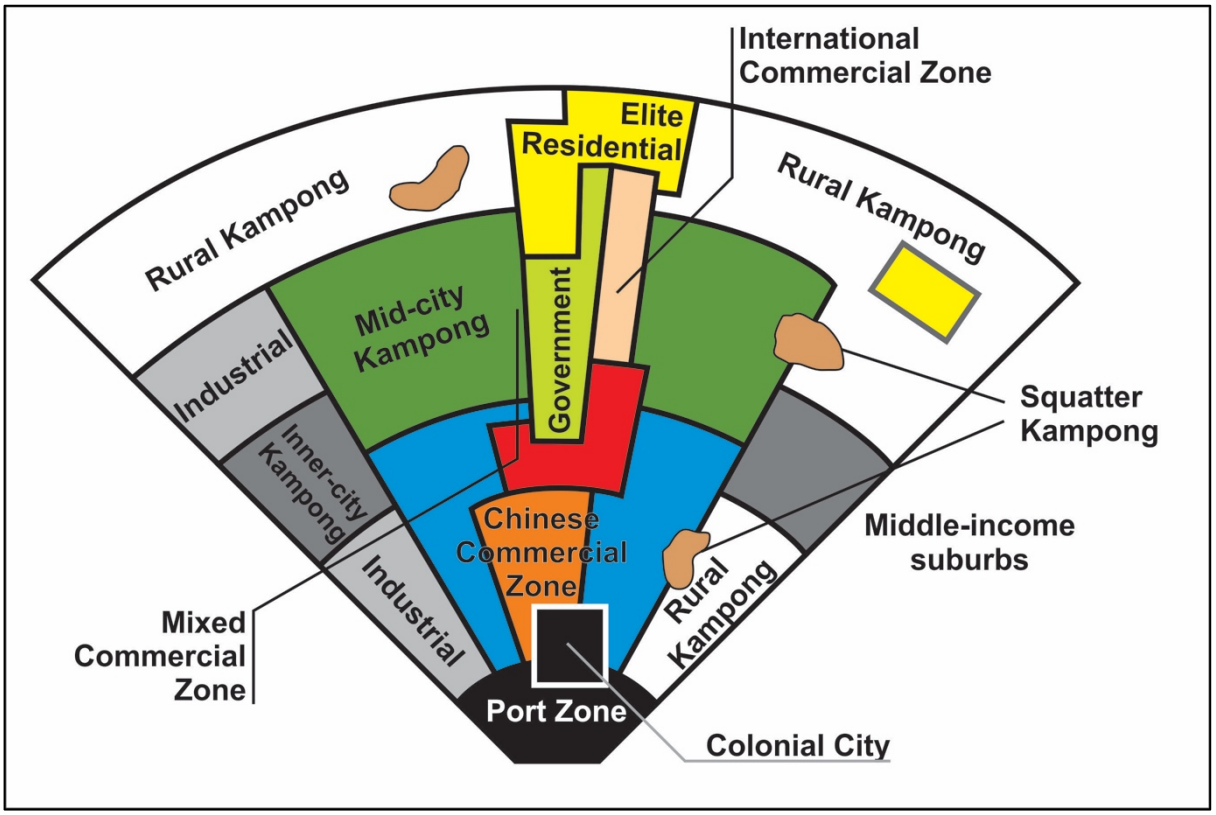
There are different kinds or typologies of kampung in Indonesia. Ford (1993) in his analysis of kampung in Jakarta developed a schematic framework which identifies varying typologies of kampung. Broadly, Fords scheme revealed that kampung can be categorized into different types based on location and period of formation (historical). Four main typologies are therefore identified: inner-city, mid-city, rural and squatter kampung (See Figure 2.1).

According to Ford (1993), inner-city kampung originated during the colonial era and is characterized by high density in terms of housing occupation and population. Its location which is very strategic, in-between colonial structures and new city centers, gives an advantage in terms of access to employment. Mid-city kampung, located much further into the city than the inner-city kampung, have comparatively lower density than the inner-city kampung. It is

usually located in-between elite residential areas and governmental or commercial zones. It has characteristics (e.g. housing, population, activity) are more mixed than the inner-city or rural kampung.

Rural kampung, on the other hand, are locally on the fringe or peripheral areas of a city. Characteristically, they are outlying-urban areas which can be considered as former rural settlements taking on urban characteristics. Generally, rural kampungs have the lowest density of housing occupation and population and poorly serviced in terms of basic infrastructure facilities. More so, their rural character suggests that a large proportion of the population rely on the primary sectors, mostly agricultural and fisheries sectors. Also, there is a small portion of them is getting used to working in industrial sectors.

Lastly, squatter kampungs are more defined in terms of their legal status and housing patterns. In light of this, the housing structures are usually of temporary nature and occupants largely locate near commercial and business districts to engage in the informal economy. In certain instances, they may be located in proximity to elite or upper class residential areas as source of domestic service providers (e.g. drivers, cleaners, maids) to the higher income homes.



Source: Modified from Ford, 1993.

Figure 2. 1: Schematic representation of kampung typology in Jakarta

2.4.3 The Legal Status of Kampung

Legal status here refers to land tenure but also the acknowledgement as a part of the formal urban territory. The location of kampungs is the main indicator to categorize whether a kampung is legal or not. The kampung can be considered as a legal kampung when the location is in a legal urban territory designated for residential area. Then, the possession of land title is another indicator to classify the status of kampung itself. A study by Tunas (2008) informed that there is an acknowledgement of the most common land title that kampung residents have is the land tribal right or 'hak girik' from the National Land Agency, yet, without rightful ownership of the property to the residents.

The current complexity of the land tenure of kampungs happened in Indonesian big cities such as Jakarta derives from a mandate from Japanese authorities during the Japanese occupation (1942-1945). They urged the natives to overcome the great famine by utilizing vacant urban lands for cultivation of crops. However, eventually they also used those lands for their dwelling places without paying attention to who is exactly the legal owner of the land and passed down to their children or grandchildren. Additionally, the nationalists who expropriated the urban lands as a form of resistance to the Dutch occupation during the independent revolution (1945-1950) worsened the chaotic land issue as they also did not know the rightful land owners.

According to Jellinek (1995) this chaotic situation has teased many people to grab the lands without knowing the actual function of those lands. It is therefore unsurprising if many of them do not realize that they have occupied illegal urban territories—not for residential. Additionally, what aggravates the situation is local government indifference—they tend to close their eyes against the presence and status of kampungs in the city. For instance, by letting them live in the same site for long time, collecting the contribution regularly from them, providing public provisions such as electricity, water, and telephone line, and even giving upgrading programs such as Kampung Improvement Program (KIP), yet, giving no rightful ownership urged them live with uncertainty. This condition has positioned them into vulnerable position having no bargaining power towards government plans including forced evictions which occur almost every year.

Eviction that happens across the developing world have been justified on concerns for urban redevelopment, vulnerability and risk of disasters (e.g. flooding, fire), public order and market valuation of properties. These situations create an atmosphere of insecurity and

uncertainty, as residents face the threat of possible eviction and displacement in their everyday life.

The root of the problem behind the insecurity of tenure especially in Jakarta by Human Rights Watch (HRW) is "the flaws in Indonesia's legal system for land administration such as poor administration in the government offices, corruption, lack of transparency, and pervasive violation human rights of the urban poor" (HRW, 2006 in Tunas, 2008). According to Tunas (2008) Indonesia has complicated, blurry and bureaucratic land rights system because of the changes of different system over the years, as a result the process of land registration and rights clarification take lots of time and cost. Zaman (2000) in his study verified that in Jakarta the land registration process is very awful, where we need to do 17 complicated steps which involve 18 different agencies, and take at least 2-3 years to be done. It is also cost intensive for kampung households.

With the chaotic and complicated regulation and its implementation the urban poor get benefit in certain extent where property is accessible without further formalities (The World Bank, 2003). The land rights and security tenure are very sensitive issues among the kampung inhabitants and crucial in attempts to improve kampung. Therefore, the obscurity of this situation causes the poor to sell their own properties without any difficulty in the informal land market.

2.4.4 Strategies to Improve Kampung

There have been several attempts by governments and international agencies over the years to address the inherent challenges in the proliferation and deprivation of kampung in Indonesia. In order to have better understanding on the underlying focus and contextual issues that informed these programs, especially their setbacks for future interventions, this section provides a brief overview of some key programs and interventions. It underscores the thinking that future interventions must take into account past and existing strategies not only to avoid duplication or reinventing the wheels, but also to learn from the past and integrate its lessons into the future. In this light, Table 2.2 summarizes key interventions for the improvement of kampung over the years. They include, in historical order, Kampung Improvement Program (KIP, 1969), Public Sector Housing (1974), Private Sector Housing (1974), Slum and Kampung Clearance (1990), and the Million House National Program (2003).

Table 2. 2: Strategies to address the challenges of kampung in Indonesia (1960-2003)

Program	Year	Focus	Activities	Critics
Kampung Improvement Program (KIP) A UNDP / World Bank Urban Development Project based on 'Site and Service' concept and partly financed by World Bank. Target: residents in poverty-stricken high-density kampungs	1969	To improve the socio-physical infrastructure services and improve quality of life of kampung inhabitants.	Provision of basic infrastructure (roadway, pathway, drainage, sanitation, solid waste management and water supply) Provision of public facilities (school and local health clinic)	No guarantee for security of land tenure Lack of integration between the project and city development Lack or limited community participation in the project Poor management and organization of the projects including facilitators
Public Sector Housing A low cost housing scheme supported and subsidized by the State Mortgage Bank (BTN) Target: civil servants, and low-income group	1974	To provide affordable housing for low income earners	Construction of small housing units (18, 21, 27 and 36 m^2) Provision of land plots (54, 60 or 72 m^2).	Actual supply could not meet the demand Missed target groups due to actual cost of house and loan availability for the poor Limited financial budgetary allocation from government
Private Sector Housing Cross-subsidy program to increase housing production for diverse income groups Target: all income groups	1974	To provide mixed residential units for various income groups especially upper and middle-class groups	Development of private mixed income residential housing units	Little or no incentive for private sector to develop such housing schemes (profit margins)

				Actual price of private housing schemes beyond the reach of low income earners
Slum and Kampung Clearance Policy Redevelopment of deteriorating kampung on publicly owned lands Target: illegal kampung residents on government owned lands	1990	To demolish and redevelop deteriorating kampung	Demolition of kampung Housing and infrastructure provision in demolished areas	Unsustainable and works against the urban poor residents Ignores social and cultural capital embedded in resident's life in kampung Focuses on just as aspect of the kampung problem (fails to consider other issues such economic).
The Million House National Program Target: those earning less than 1.5 million rupiah	2003	To resettle slum dwellers and provide better infrastructure in resettled areas	Construction of new low-income housing units Site and services infrastructure	Difficulty in finding sites for resettlement and housing development Limited capital from the State Mortgage Bank Lack of interest from private sector due to profitability of the scheme Missed target due to complexity of the loan scheme

Source: Authors' elaboration after Tunas, 2008.

2.5 Informal Human Behaviors

As revealed by Roy (2011 in Okyere, 2017), the terms of informal human behaviors within informal settlement studies relates to human actions—activities and practices either individual or collective carried out within and outside specified planning orders or regulations. On the other hand, in the scope of Environmental Behavior Studies (EBS) that could be seen in the work of Rapoport (1990) and Mehta (2013), it was interpreted as an output of combination between social and physical components. The social component here constitutes interactions between people such as meetings and conversations among inhabitants, while physical component more relates to Barker's concept of behavior setting (1968) looking at how the physical layout influences the patterns of behavior or human activities (Lang, 1987).

According to Gibson (1979), the physical setting has an important role in affording human behavior and needs—a sense of comfort and pleasure. On the other words, it is enabling certain activities or practices to occur at particular places. Perin (1970) who developed the concept of behavior circuits explained that the notion of tracking human behavior through the fulfillment of their everyday purposes are crucial in comprehending what kind of resources that support or enable them. Mehta (2013) underlined that the process of fulfillment may affect a group of individuals to modify the space for their social interactions. Besides, he added that this practice of personalization of spaces highly relies on the territorial flexibility and adaptability to different behaviors and needs. Through a research focusing on human behavior the better understanding of the physical environment—streets and public spaces and the comfort or anxiety could be offered. Thus, using direct observation and descriptive analysis, one can evaluate neighborhoods and their qualities to improve urban experiences by altering the design and physical aspects of settlements (Cullen, 1961).

The emergence of mixity concept which is an inseparable part of human behavior and its spatial settings was seen as a planning and policy goal reflecting the integration and functionality of urban places and spaces. As clarified by Baumeister and Knebel (2009), this is all about urban tissue and human behavior patterns in urban space showing the diversity in terms of users—age cohorts, social strata and activities. According to Clérc (2011) this concept is not only useful for comprehending socio-economic conditions surrounding daily practices in the informal settlements but also promoting the renewal of urban informal settlements.

In sum, informal human behaviors constitute activities either individual or group representing the interactions between people—local residents and their surrounding spatial or

physical setting of space. Along with the work of Mehta (2007, 2013) pointed the significance of human behavior observations in comprehending the relationship between users and physical configurations including emerging social interactions, and human needs, this study has employed such perspective as a guidance in analyzing how local inhabitants of informal settlements use the spaces for their daily activities and needs and proposing physical improvement ideas of informal settlement.

2.6 The Streets as Primary Urban Public Space and Social Space

As a physical manifestation of urban public space, streets and their sidewalks have a crucial role in supporting the urbanites and their daily lives (Moudon, 1987). Literally and metaphorically, streets are the most appropriate representation of the public realm (Jacobs, 1961, 1993; Rudofsky, 1969; Chekki, 1994; Lofland, 1998). Unsurprisingly, theme regarding its presence has dominated discussions on urban public space or public realm. For instance, the works of Jacobs, 1961, 1993; Appleyard, 1981; Gehl, 1987; Vernez-Moudon, 1991; Carr et al., 1992; Southworth and Ben-Joseph, 1996; Lofland, 1998; Hass-Klau et al., 1999; Carmona et al., 2003 have discussed the dependency of people toward the existence of streets. They revealed that people highly rely on the streets for their activities—functional, social and leisure such as traveling, playing, communication, shopping, relaxation or even survival. In addition, Vernez-Moudon (1991), Jacobs (1993) and Southworth and Ben-Joseph (1996) emphasized that streets are a representation of primary urban public space and has been the main concern of each revitalization of external public realm where efforts always linked to revitalization of streets in order to generate activity and to make streets lively (NMSC, 2006).

Carmona et al. (2003) defined streets as the purest form of public space that has a unique characteristic—accessible to all. Within this perspective, it has been perceived as an integral part of the city and fundamental element of urbanites' daily lives. According to Rudofsky (1969) and Lofland (1973, 1998), it serves a wide range of functions from social, political, economic, religious to cultural. Nevertheless, its role as traditional public space has diminished due to movements of several of these functions into virtual realms or different types of public spaces (Brill, 1989, 1990; Chidister, 1989; Rybczynski, 1993; Banerjee, 2001). Additionally, the privatization of public spaces through public-private partnerships for commodity purposes such as shopping malls, theaters and theme parks has worsened its current role (Kowinski, 1985).

This practice has also emerged an exclusivity or segregation that generally eliminates or

marginalizes those at the bottom of the socio-economic ladder. For many of them, streets that are accessible to everyone and offer a space for supporting what they need in daily life (e.g. actualization of themselves, active and passive engagement and interaction including relaxation, and leisure) constitute the only one solution they can afford. Therefore, the street which is basically means or a channel for movement should be perceived as a space for social interaction (Jacobs, 1961, 1993; Appleyard, 1981; Vernez-Moudon, 1991; Gehl, 1987; Brower, 1988; Loukaitou-Sederis and Banerjee, 1998; Hass-Klau et al., 1999). The social interactions occur on the streets are usually within short-term, less intense and weak bonds notwithstanding, Jacobs (1961), Granovetter (1973), Greenbaum (1982), and Gehl (1987), remind us to perceive it as a starting opportunity to build stronger and more long-term social interactions and engagements between people as well as trusting the other citizens.

As a space for social interaction, streets let us experience new things or situations and learn how to deal with them by observing the others, their activities and techniques in solving problems differently. Lofland in 1998 have added what the other scholars (Jacobs, 1961; Gehl, 1987; Francis, 1988; and Moore, 1991) argued that the valuable insights found in public space educate not only the kids but also the adults. The street can play multiple roles and offer social contact and interaction, social awareness and learning, and social cohesion.

CHAPTER THREE

BRIEF OVERVIEW OF SOCIO-ECONOMIC AND SPATIAL TRANSFORMATION OF JAKARTA

3.1 Introduction

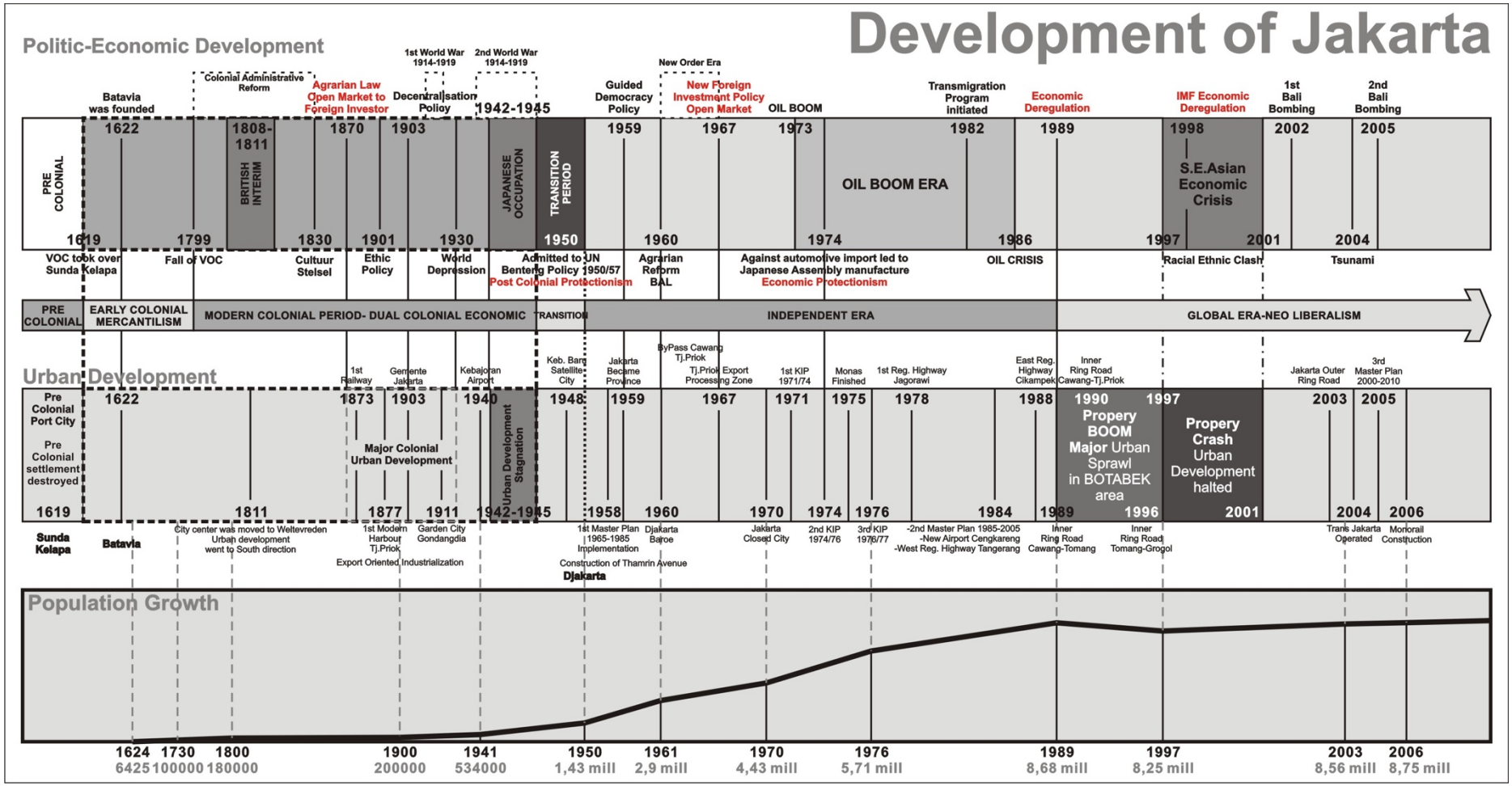
This chapter narrates a brief explanation on the urban development process of Jakarta—Indonesia's mega city and the most urbanized region in the archipelago. It is essential to give a comprehension regarding the historical context of urban formation and development processes including its emerging challenges within the small part of the broader Jakarta region before analyzing the empirical data.

3.2 The Socio-Economic Transformation of Jakarta

Since Indonesia's independence in 1945—notably in the 1950s—Jakarta has been transforming in terms of economy, population and size and becoming one of the fast-growing cities (See Figure 3.1 for the brief summary of Jakarta's development process). After the country applied a new foreign investment policy in 1967, industrialization has taken over the role of agricultural sector which most people used to live from / rely on. The current structure of the urban economy attests to this, as national statistical reports indicate industrial and service sectors are continuously growing while agricultural sector is declining.

This is also associated with growing phenomenon of inequality of development where there is concentration of infrastructures and services within the city. Here, Java Island especially the Jakarta region which is experiencing rapid growth in terms of economy and agglomeration has better network of infrastructures and services to support the manufacturing and industrial sectors as compared to other islands. Historically, Jakarta's role as the capital of colony and the main port city during colonial period significantly influenced this pattern.

It is therefore unsurprising that 82.8 percent of the national manufacturing industries are in Java Island, of which 5.9 percent is in Jakarta (BPS, 2012). On the contrary, other islands such as Kalimantan and Sulawesi are still dependent on the primary sector (agriculture or mining). This is an evidence in the employment profile of Jakarta, which is explained in the subsequent sections.



Source: Modified from Tunas, 2008.

Figure 3. 1: The summary of Jakarta's development process

3.3 Changes in Population Employment Profile

Since the few past decades, many developing countries like Indonesia have been experiencing an incremental flow of foreign investment in the manufacturing sectors, as a result of closing down of many industries in the developed countries. In Indonesia, most of manufacturing industries are concentrated in Java Island mainly in Jakarta, yet, due to sky rocketing land prices and high labor cost—60.5 percent higher than the national average (BPS, 2019)—some have been compelled to move out of the city to the bigger Jakarta region or the others within Java Island.

Their presence, predominant in Java Island, has been shifting employment profile of the population from agriculture became industrial labor or service workers. As reported by the Asian Development Bank (ADB, 2016), Indonesian people relied their lives on agriculture in 1985 was 54.7 percent, while 13.4 percent on industry and 31.8 percent on services. Contrariwise, within a few decades later or in 2015 the proportion has changed into 34 percent, 19.7 percent and 44.8 percent respectively. Along with this trend, nowadays cities in Java Island are highly relying on the service or manufacturing based industrial sectors, whereas other cities outside Java Island are still living from the extraction based industrial sectors such as mining, oil and gas and also the agricultural sector. According to BPS Jakarta (2018), Jakarta has shown a simultaneous growth of Gross Domestic Product (GDP) in the manufacturing where the growth rate of the GDP contribution in manufacturing was 5.68 percent, whereas agricultural sector experienced decline to around 0.21 percent.

The manufacturing sector always provides many job opportunities for urban migrants from either rural areas or other provinces to the metropolitan area, but in fact, it could not absorb all of them, even though increases in job creation continues unabated (BPS, 2019). The existence of unemployed migrants in the city generally having less skill triggers the growth of informal sectors all over the city. Here, informal sectors significantly account for 51.6 percent of employment of the total labor forces in Indonesia outside the agricultural sector (BPS, 2019). The national statistical report of Jakarta in 2019 showed that 68.45 percent of the active working age were getting involve in the formal sector, whereas the rest 31.55 percent is in the informal sector.

The capital city which provides better job opportunities also attract a great number of high skilled young migrants from other areas. Therefore, their presence in the city positioned low skilled migrants in the difficult situation or even left them unemployed. As reported by BPS

(2019) the number of unemployment in Jakarta reached 6.22 percent, or higher than the national level 5.28 percent. The 84.6 percent of the unemployment group derived from low skilled migrants having lower education—typically high school graduates (BPS, 2019).

Thus, without adequate employable skills, it is almost impossible to enter formal sectors except in the low-end service sector like drivers, office boys, shop keepers, or rely on the informal sectors such as food vending, laundry services. Indeed, income in the lower-end would not be enough to create savings for life improvement. However, it gives a minimum livelihood opportunity for the unfortunate urban poor to fulfill their basic needs and survive in the city including few chances to start their small businesses. As indicated in several previous studies, the low-end formal / informal sectors do not only support the poor, but also provide a critical source of labor and support for the urban economy in mega cities such as Jakarta.

It goes without saying, therefore, that there is a complex mutual symbiosis between the formal and informal sectors—a kind of interdependence where each relies one another for daily life in the city.

3.4 The Restructuring of the Housing Market

It is not a public secret anymore where the public sector could not compete with private sector in providing housing for the citizen. Since 1989-2006 public sector had built 68.996 units only (Tunas, 2008). The weak financial support and the inability to get land for public uses are the main reason why the government could not meet the demand. Therefore, it is unsurprising if private sectors hold a pivotal role in directing the trend of the housing market. Lack of control and regulation from the government made them free to decide the location of the housing and arrange the social composition of the development areas thorough their highly elitist target groups (Tunas, 2008).

Spatially speaking, there is a tendency social polarization on the metropolitan and city level. And the role of the private sectors is apparent in both levels.

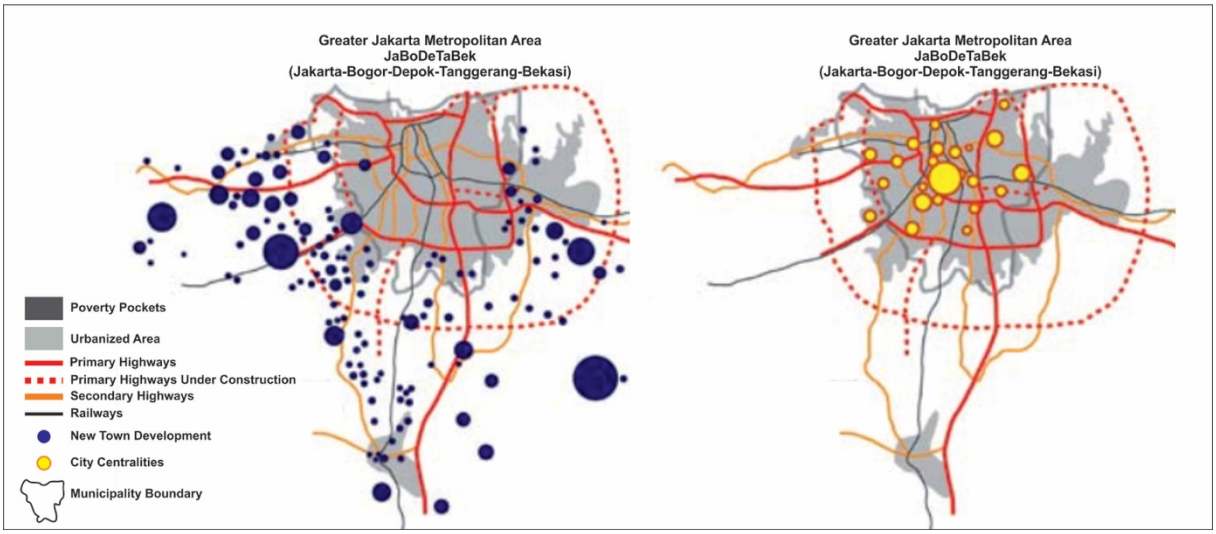
On the metropolitan level, liberalization and economic deregulation have led to urban sprawl and a process of settling in the peripheral areas of the city (See Table 3.1). This urban expansion, in terms of sprawl is noticeable among the upper-middle and higher income groups who desire to reside in new town developments and planned settlements in the peripheral areas of the city (See Figure 3.2). As noted by Firman (2004), sprawl induced urban expansion cements spatial segregation in the form of observable residential enclaves of the rich and poor

in suburbs. This process also leads to gated communities, where residential elites possess spatial control outside the boundary of local authorities.

Table 3. 1: The trend of migration in Jakarta 1971-2015

Trend	1971	1980	1985	1990	1995	2000	2005	2010	2015
In Migration	1,821,833	2,599,367	3,079,693	3,170,215	3,371,384	3,541,972	3,337,161	4,077,515	3,647,328
Out Migration	132,215	400,767	593,936	1,052,234	1,589,285	1,836,664	2,045,630	3,000,081	2,701,145
Net Migration	1,689,618	2,198,600	2,485,757	2,117,981	1,782,099	1,705,308	1,291,531	1,077,434	946,183

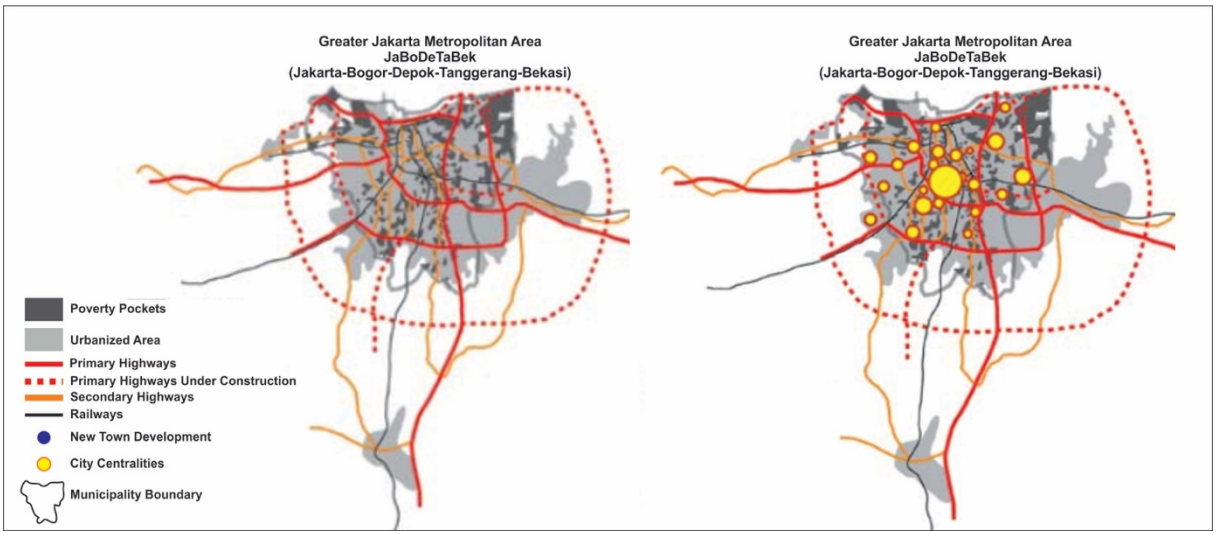
Source: BPS, 2015.



Source: Firman, 2004; Tunas, 2008.

Figure 3. 2: The new town development (left) and location of the city centralities (right)

On the city level, we can observe the socio-economic transformation of the city in terms of growing relevance of the service sector. This on-going process is leading inner-city densification in the form of new business districts, commercial areas and luxury apartments. Righty observed, Tunas (2008) argues that it created a tendency to focus attention on limited areas of the city to the disadvantage of others. Consequently, these disadvantage areas with no access to proper housing, provide a cheap alternative means of survival in terms of Jakarta's informal settlements or kampungs. Housing density is therefore on the rise. The burgeoning urban informal settlements (kampungs) that are scattered throughout the city leading spatial pockets of concentrated poverty. A dualistic urban socio-spatial pattern emerges where areas with poor infrastructures and no service provisions are literally located side by side with the city's most fashionable business districts or residential areas (See Figure 3.3).



Source: Firman, 2004; Tunas, 2008.

Figure 3. 3: The location of poverty pockets compared to the city centralities in Jakarta

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

After discussing the conceptual framework and exploring the urban development of Jakarta in the previous chapters, the focus of discussion here centers on what kind of methods and instruments that were employed during this research to address the research questions. Through this chapter, explanations regarding the reason why the field surveys were conducted in two different kampungs, and how the empirical data were collected and analyzed are presented in detail.

4.2 The Reasons behind the Selection of Study Areas

As stated before, there is a need to have an in-depth understanding of existing socio-spatial conditions of kampung. It is essential in order to provide locally embedded specific strategies for the sustainable improvement of kampungs. This study therefore observed two different kampungs located in the inner-city and peripheral areas of Jakarta.

The first study area was an inner-city kampung located in Kelurahan Kebon Kacang, Tanah Abang Sub-district, Central Jakarta administrative city. The considerations behind this selection were due to its geographical location adjacent to the Central Business Districts (CBD) of Central Jakarta and its status as one of few remaining kampungs in the core of the city where commercial, business and economic activities intersect. Besides, this kampung was selected based on the following criteria; a) The density of residential land use—second densest within Tanah Abang Sub-district with 354 people/ha, b) The extent of redevelopment into commercial zones was not as strong as other kelurahans (urban villages). For the purpose of this study, we selected two of eleven Rukun Warga, hereafter called RW, notably in RW 3 and RW 8. The reason behind this selection was that both RW 3 and RW 8 have not been redeveloped yet (such as JICA-Indonesian government RUSUN project in RW 1). Therefore, it is a good opportunity to give new ideas based on upgrading approaches for future improvement. Additionally, their varied physical locations helped to understand the diversity of human behavior activities and street typology.

Another study area constitutes a peripheral kampung located in Kelurahan Kapuk, Cengkareng Sub-district, West Jakarta administrative city. This kampung was selected for several reasons. One of them was due to the density of residential land use—the densest within

Cengkareng Sub-district with 274 people/ha. Moreover, another consideration was the clustering of industrial activities which has contributed to the settlement consolidation over the years. In terms of size, Kampung Kapuk has a total area of about 560 hectares with 16 RWs. Specifically, RW 13 was selected for case study. The main reason for selecting RW 13 was that it is physically characterized by small dense and crowded houses and a seemingly poor living environment represents a challenging situation to consider proposals for its development. Secondly, compared to other RWs, RW 13 has not been redeveloped and thus provides the needed scope to critically consider its upgrading alternatives for future improvement.

4.3 Methods of Data Collection

This study employed a combination of qualitative and quantitative techniques such as physical observation and questionnaire based interviews. The first field survey was organized in Kampung Kebon Kacang from February to March 2017 and involved two different community groups—RW 3 and RW 8. While, another one undertaken in Kampung Kapuk was from August to September 2018 and involved one community group of RW 13. All interviews and field observation were organized from 09:30 am to 17:30 pm each day. Data were obtained by doing door-to-door surveys.

Due to respondents' restriction and privacy concerns, the condition of surveyed houses was observed based on the physical appearance of each house and classified into four categories as as good (without damages, painted); fair (hairline cracks, minor damages and outdated paint); poor (big cracks, moldy, uncompleted, temporary materials); and very bad (structural deformation, all the conditions in bad category) (See Table 4.1 and Figure 4.1). While the classification of streets and alleys was based on the physical form. The classifications are as follows: M (main street and most opened), I (street parallelly connecting M-type streets in a straight line and more opened), L (street passing through the block in L-shape and opened), Z (meandering street passing the block and closed), U (U-shape street attached to any type of street, connected only houses and more closed) and C (cul-de-sac and most closed) (See Figure 4.2). With regard to human behavior, the field observation focused on human activities in all streets and alleys afterwards characterized them into three: social, economic, and stationary. Social activities are an activity involving two or more people, for instance chatting and playing. While, economic activities refer to income generating activities such as selling of items and services. Stationary here includes sedentary individual actions such as sitting alone and napping.

Table 4. 1: The classification of house condition

CONDITION	DESCRIPTION
Good	Without any damage, painted, and suitable for continued use with normal maintenance.
Fair	Hairline cracks / outdated paint, & requires minor restoration.
Poor	Physical conditions adversely affect building operations (tilted wall, non-plastered wall, temporary materials, exfoliated plaster, moldy wall, broken / rotten doors / windows) and requires significant restoration.
Very Bad	Structural deformation (roof / column / beam) and/or combination of two / more conditions written in poor category, requires major restoration.

Figure 4. 1: The condition of houses in a) good b) fair c) poor and d) very bad

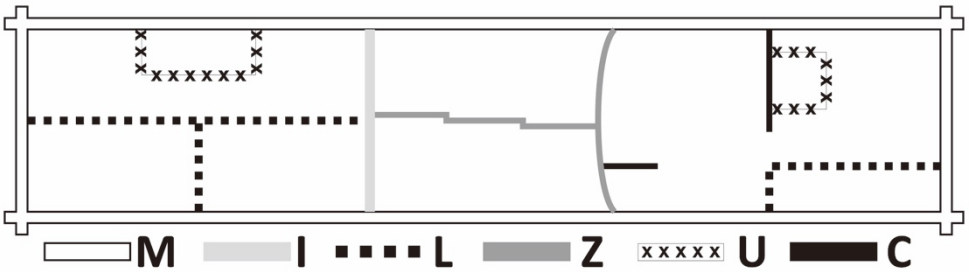


Figure 4. 2: The illustration of street typology

A brief explanation regarding the process of field survey is presented as follow:

- Literature review: a review of articles, reports and papers on urbanization in developing countries, urban growth in the South East Asia, informality and urban informal settlements, kampung and improvement programs in Indonesia generally.
- Field Observation: transect walks and observation of physical, social and behavioral aspects of everyday life in kampung. Physical observation of housing conditions, street spaces and their uses, and human behavior in informal public spaces such as streets and alleys. In terms of human behavior, all street spaces were observed using unstructured observation guides to record activities and practices of residents daily over a 5-day period.
- Interviews: questionnaire based interviews were carried out with heads of households. The number of interviewees were selected based on a proportionate system (five houses in each Rukun Tetangga / RT). For inner-city kampung, we selected two community groups of RW 3 and RW 8. In RW 3, there were 7 RTs / neighborhood units and five houses were randomly selected from each neighborhood unit (35 in all). RW 8, on the other hand, has 15 RTs / neighborhood units and thus, 5 houses were selected from each neighborhood unit (75 in all). While, the interview that was conducted in the periphery Kampung Kapuk, specifically in RW 13 having 17 RTs / neighborhood units, involved 85 houses in total. In each neighborhood, the neighborhood leader was also selected for interview. The questionnaires were self-administered by the researcher (See appendixes).
- Institutional interviews: the study also conducted interviews with officers and officials at local government office in the study area to triangulate other resources acquired from published research papers and local government reports. Two officers were therefore interviewed on the current conditions, local planning and improvement strategies for the study area (past and current).
- Mapping, photography on site were developed to capture current situations and spatial patterns of the study area. Self-taken photographs here act as an evidence of field observation and useful instrument in the analysis process such as interpreting and describing the data. The condition of houses where the interviews occurred and use of space were two main focuses in collecting photographs.
- Data collation, analysis and interpretation of results.

4.4 Data Analysis

Collected data from the field were analyzed by using SPSS and MS Excel. While maps were generated by employing google satellite images which were processed in Corel Draw. Descriptive statistics and correlation were used to present the relationship between street typology and human behavior activities.

CHAPTER FIVE

STREET TYPOLOGY AND HUMAN BEHAVIOR ACTIVITIES IN THE INNER-CITY KAMPUNG

5.1 Introduction

Through this chapter, the data collected from the first study area of Kampung Kebon Kacang would be presented and analyzed in detail. The discussion relates to the profile of the study area including its history, occurred events and consolidation processes, and also two selected community groups of RW 3 and RW 8. Specifically, it focuses on socio-economic characteristic of residents, spatial structure, conditions of observed houses, and human behavior activities.

5.2 Profile: Kampung Kebon Kacang

Kebon Kacang is one of the Jakarta's inner-city areas where kampung situation has become complicated. It constitutes one of the seven inner-city kelurahans / urban villages within Tanah Abang Sub-district of Central Jakarta administrative city (Figure 5.1c). Its location is quite unique: positioned right in the core of the city surrounded by the city's most important and prestigious commercial, economic, business centers and activities, and also services areas such as Plaza Indonesia and Grand Indonesia Shopping Mall, Hotel Indonesia, the Japanese Embassy, and the UN local headquarters (Figure 5.1d). In detail, it is situated at the intersection of major streets such as K.H. Mas Mansyur, K.H. Wahid Hasyim and Kebon Kacang Raya and next to Thamrin Boulevard (Figure 5.1e). At its southern part lies upscale shopping center and business areas. This parallel existence of a kampung and upscale business areas demonstrate a sort of contrasting urban experiences (Budiarto, 2003) or even an 'urban divide' (UN-Habitat, 2010) which characterize several cities and regions in the developing world including Indonesia.

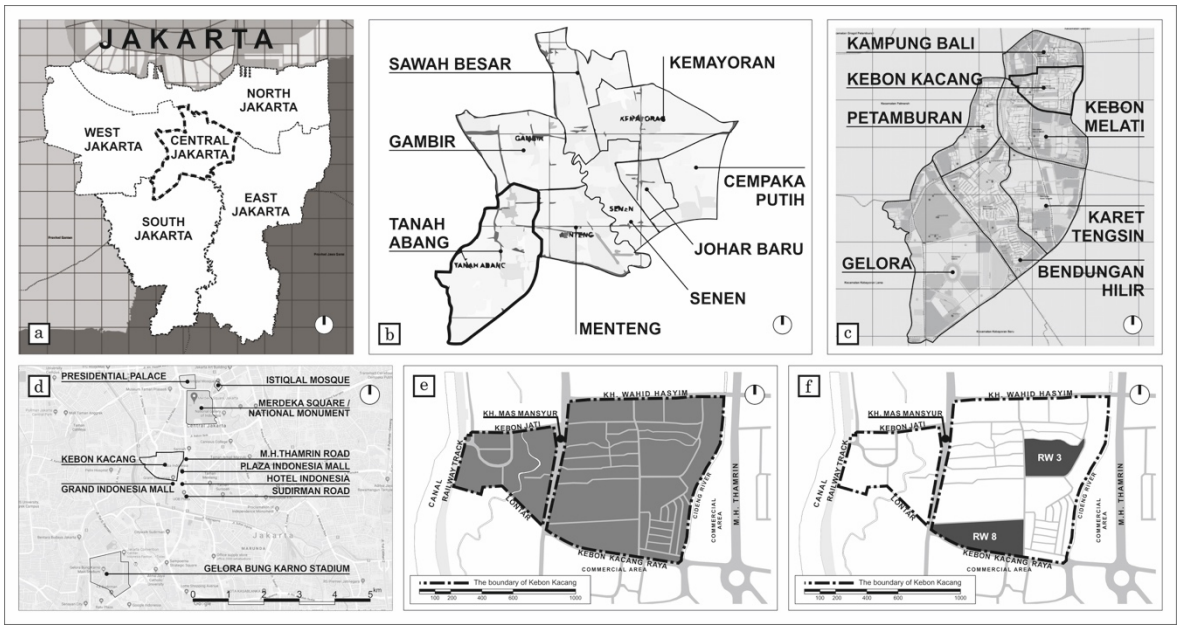


Figure 5. 1: a) Map of Jakarta b) Map of Sub-districts within Central Jakarta c) Map of Kelurahans within Tanah Abang Sub-district d) The location of Kelurahan Kebon Kacang within CBD of Central Jakarta e) Map of inner-city Kampung Kebon Kacang f) Map of study areas of RW 3 and RW 8

This inner-city kelurahan is the smallest urban village within Tanah Abang Sub-district, yet, it ranks second in terms of population density (See Table 5.1). It is unsurprising due to its strategic location, major traffic routes and access to opportunities in the city center, have made this kampung become one of the most sought after and a prosperous economic promising destination for new migrants from the rural areas, smaller towns, and longtime residents. At micro level, Kelurahan Kebon Kacang that occupies a total land area of 0.71 square kilometers (BPS, 2015) is divided into 11 Rukun Warga (RW) and 152 Rukun Tetangga (RT).

Table 5. 1: Population density of Tanah Abang Sub-district

KELURAHAN / URBAN VILLAGE	TOTAL AREA (Ha)	(%)	RW	RT	TOTAL POPULATION	DENSITY / Ha
GELORA	259	27.85	2	12	3734	14
BENDUNGAN HILIR	158	16.99	9	124	25480	161
KARET TENGSIN	153	16.45	9	70	20606	135
KEBON MELATI	126	13.55	15	147	39743	315
PETAMBURAN	90	9.68	11	119	38480	428
KEBON KACANG	71	7.63	11	152	25108	354
KAMPUNG BALI	73	7.85	10	81	14126	194
TOTAL	930	100	65	698	65650	71

Source: Tanah Abang in Figures, 2015.

In the foregoing sections, a history of the settlement is narrated to offer a historical framework for understanding the formation, consolidation and current aspects of the inner-city 'villages' in Jakarta. This historical narrative relies extensively on previous studies in the study area (See Tunas, 2008; Jellinek, 1995; Dorléans, 1976).

5.3 The History of Kampung Kebon Kacang

Historically, Kampung Kebon Kacang was a native settlement during the colonial times to the turn of the 20th century. Its name, Kampung Kebon Kacang is derived from its former function as a peanuts or beans field (Figure 5.2). This is common situation in Jakarta or Indonesia generally, where settlements derive their names from their previous functions. However, Budiarto (2003) dates the historical time frame for this kampung further than the 20th century. In his view, the area attracted significant number of migrants from elsewhere during the 1800s. Perhaps, this 'attraction' was connected to the peanut function and its associated economic functions. However, it is generally agreed that the native character of this territory was retained during this period.

Source: Batavia Topographic Bureau, KIT archive.

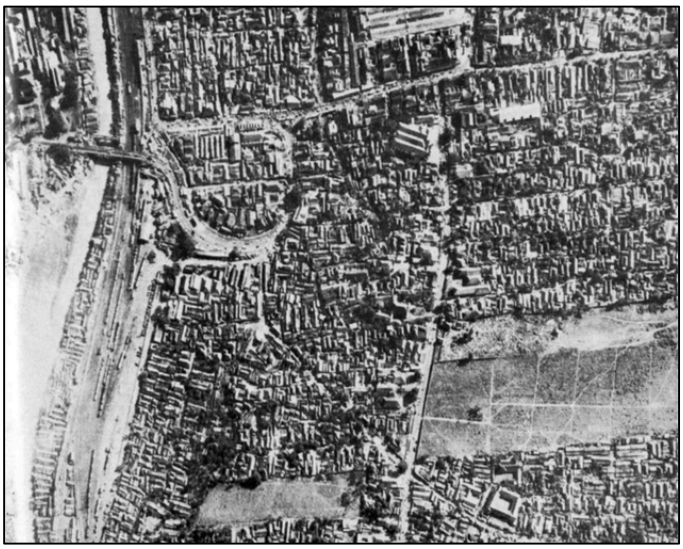
Figure 5. 2: Map of Kelurahan Kebon Kacang in 1911

In terms of daily life, Jellinek asserts that residents lived a very rural way of life. That is, even though the settlement was right to the core of Jakarta, residents cultivated their lands through vegetable and fruit farming. Livestock farming, such as breeding of chickens, ducks, goats and fish were common. Primarily, these activities were part of residents' efforts fulfilling basic needs and obtaining extra income. It is important to note that activities then were two-fold: subsistence and commercial. For instance, surplus harvest was sold in the market (e.g. Tanah Abang and Kota) or on door-to-door basis at high class residential areas nearby. Besides,

quite of number of residents were also engaged in domestic work as servants, laundry workers, gardeners, or cleaners. Others also worked for the colonial authority as artisans and horsemen.

Regarding land ownership, Tunas (2008) reports that some residents claimed their lands were given to them by the colonial authorities. Consequently, these land owners had to pay tax as part of the entitlement to ownership. Land was also rented to natives for cultivation by colonial authorities. In this particular case, right of usage did not include residential buildings or permanent habitation, only those for storage. However, as many of these people did not have place to stay, hence they often had to live inside sheds illegally. This form of work-place living contributed to the complexities of ownership which ensued when controls were loosened.

The process of growth and consolidation of Kebon Kacang is attributable to number of reasons. First, those who were into land cultivation invited families from their hometowns to assist them, eventually building more huts and thereby making the place denser (See Figure 5.3). Second, the lack of cultivable land in surrounding areas of Jakarta served as a push factor, driving people into the area to seek better luck in terms of opportunities in Jakarta. Most of these new migrants came to work as domestic helpers, harbor or industrial workers. The 1920s, for instance, provided immense opportunities for work in the service sectors due to increase in the Chinese and Dutch population (Jellinek, 1995). The kampung, provided the easy and cheapest option for settling in for most of these new comers into the city. Others such also point to the 'kampung implosion' (Budiarto, 2003) in the 1980s as a result of the oil boom, attracting rural workers in search of better jobs. From 1930-1980, the population of Kebon Kacang has risen from 50 to 3500 (Jellinek, 1995).



Source: Dorléans, B., 1976.

Figure 5. 3: Map of Kelurahan Kebon Kacang in 1970 indicates the density was already high

Physically and spatially, the morphology of these kampungs is not very well defined. The area is defined by rows of small non-permanent, often vernacular houses. These houses could be accessed by long and narrow alleys sometimes not more than 1 meter wide. Some mosques and small open spaces could be found inside the kampung. Moreover, basic infrastructure in terms of water, sanitation and access roads were virtually nonexistent—no gutter and sewage system, muddy pathways, and poor hygiene. Garbage and human waste went into the river or canals. In effect, the Kebon Kacang area with the nearby Krukut River became notoriously known for its annual flooding during the monsoon period.

Socially, bonding and interaction were strong among residents in kampungs in Jakarta, including Kebon Kacang. Notably, this occurs as many residents came from the same village or deriving from the same extended family. Generally, social interactions take place on the street. The house is mostly too small for doing any kind of daily activities thus a lot of activities are done on the street (Tunas, 2008).

5.4 The Consolidation of Kampung Kebon Kacang

The number of programs have contributed to the development of study area. For example, the development of Thamrin Boulevard (1959), the Kampong Improvement Program (1977/1978) and the construction of the Kebon Kacang Social Housing (1983). The Thamrin Boulevard (Figure 5.4) was built as part of the 'Djakarta Baroe' (the New Jakarta) project by President Soekarno—the first President of the Republic of Indonesia—in the 1959 at the East border of the area. This was to project a post-independence modern city image for the city of Jakarta.

Source: Pinterest & Google[3]

Figure 5. 4: 'Djakarta Baroe' project showed post-independence modern city image

[3] Image of Djakarta Baroe Project in 1959 was downloaded from https://jp.pinterest.com/pin/294985844316654221/ and image of current condition was taken from http://adiyusyfa.deviantart.com/art/Bundaran-HI-211339850

The social cost of the project, however, was resettlement of kampung dwellers with and without compensation. Some of the evicted inhabitants who received proper financial compensation became rich suddenly, while the unfortunate others simply being displaced without any benefit (Jellinek, 1995). The Thamrin boulevard and its surrounding areas have become the most important CBD in Jakarta, accommodating large number of offices from national / international big corporation, luxurious hotels, and shopping centers (Tunas, 2008). This has had tremendous effects on functional aspects of Kebon Kacang, including transformation from mostly residential to commercial functions. As the land became more lucrative for investments, big investors and land speculators started to swarm into the area. In addition to this, increases in property values, the chaotic property ownership system, colonial legacy, affected claim to land ownership. Hence, large number of dwellers lost their dwellings, when big investors came in and claimed the lands.

In 1977/78, the Kampung Improvement Program (KIP) was introduced in Kebon Kacang. According to Jellinek (1995), the KIP project had limited success. He cites reasons such as the extreme density of the area, the resistance of the 'inhabitants' due to miscommunication and lack of information, lack of public trust and the conflict of interests. Despite benefits accrued from the program such as reduction in annual flooding through number of pathways and sewage improvements, the program was largely unsuccessful (UN-Habitat, 2003). Additionally, the Kebon Kacang Social Housing project created much controversy due to the large number of kampung dweller being evicted in 1981. Again, Jellinek, (1995) in his evaluation of the KIP reports that from the few residents who took the mortgage for buying the units, just a few of them could complete the paying scheme. Consequently, the project ended benefit the middle-income groups, who lived in the units, as compared to the low-income residents—the original target group. As it is usually the case, the evicted inhabitants, who could not afford the units, took cheaper alternatives in the form of inexpensive housing scheme in the urban periphery where the lands were still cheap. There were also huge social implications to this: loss of livelihood, since most of them worked or owned businesses in the kampung area. This exerted a heavy impact on the people as most of them had to rebuild their lives from scratch.

Notwithstanding the above, the existence of Tanah Abang Market influences the development of Kebon Kacang. Various commodities, ranging from vegetables to textile on the Northwest part of the area are sold in this market. Furthermore, the market is considered as the most important textile trading center nationally and internationally, such as middle men

from African countries. This market, dating back to the 19th century, has influenced urban development and functions in the study area. Similarly, several commercial activities, popularly the clothing industry conspicuous across the entire area, especially those in Sumatra's traditional cloth referred as Songket.

5.5 Survey Results: Rukun Warga (RW) 3

5.5.1 Overview of Study Area

The field survey which was organized in the inner-city Kampung of Kebon Kacang involved two community groups—RW 3 and RW 8 (See Figure 5.5). Located in the middle of Kelurahan Kebon Kacang, RW 3 is bordered by other community groups (RW 2 to the North, RW 1 to the Northeast, a big vacant land which was under RW 3 in the past to the East, RW 4 to the South, RW 5 to the West). Besides, there is also Cideng River on the Eastern part, which creates a natural barrier between the area and the CBD. The area is on a comparatively high altitude, which seemingly explains why flooding is a rare occurrence as compared with other kampungs in Jakarta. Unfortunately, the actual population of this study area is not known due to unreliable and conflicting data from different agencies.

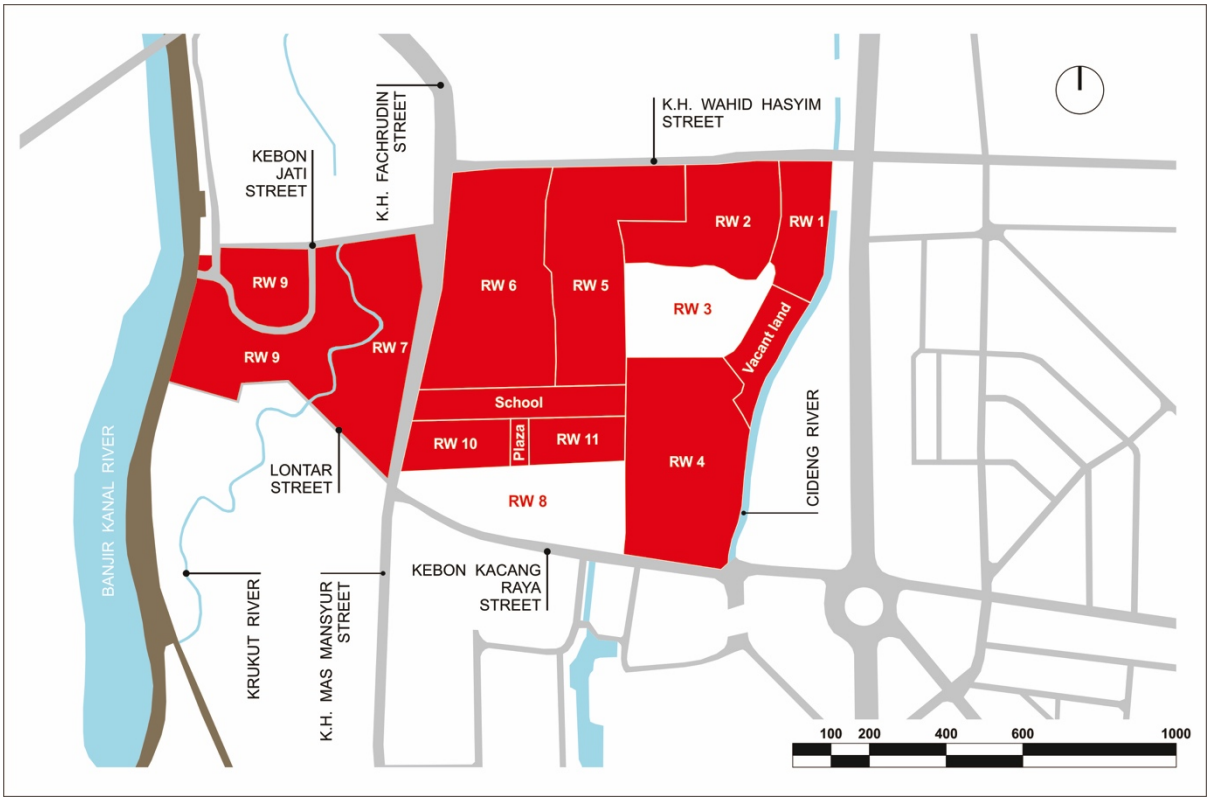


Figure 5. 5: Map of study areas of RW 3 and RW 8

In detail, RW 3 has a total land area of approximately 3.98 hectares and about 230 houses exist in this community. The main common facility in the area is a mosque, prayer room and multi function room (Figure 5.6). It is noteworthy that there is no school or public toilet in this area.

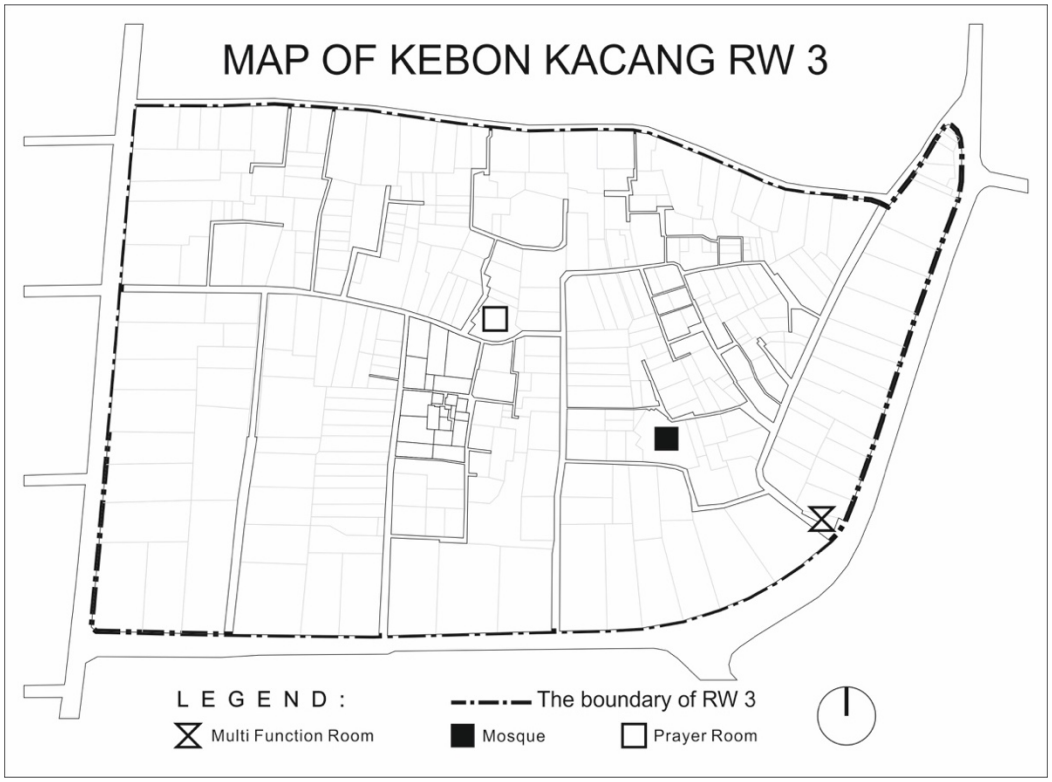


Figure 5. 6: Common facilities exist in RW 3

5.5.2 Profile of Respondents

In all, there were 35 interviews with selected respondents in RW 3—17 men and 18 women in the age of range of 23-74 years. The field data regarding place of origin of the respondents revealed that most of them (71.4 percent) were from the Jakarta region, while the remaining minority originated from other cities from Java Island (20 percent) or other Islands (8.6 percent). Thus, most of the inhabitants in RW 3 were native to the Jakarta urban region.

With respect to length of stay, we found that 51.4 percent of interviewees have been living in the area for more than 40 years. Generally, the period of residence in the area was very high. Data from the field also revealed that 82.8 percent of respondents were owners as compared 17.2 percent who rented or were tenants. As shown in Table 5.2, the study observes those who have stayed in the area for more than 20 years (71.3 percent) were more likely to own houses than those who have stayed less than 20 years. Two main reasons explain this trend. Firstly, those who own the house inherited from family members who appropriated agricultural land

to build temporary houses and later transform into permanent houses. Secondly, until about three decades ago, the land value was low and the area had little development. However, in recent times the redevelopment of the surrounding areas (new shopping malls, commercial district) has created uncontrolled land speculation in the area leading to rise in land values and houses. Consequently, those newcomers were priced out of house ownership and have to rely on renting.

Table 5. 2: Duration of living and property ownership in RW 3

RW 3	Owner		Tenant	
	Number	Percentage (%)	Number	Percentage (%)
0-10 years	3	8.6	4	11.4
11-20 years	1	2.9	0	0
21-30 years	4	11.4	1	2.9
31-40 years	4	11.4	0	0
> 40 years	17	48.5	1	2.9
Total	29	82.8	6	17.2

In terms of educational background, only 17.1 percent of the respondents acquired a tertiary education, while 57.2 percent of them finished Senior High or Technical School, and the rest 25.7 percent of them had their basic education—up to Junior High School. This limited educational attainment among interviewed residents, probably explains the structure of informal nature of occupation as recorded during the survey. Specifically, more than half (54.3 percent) of the respondents were self-employed typically engaged in activities such as food-vendors, craftsmen, motorcycle taxis driver, small-scale shop owner and service provider. In other words, these were mostly engaged in the informal sector. Besides, about 11.4 percent were employed by private organizations. Usually, such people are drivers, barbers or shop keepers. While retired and housewife constituted 8.6 and 25.7 percent respectively (Figure 5.7).

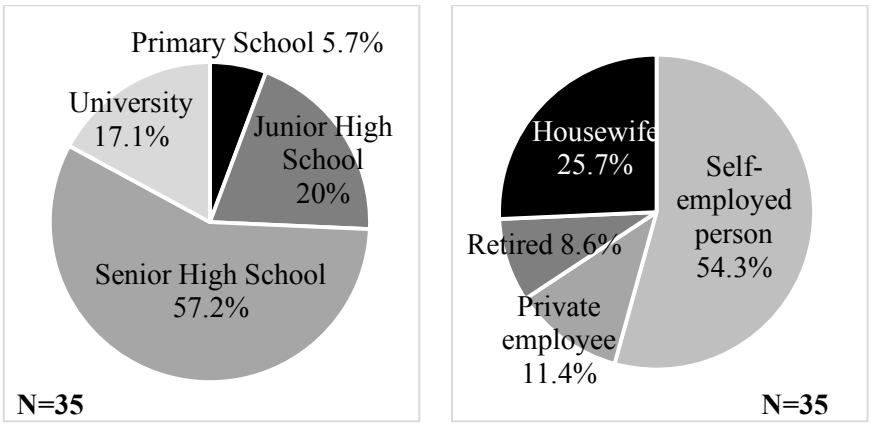


Figure 5. 7: The educational background (left) and professions of interviewees (right)

5.5.3 Housing and Land Tenure

According to the field observation, the dominant type of building was detached single story houses. Multi-story houses were usually business-oriented buildings (guest house, shops, etc.) that have been recently renovated. The field interviews revealed that almost all houses, here in RW 3, have been renovated at least once to address deterioration in housing conditions or insertion of durable building materials. Besides, the study found that houses located along strategic roads have better conditions in terms of physical appearance. As shown in Figure 5.8, most houses were previously made of woven bamboo panels / triplex, without floor tile and used clay-roof tiles / leaf. Typically, as elaborated in the previous section on the history of Kebon Kacang, most of the houses during the early settlement like a hut / shed in the rice field. Yet, nowadays most of houses use plastered bricks finished with paint or tiles—building envelope, floor tiles and asbestos as a replacement of clay-roof tiles which is heavy enough and easy to shift (Figure 5.9).

Source: Dorléans, B., 1976.

Figure 5. 8: The condition of houses in the year 1970s

Figure 5. 9: The current condition of detached single story houses in RW 3

According to the survey, about 15 respondents (42.9 percent) involving in informal economic activities have adjusted the space they have in their houses for their own business. Seven out of those have been managing their houses as a lodging—guest house or boarding house for newcomers, while four of them made small-scale shops selling daily commodities such as snacks, groceries, cooking oil, body soaps, etc. to serve their residents in the community

(both natives and newcomers). Moreover, there were also observations of home-based enterprises where interviewed residents engaged in food vending, tailoring or internet café from or around their houses.

As the location of RW 3 is sequestered from the business places, coupled with the fact that the inability to engage in the informal economic activity which is a major source of livelihood and survival for informal residents, underline the reason why 22.9 percent of interviewees were planning to sell their own lands if there is a good deal, and moving to another area to find a better chance to create their own businesses (Figure 5.10a). Correspondingly, land speculation is common here, interviews and observation during the field survey reveal. For instance, local leaders disclosed that the total number of native inhabitants has been declining over the past few years since speculators have capitalized on the relatively cheap land, bought and left the lands vacant just for future investment. As shown in Figure 5.10b, the area of RW 3 has been decreasing significantly from 15 neighborhood units to only 7 neighborhood units. In effect, this has negatively affected the profitability of informal economic activities in the area.

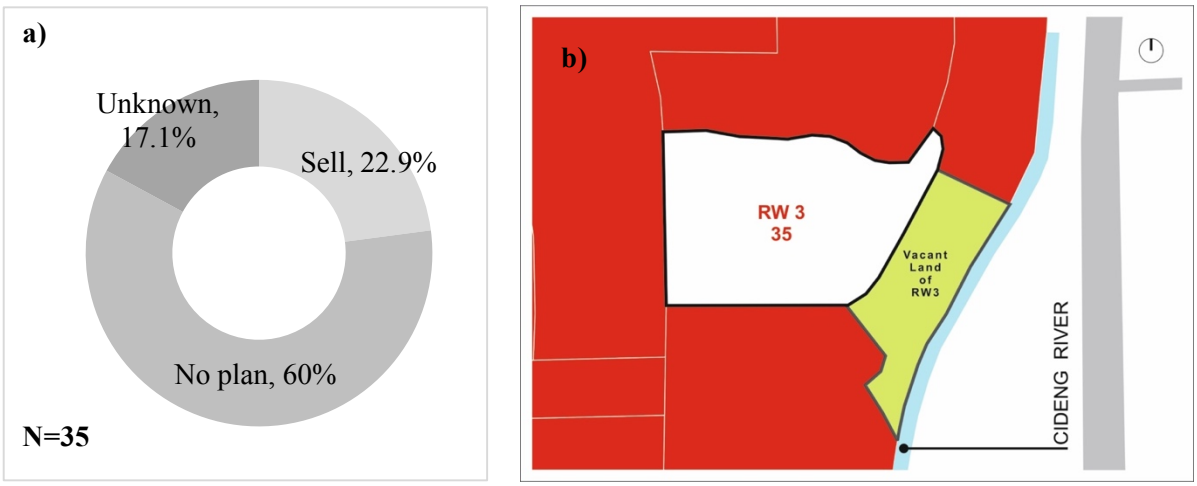


Figure 5. 10: a) Inhabitants' plans towards their houses b) Map showing total area of RW3 in the past

With regards to land tenure, the field survey indicated that 26 interviewees (74.3%) obtained their lands from their families as a family inheritance. Furthermore, there were 3 inhabitants (8.6%) who bought their own lands, while 6 residents (17.1%) rented. In as much as the land tenure arrangements in RW 3 was diverse, of particular notice was the majority of interviewed residents (51.4%) who acquired based on holding title granted by colonial authorities during the colonial period— land tribal right or 'hak girik'. Furthermore, 5.7 percent of the interviewees hold building right title, whereas those with freehold title (owners) constituted 25.8 percent (Figure 5.11). Therefore, those who actual ownership of land and

possess the right to build were comparatively in the minority. A significant proportion of interviewees (17.1 percent) had no information about the status of their lands, perhaps because they were tenants and therefore not very interested in land ownership arrangements.

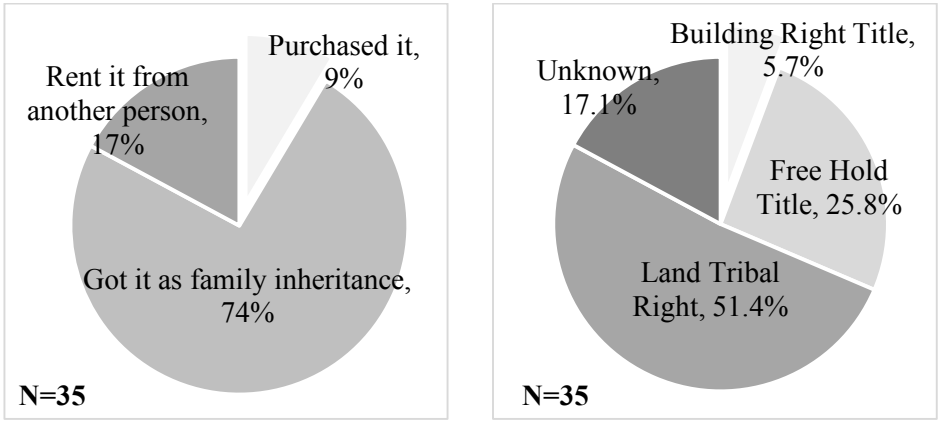


Figure 5. 11: Land tenure acquisition (left) and land title deed (right)

5.5.4 Spatial Structure: Network, Hierarchy and Typology

Road Network

This study area is surrounded by arterial and local roads which are dense with traffic and have many informal economic activities. These roads connect the settlement to the CBD or commercial areas to the South, arterial roads to the North (where another significant economic activity Tanah Abang Trade Center located) and West, and other community groups. This study area is well served with well distributed networks which enable inhabitants move quietly free within and out the sub-district.

Figure 5.12 depicts the flow of traffic within this settlement. Even though the area, mentioned earlier has well distributed road networks in terms of physical accessibility, it is mentionable that the lack of sidewalks inhibits pedestrian safety, thereby creating traffic conflict between motorists and pedestrians—often a messy traffic situation. In other words, it has a serious problem where the traffic cannot serve maximally due to many factors such as illegal parking, and coupled with the existence of a traditional market and row of shops near the end of the road in the North where loading activities always occur (Figure 5.13).

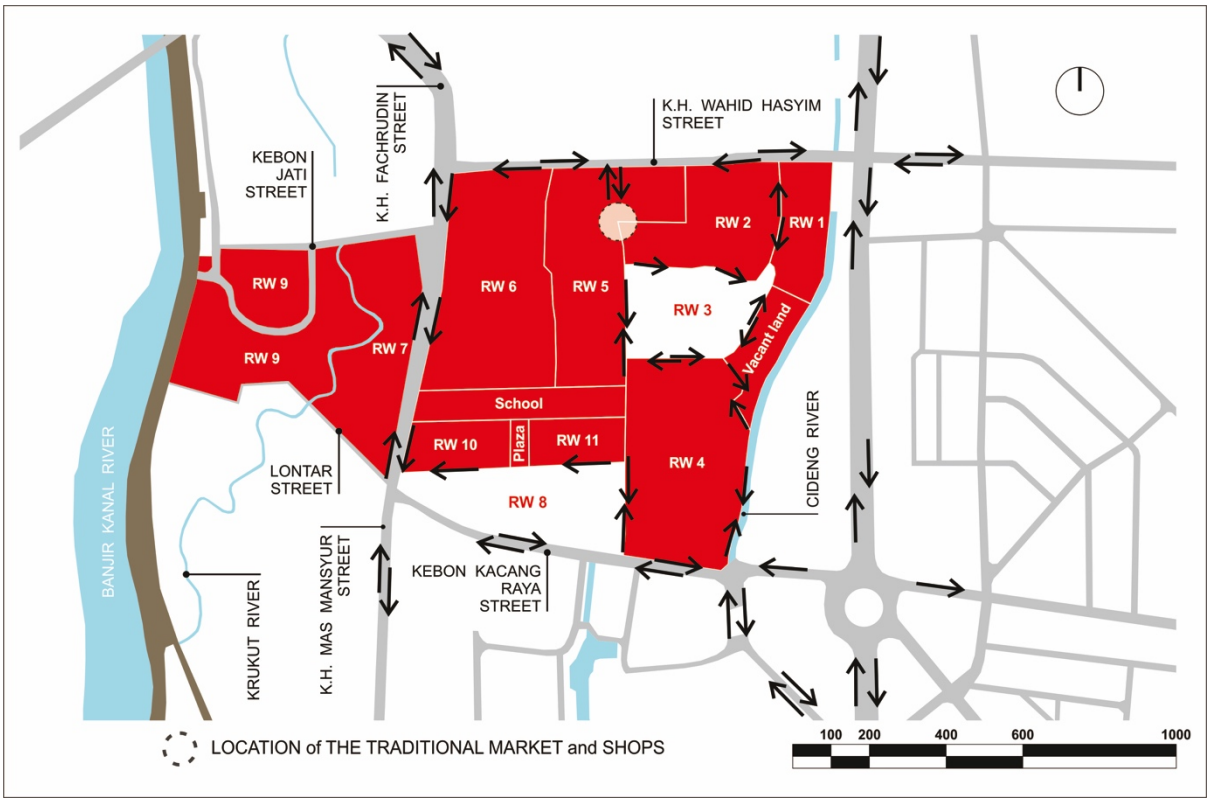


Figure 5. 12: The flow of traffic within Kelurahan Kebon Kacang

Source: Google Earth, 2018.

Figure 5. 13: The situation near traditional market and row of shops in Kebon Kacang

Hierarchy

Based on observation and spatial analysis, spatial network of roads (including streets and alleys) was categorized into a 5-level hierarchy (See Figure 5.14 and Table 5.3). The first was local road I that connects directly Kebon Kacang Raya street in the South to the northern part of Kebon Kacang area and acts as the densest road within the area—it links most of community groups (e.g. RW 2, RW 4, RW 5) to the other sub-districts in Jakarta city. Also, local road II which directly connected to local road I was in the second level of hierarchy. It functions as a community distributor which unravels traffic load and connects one to another community group. The third was neighborhood connectors which help residents access into the area of RW 3 and connect local road I and II. Historically, these neighborhood connectors were only

available type of road network inside the community group. Over time, alleys and cul-de-sac, which were respectively in the fourth and fifth levels of the network hierarchy, emerged organically to enable residents to access their isolated slot of houses. Cul-de-sacs primarily connect the individual houses whereas the alleys links with other hierarchies depending on position or location.

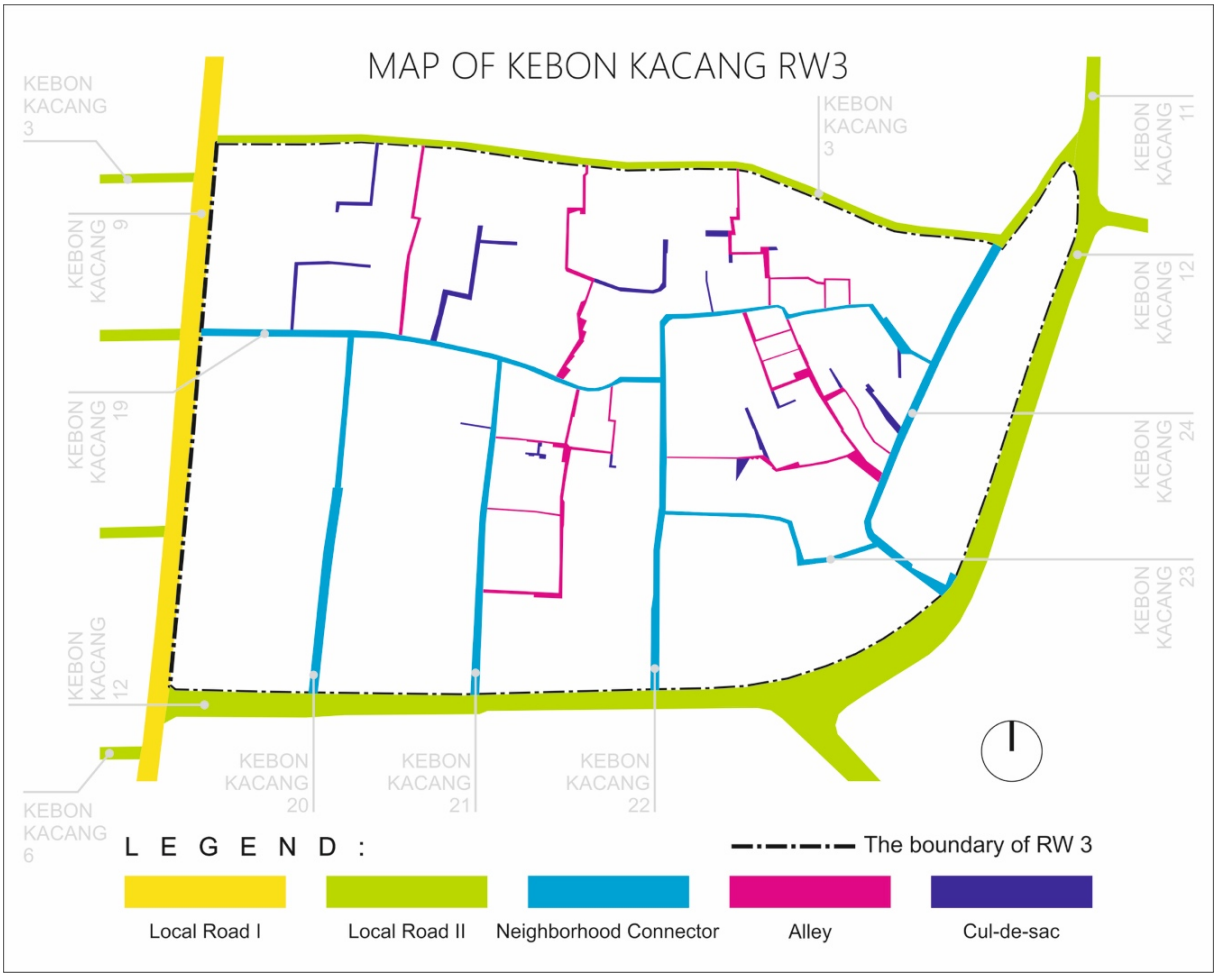


Figure 5. 14: Map of road hierarchy of RW 3

Table 5. 3: Explanation of hierarchy of spatial network of roads in RW 3

CLASSIFICATION	DEFINITION
1. Local Road I	Connects Kebon Kacang Raya street to the northern part of Kebon Kacang and other community groups in the study area
2. Local Road II	Links Local Road I (1) to the other community groups. The function is as a separator between RW 2 (in the north of RW 3) and RW 3 or RW 3 and RW 4
3. Neighborhood Connector	Connects the Local Road I (1) and the Local Road II (2)

4. Alley	Spontaneous links to Local Road II (2) and neighborhood connectors (3) or one to another neighborhood connector and neighborhood connectors and houses
5. Cul-de-sac	Connects to residential units or isolated houses

Typology

Here, street typology was defined into 4 types based on the physical form of each road and alley (Table 5.4 and Figure 5.15). The straight road ('I' type) as represented by the local road I was characterized as more open road. It connects Kebon Kacang Raya street to local road II, hence, it was understandable why many economic activities emerged along this road (discussed in section on human behavior). Then, an open road was labelled as 'L' type, it has a L-shape providing a connective link between two local roads. On the contrary, closed road ('Z' type) was marked by a meandering shape and connects residential houses inside RW 3. Most of neighborhood connectors and all alleys belong to this type. The last was 'C' type—the most isolated where its characteristic was irregular and connects only few houses.

Table 5. 4: Typology of spatial network of road in RW 3

TYPE	DEFINITION	HIERARCHY
I	a street connected to main street in a straight line and more open	1
L	a street passing through the block in a L-shape and open	2, 3
Z	a meandering street passing the block and closed	2, 3, 4
C	Cul-de-sac and most closed	5

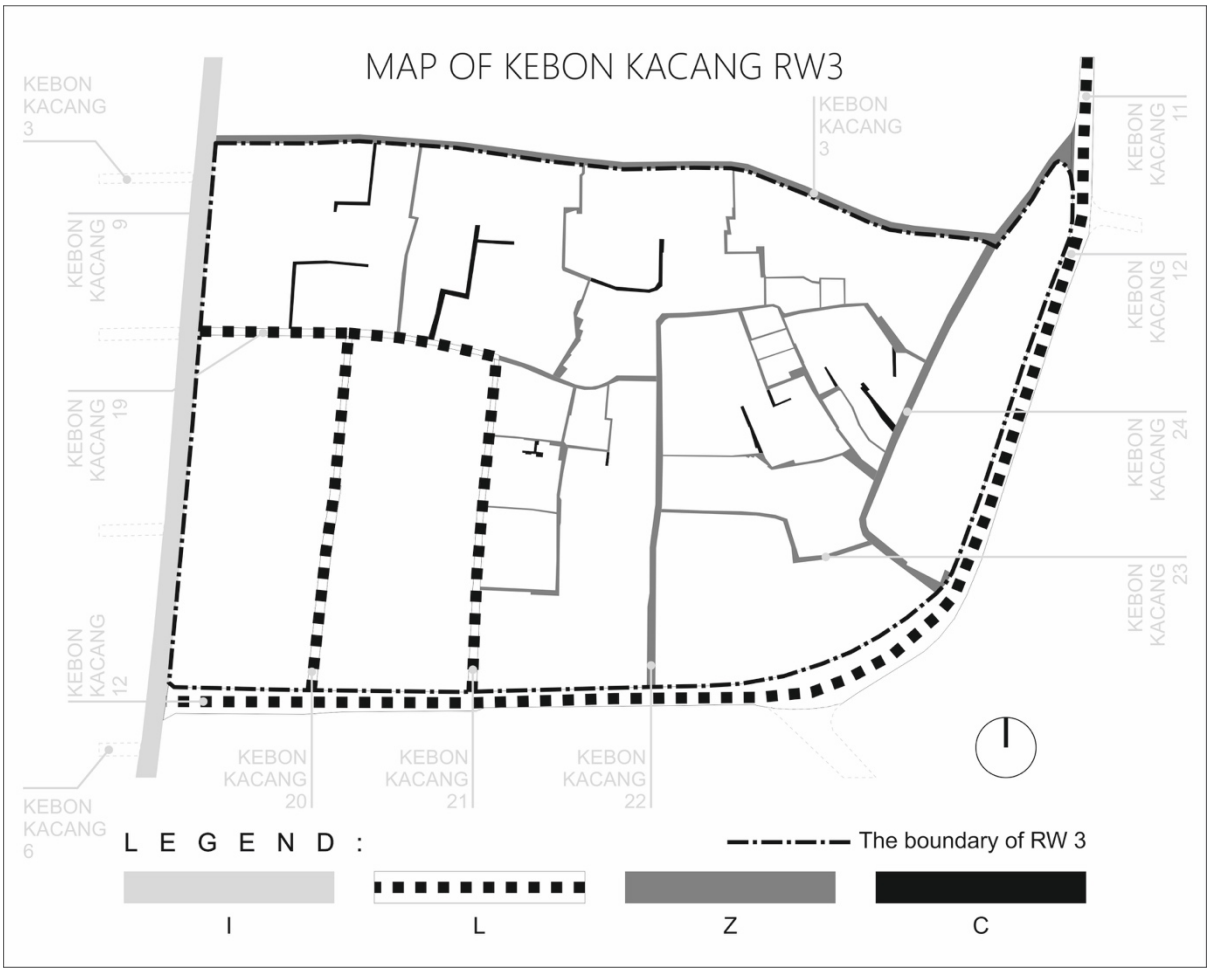


Figure 5. 15: Map shows typology of each street and alley of RW 3

5.5.5 Relationship between House Condition and Street Typology

Based on observation of houses and street mapping, the study sought to understand the relationship between condition of surveyed houses and the typology of the street. As already stated before, the condition of houses was ascertained based on the appearance of the houses, while the street typology was related to their physical form. This was illustrated in Figure 5.16. According to the field survey, we found that the less open the street, the higher the proportion of houses in poor condition. For instance, L-type which was an open street has only 2 houses (5.7 percent) in poor condition, while Z and C-type as closed streets has 10 houses (28.6 percent) and 3 houses (8.6 percent) respectively (Figure 5.17). This situation can perhaps be explained by looking at the width of streets and the condition of houses. In Figure 5.18 and 5.19, it can be seen that narrow streets (N) of less than 1 meter had all houses in poor or very bad condition. Interviews with respondents disclosed that narrow streets made it difficult to transport building materials to improve the condition of the houses. Limited vehicular accessibility means that respondents have to carry building materials by themselves if they

want to improve condition of houses. Also, local government officials mentioned the narrow streets created physical accessibility barrier to improving house conditions. This situation was aggravated by the fact that residents along the narrow streets were the most economically deprived.

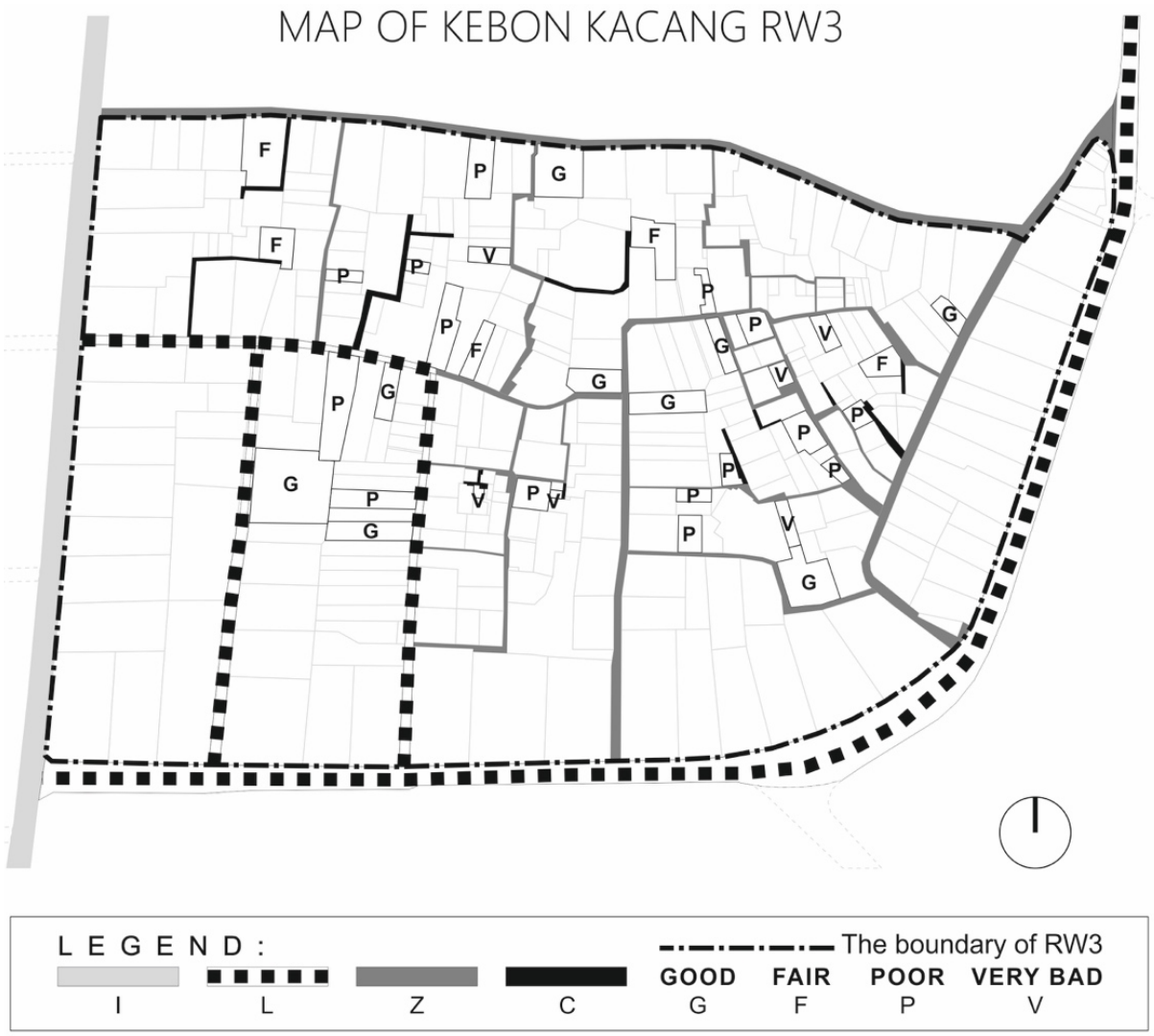


Figure 5. 16: Map showing relationship between house condition and street typology in RW 3

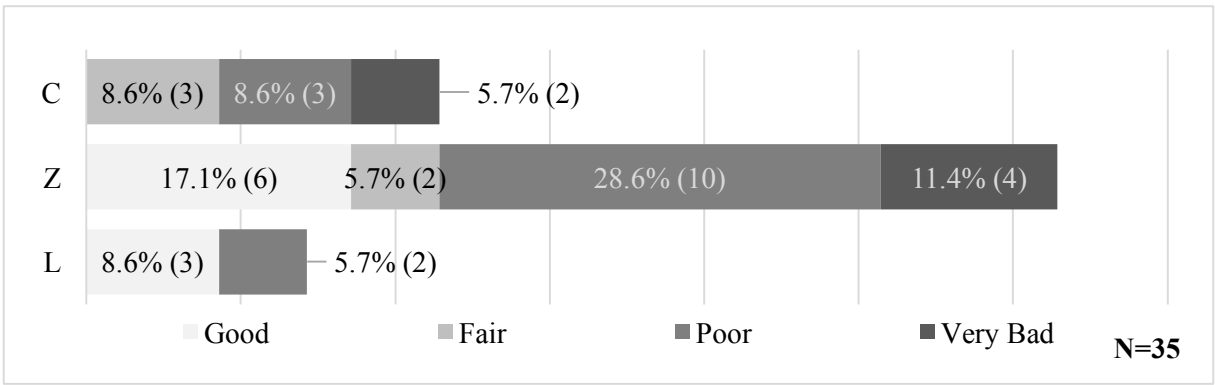


Figure 5. 17: Relationship between house condition and street typology in RW 3

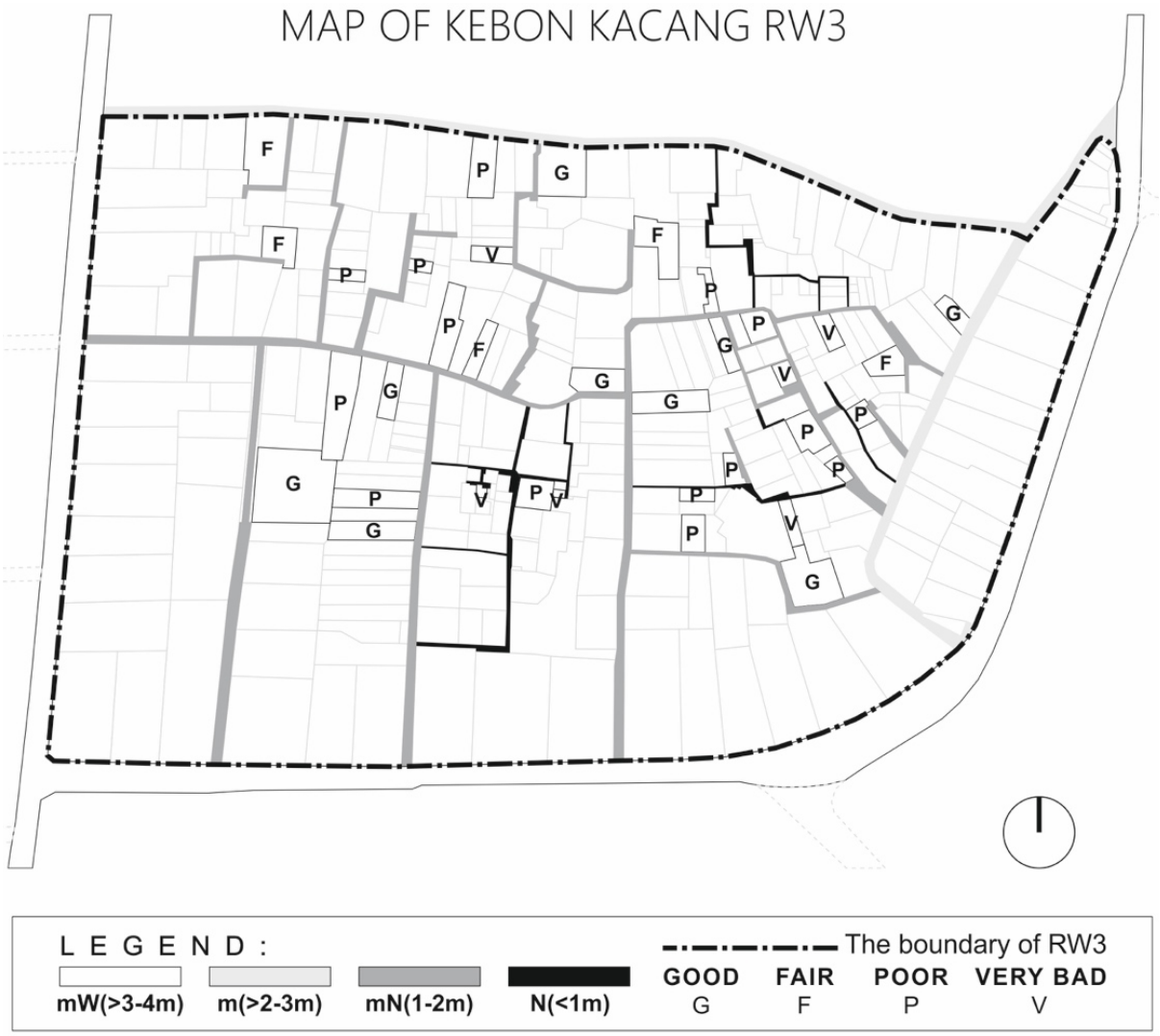


Figure 5. 18: Map showing relationship between house condition and width of the street in RW 3

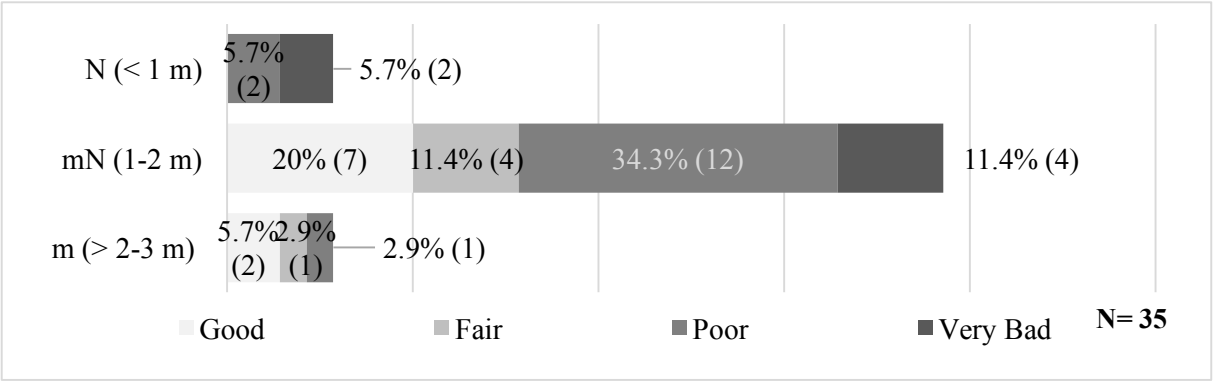


Figure 5. 19: Relationship between house condition and width of the street in RW 3

After this discussion of condition of surveyed houses and street typology, the proceeding section focuses on human behavior activities and its relationship with age cohorts and street typology in the studied areas.

5.5.6 Human Behavior Activities

As part of the study, we sought to understand the different kinds of human behavior activities and the different age groups that undertook these activities. Here, the spatial distribution of roads and alleys were considered in terms of the relationship between residents and these physical environment (roads, streets and alleys). Based on earlier research (See Mehta, 2007, Okyere et al, 2018) human behavior was categorized into three main activities: social, economic, stationary / lingering activities. In this analysis, social activities including chatting, playing, feeding kid(s), and gathering. Generally, interactions involving at least two or more inhabitants, whereas, economic refers to income generating activities such as food-vending. The stationary activities mean individual activities such as standing, sitting, lingering or napping—non-interactive and non-economic-based activities, (after Okyere, et al, 2018). While, age cohorts were classified into 0-9 years (children), 10-19 years (teenagers), 20-39 years (young adults), 40-59 years (middle age) and above 60 years (elderly).

According to the field survey, economic activities were dominated by those within the age-cohort of 20-39 years and 40-59 years. Unsurprisingly, these age groups were within the economically active and working age cohort. As shown in Figure 5.20, there were 7 young adults (2.6 percent) and 12 middle age people (4.5 percent) involved in economic activities respectively. While in terms of social activities, the field observation disclosed that all age groups were actively involved—several instances of different age cohorts of residents chatting, children playing and people eating together. Here, children and teenagers were seen playing on the streets while young adults gathering and chatting. The same trend in terms of the diversity of age cohorts also applies here in the stationary activities. Nonetheless, young adults (20-39 years) were more engaged in stationary activities than the others recorded there were 50 people (18.8 percent). Specifically, as observed during the survey, young adults could be seen sitting, using their smartphones or smoking along the street. Suffice to say, in all activities observed, we found that the proportion of elderly people were lower as compared to other age cohorts. The reason for this is because, generally elderly people in Indonesia usually like to stay home watching TV or playing with grandchildren rather than be hanging about on the streets. Consequently, we found only few of those above 60 years when recording human activity on the streets.

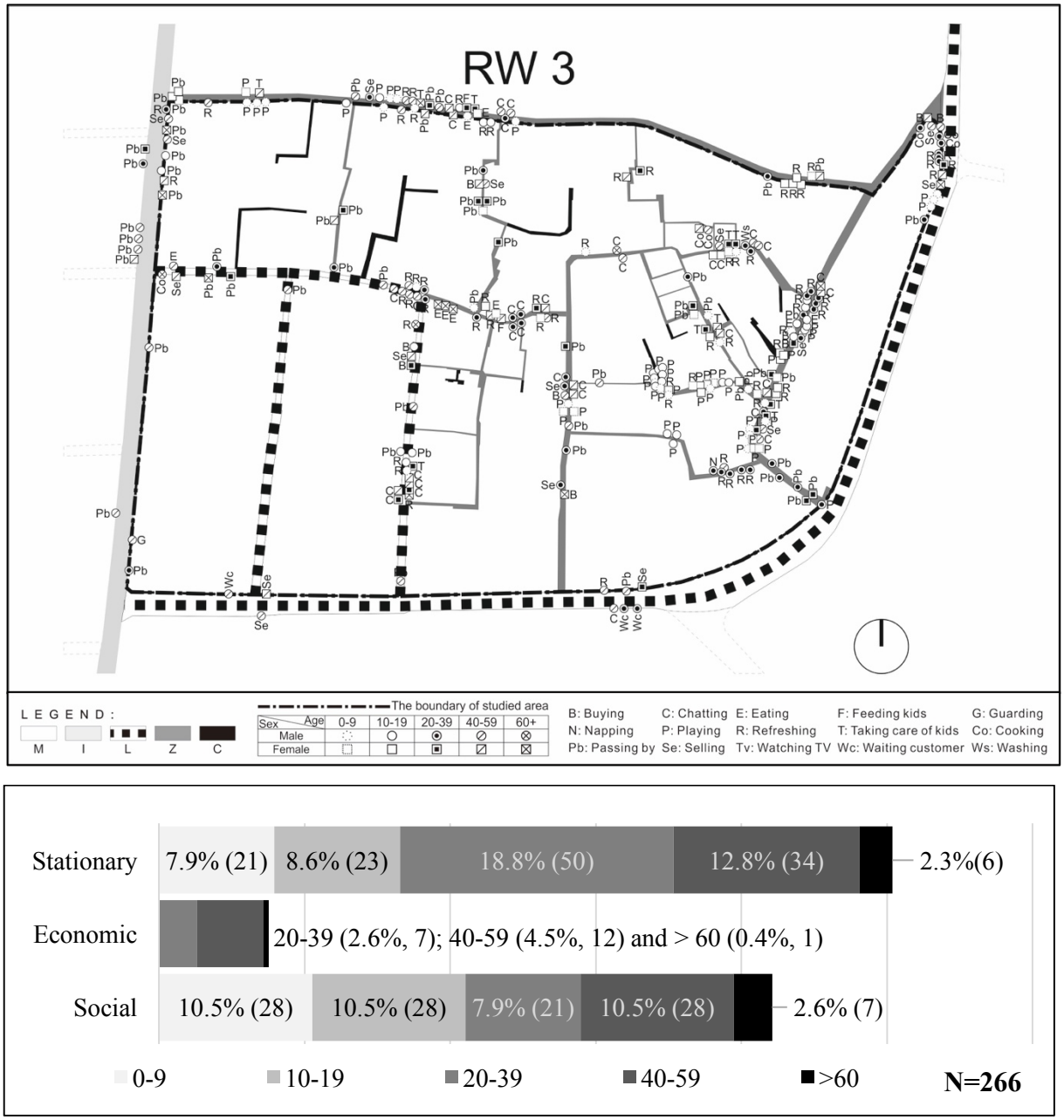


Figure 5. 20: The diversity of age cohorts involved in any kind of activities on the street in RW 3

As an integral part of the study, here, the discussion shifts the attention to the relationship between the human activity and the typology of the street. That is, what kind of activities occurred on which type of street / alley and why was this so? In this community group of RW 3, the study found I-type which was more open streets have low economic activities (Figure 5.21). This was because the I-type street has a heavy vehicular traffic and selling along this street was prohibited by middle class residents living along the street. Additionally, Figures 5.24 shows that the proportion of economic activities declines as the width of the street narrows. This is due to street-side vending is common where there is adequate space for vendors to sell items such as food or groceries.

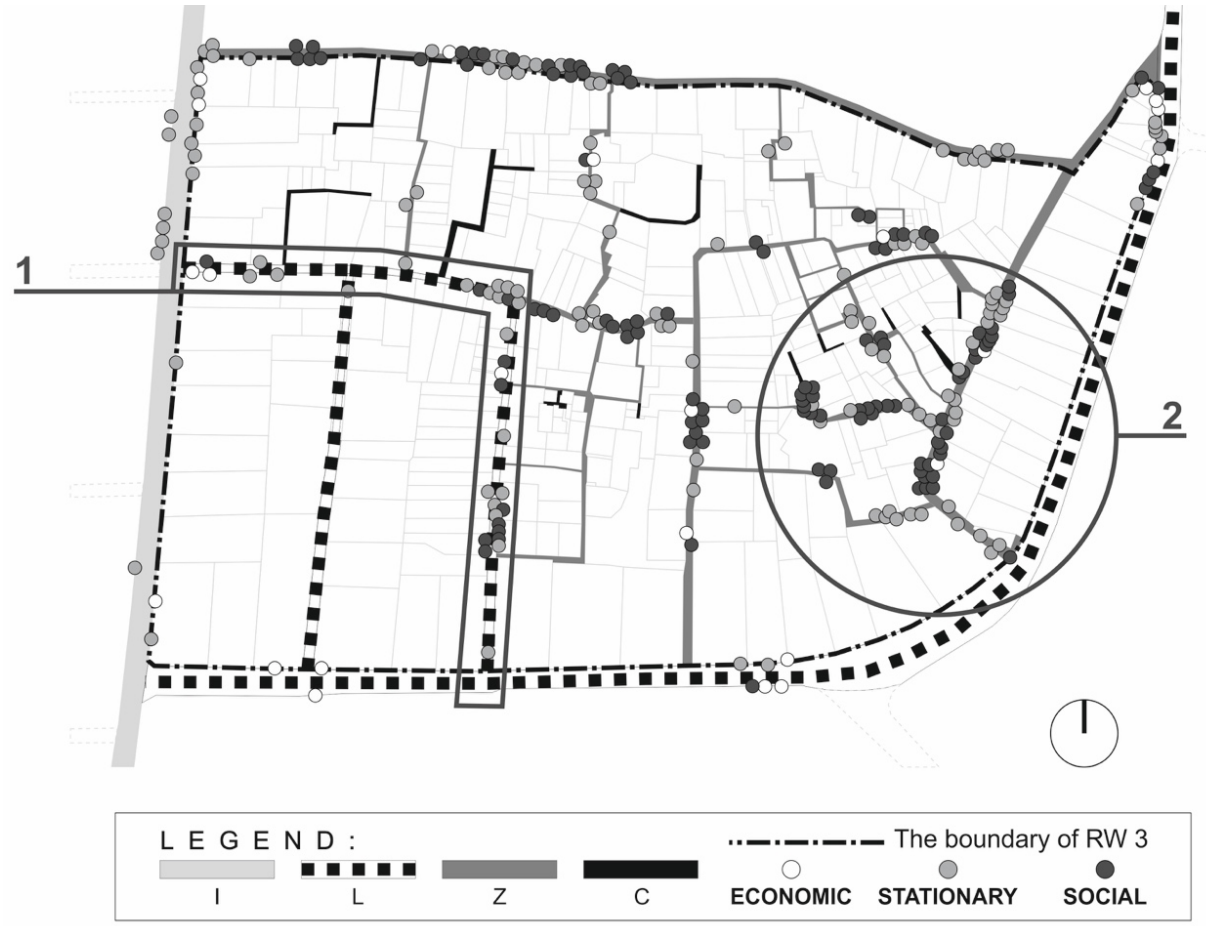


Figure 5. 21: Map showing relationship between human behavior and street typology in RW 3

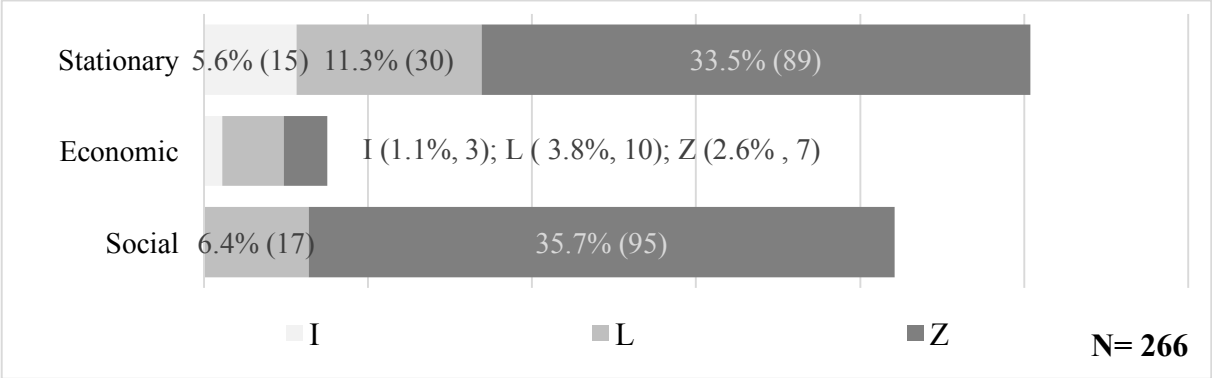


Figure 5. 22: Relationship between human behavior and street typology in RW 3

Overall, most of activities were concentrated on the Z-type streets, while cul-de-sacs can be judged as inactive spaces since there was no activity there. Apart from the width of streets and alleys that was the main factor, the existence of sitting places, small-scale shops selling snacks, stalls, and plants were also contributing factors to their wide use and attractiveness to local residents in RW 3. In order to shed a light on how these factors influenced the human behavior activities, this research then provided two detailed maps based on the typology of

space and their openness to public use. Specifically, L and Z typologies which simultaneously provided environmental conditions for public open uses were selected.

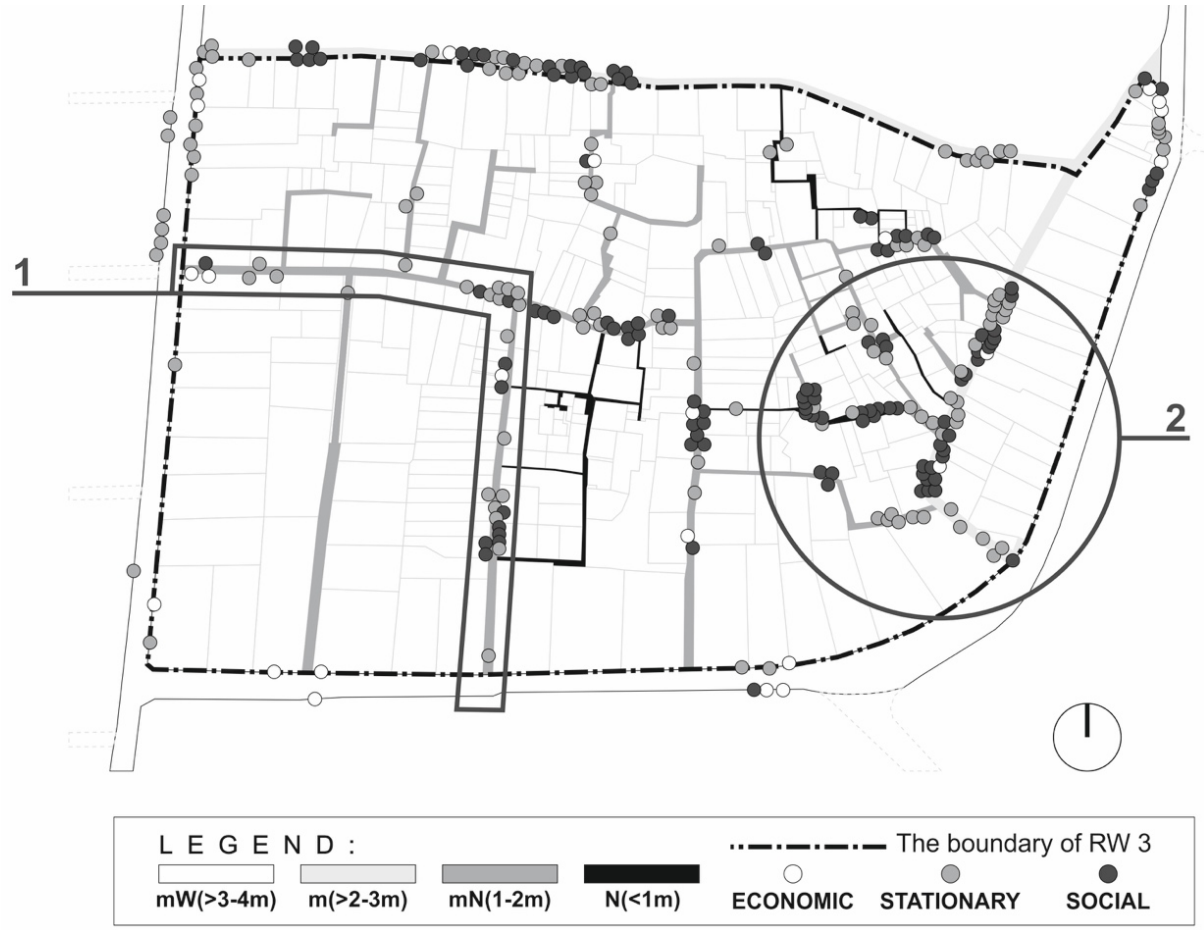


Figure 5. 23: Map showing relationship between human behavior and width of the street in RW 3

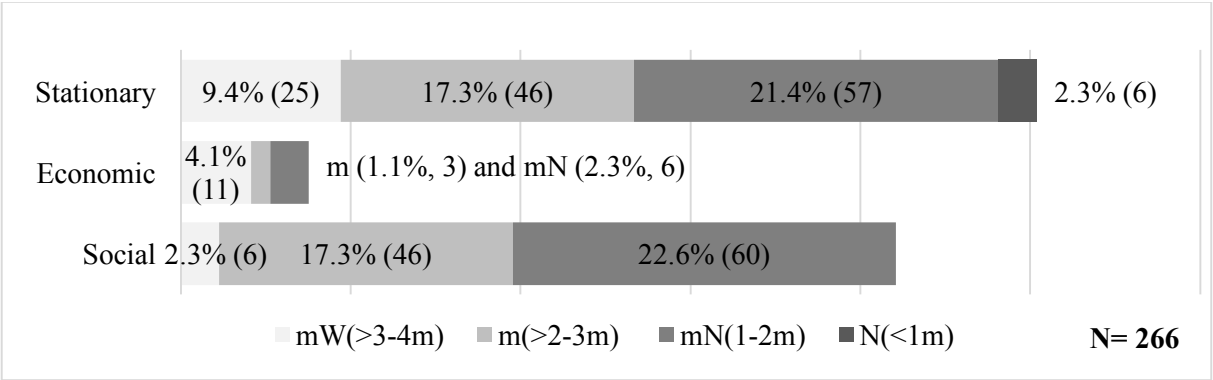


Figure 5. 24: Relationship between human behavior and width of the street in RW 3

Detail 1—Human Behavior Activities on L-type street

The identified human behavior here included chatting, eating / drinking, lingering (passing by, sitting and standing), and food vending. Thus, this area appeared diverse in terms of the behavioral activities observed. This seems to have happened due to the appropriation of space

done by local residents around this area. These practices providing seating facilities (e.g. benches) and canopies seemed to have encouraged the sociable characteristic of this space (Figure 5.25).

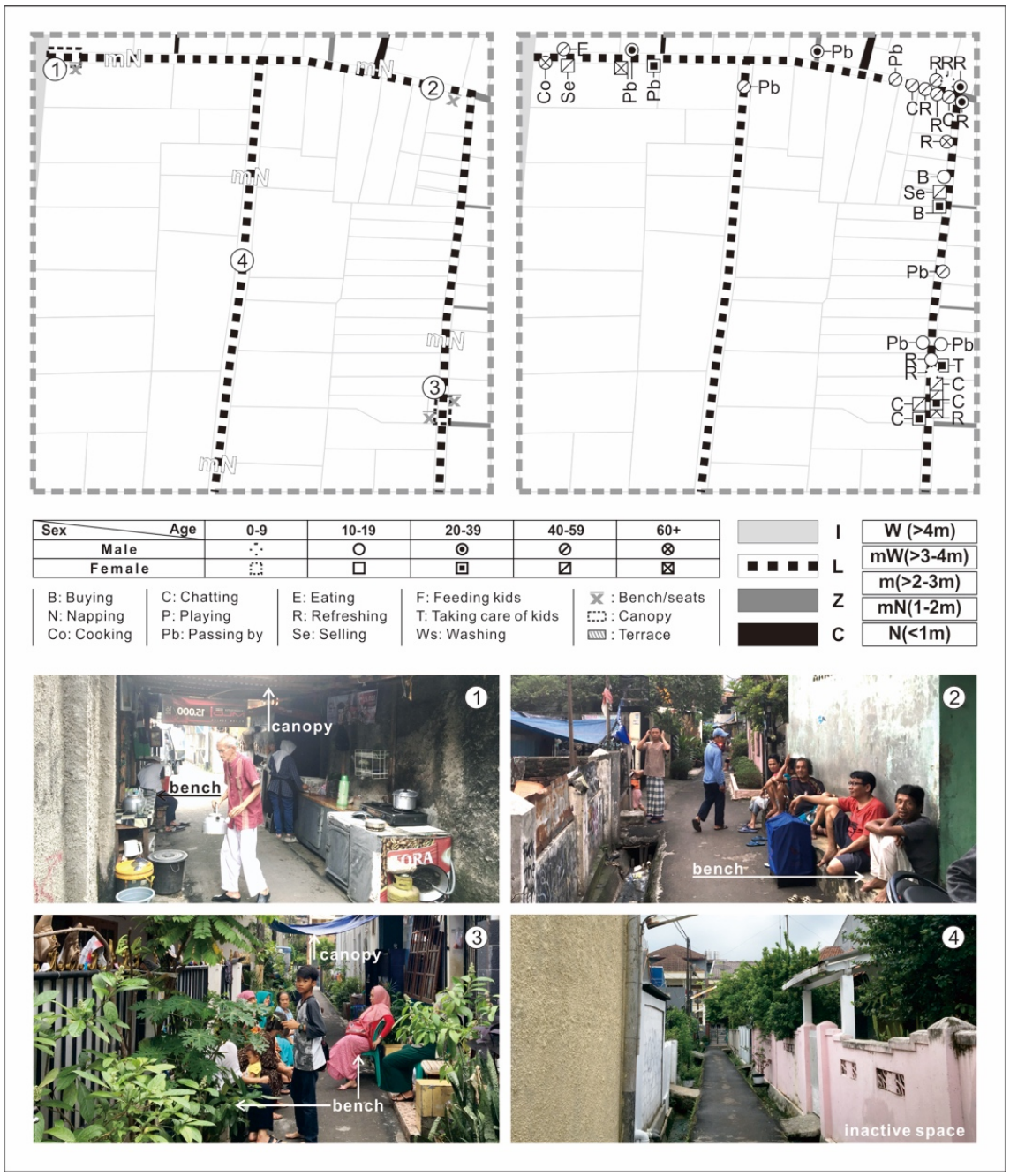


Figure 5. 25: Resident daily activities on L-type street of RW 3

Detail 2. Human Behavior Activities on Z-type street

Similar to the one discussed previously, observations of human behavior recorded activities such as playing, chatting, feeding kid(s), eating / drinking. Food vending, napping and lingering were also observed (Figure 5.26). The field observation found that local residents' actions such

as introducing permanent flowerpot, benches and speed bumps on the streets to limit vehicular movement were effective in reducing fears of traffic safety and encouraging people to gather and socialize here. Consequently, this space has become the liveliest space or a nodal point for most of residents. Perhaps, this attractive space for socializing explains the existence of several informal economic activities—notably street vending, food stalls, and mobile kids' recreation service providers in this area. In other words, informal mobile workers (food, kids service) capitalize on manifestation of human behavior to strategically locate their economic activities.

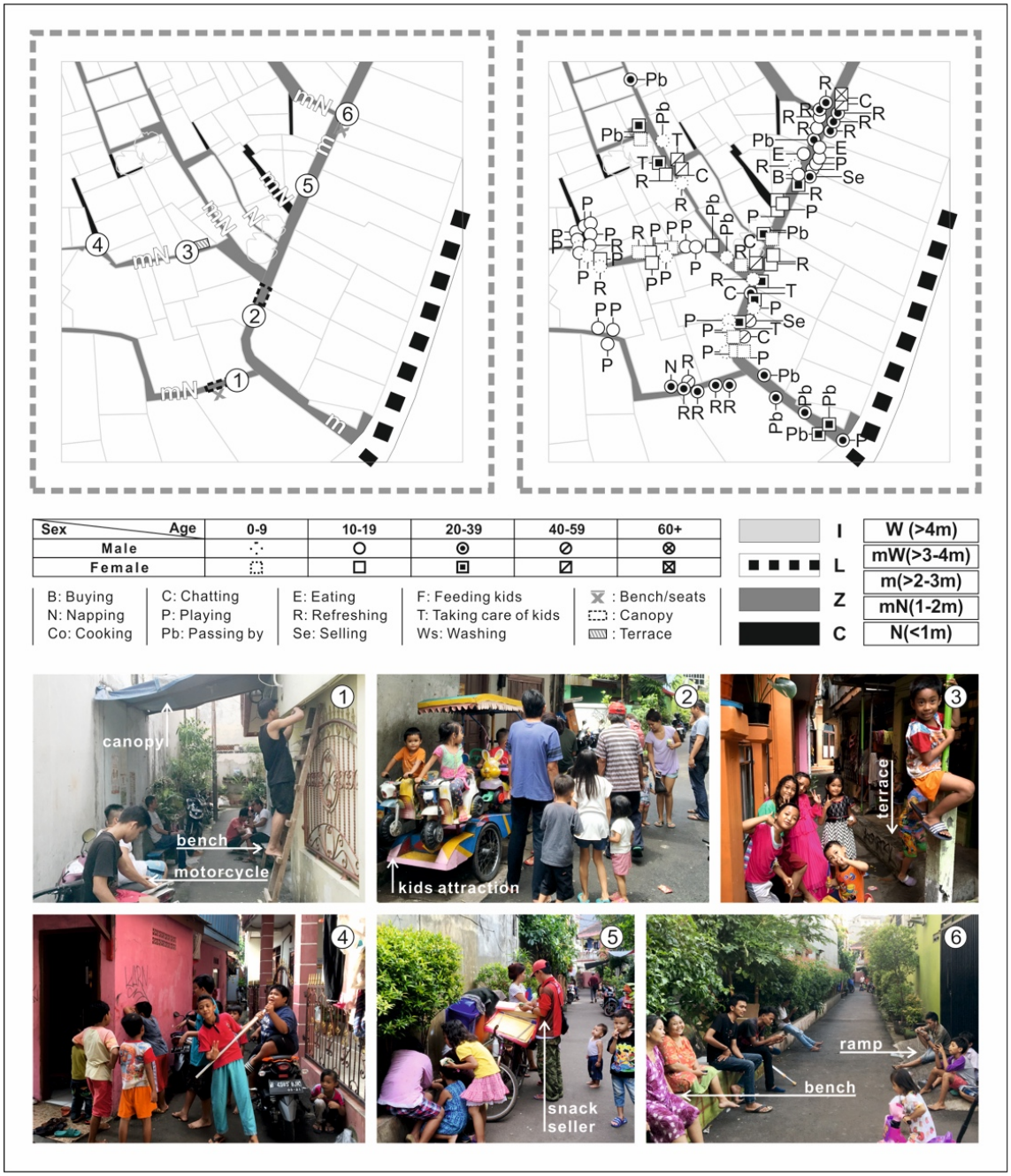


Figure 5. 26: Observed human behaviors on Z-type streets—liveliest space of RW 3

Significantly, the field observation revealed that beyond the factors earlier mentioned, one of the fundamental reasons people gather was the existence of 'free Wi-Fi' for those who possess smartphones. This was particularly interesting. In an age where smartphones are increasingly become a personal asset and internet services becoming a necessity for daily life, this result shows how telecommunication infrastructure could exert significant effects of human behavior.

5.6 Survey Results: Rukun Warga (RW) 8

5.6.1 Overview of Study Area

Another community group within Kelurahan Kebon Kacang where field survey has been organized was RW 8. Extensively, it has a total land area of about 5.12 hectares and 379 houses, a mosque, five prayer rooms, two schools, two multi function rooms, public toilet and traditional market (See Figure 5.27). The location of RW 8 was relatively more strategic, in economic terms, as it was the adjacent to lively business areas situated in the southern part of Kelurahan Kebon Kacang. In topographic terms, on the other hand, this community group lies in the lowest area of Kelurahan Kebon Kacang, and hence, flood prone during the heavy monsoon season. Nevertheless, the level of severity of flooding has reduced over time. In terms of geographical boundaries, it was bounded by RW 10 and RW 11 (social housing) to the North, RW 4 to the East, Thamrin City Mall and Kelurahan Kebon Melati to the South, and K.H. Mas Mansyur street to the West. Confronted with similar statistical issues of accurate and updated data, reliable population estimates were less reliable to be shown here.

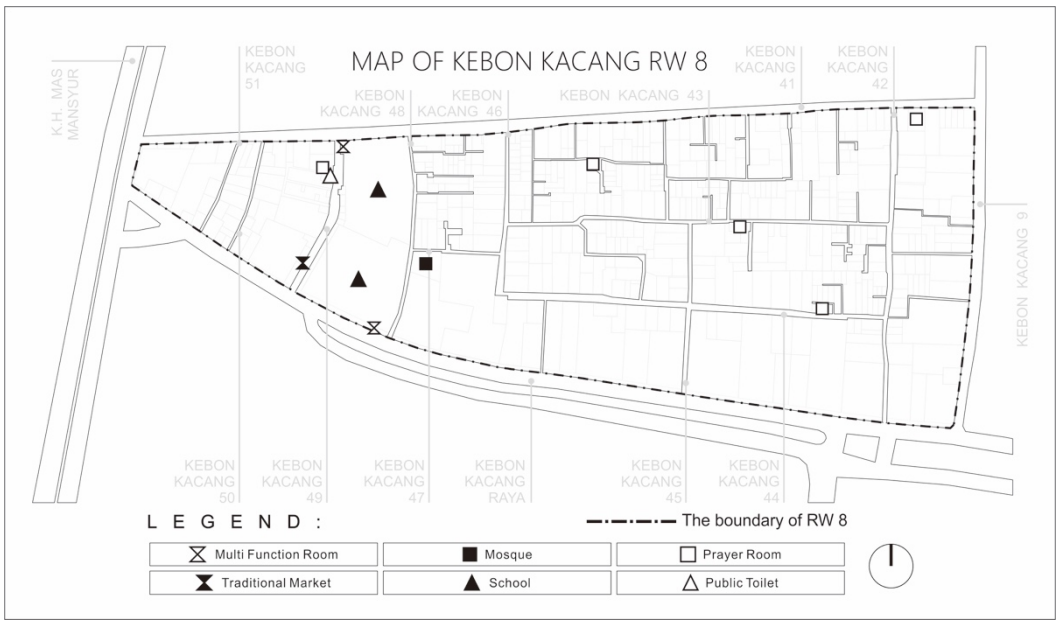


Figure 5. 27: Common facilities exist in RW 8

5.6.2 Profile of Respondents

In this community group of RW 8 consisting of 15 RTs / neighborhood units, the study involved 75 interviewees in total—24 men and 51 women within the age cohort of 27-74 years. In connection with the place of origin, the field survey showed that 54.7 percent (41 respondents) of interviewees were from the Jakarta region, while 33.3 percent (25 respondents) came from other cities within Java Island and the rest 12 percent (9 respondents) were from other Islands. Thus, close to half of respondents could be considered internal migrants outside of the Jakarta region. The area appears to have a strong allure for migrants from other parts of the Java Island perhaps because of the opportunities for and benefitting from the business and commercial center around.

Regarding length of stay of the residents, the study revealed that generally the period of residence was higher as 41.3 percent of respondents have been living in the area for more than 40 years. While, only 14.6 percent have been residing in the area for 10 years or less. Similarly, 81.4 percent of respondents were house owners while 18.6 percent were tenants (See Table 5.5). The same reasons as explained in RW 3 accounts for the situation here.

Table 5. 5: Duration of living and property ownership in RW 8

RW 8	Owner		Tenant	
	Number	Percentage (%)	Number	Percentage (%)
0-10 years	4	5.3	7	9.3
11-20 years	9	12	0	0
21-30 years	11	14.7	0	0
31-40 years	11	14.7	2	2.7
> 40 years	26	34.7	5	6.6
Total	61	81.4	14	18.6

With respect to collected data about educational background, there were only 14.6 percent of the respondents had a tertiary education, whereas, 40 percent of them finished Senior High School level. The rest (45.4 percent) had achieved basic education, which was up to Junior High School level in Indonesia. The lack of educational qualification and skills, perhaps explains the predominance of informal occupation (54.6 percent). In addition to this were housewives (26.7 percent), private employees (10.7 percent), and retirees (8 percent) (See Figure 5.28).

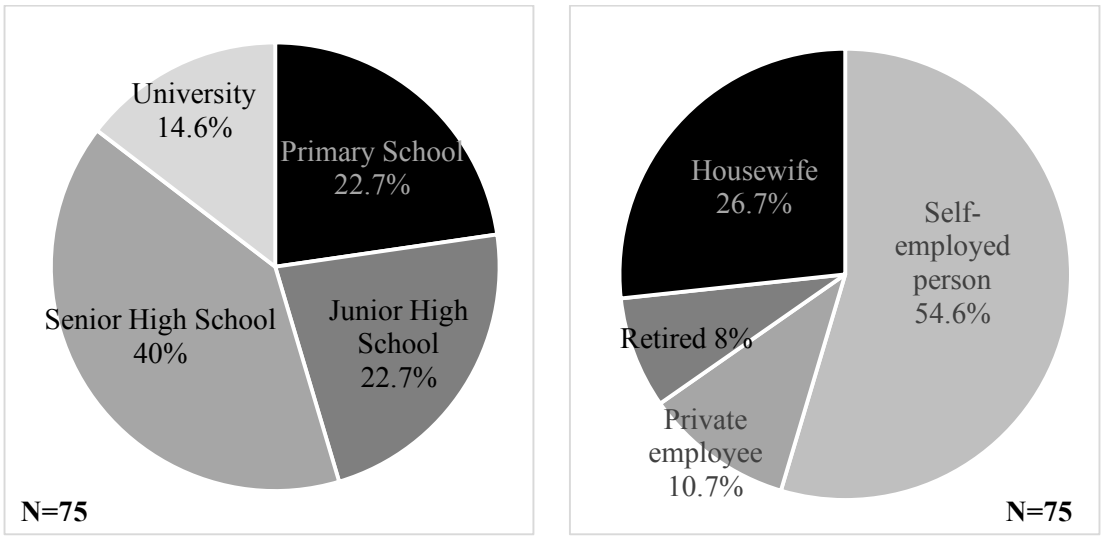


Figure 5. 28: Educational background of respondents (left) and the profession of interviewee (right)

5.6.3 Housing and Land Tenure

The housing typology here was similar to RW 3, where most houses were detached and single-story, except for business oriented buildings which were usually two or three stories. In terms of physical appearance of houses, the field observation revealed that accessibility was a crucial factor, where houses located along strategic streets usually have a better condition. According to interviewed residents of RW 8, almost all residents except tenants have renovated their houses at least once for several reasons and motivation. One of them was to upgrade their house condition from semi permanent to permanent by inserting more durable building materials. The other causative factors were related to deteriorating condition of their houses, disasters such as flooding or fire and also business interests.

The proximity to the commercial and business area of Central Jakarta, makes it attractive to those seeking to benefit from the informal economy and obtain access to cheap and affordable products and services. The same applies to informal accommodation and the kampung presence in this area. In other words, by virtue of its location, informal economic activities were pervasive in this study area. The opportunities to involve in this informal economy have encouraged lots of residents modify their houses for business purposes. Specifically, there were more than half of respondents (54.7 percent) indicated the use of residential accommodations for informal enterprises. In detail, 13 residents (17.4 percent) adjusted their space for mixed-use activities, and 11 people (14.7 percent) for home-based enterprises. Some of the interviewed residents (13.2 percent) also utilized free spaces around their houses for small-scale shops and grocery stores such as snacks, groceries, cooking

materials, and among others to their neighbors both native and newcomers. In addition, informal services (9.3 percent) such as tailoring, game center and printing existed in RW 8. It is noteworthy that these services were utilized by residents both within and outside the study area.

The pervasive nature of informal activity and the potential income generating advantages did not, however, prevent residents (22.6 percent) interest in selling their property to speculators and investors. This situation was attributable to the family inheritance system where property has to be divided among all testators. Congruently, there was a growing incidence of land speculation in the study area where potential investors or individuals seek to cash in on cheap land for investment purposes. This situation poses a potential threat to the kampung for two reasons. First, the price at which interviewed residents are willing to sell their property is inadequate to enable them to purchase a quality house in another part of the city. Without sustainable incomes, this could lead to the consolidation of slumming conditions in other areas. Second, land speculation could tempt residents to become individualized, lose their social and communal bonding and eventually erode the socio-cultural relevance of urban life in kampung.

In connection with land tenure, two-thirds of interviewed residents (66.7 percent) claimed land acquisition based on family inheritance. Land purchase and rent represented 14.7 percent (11 respondents) and 18.7 percent (14 respondents) respectively. Similar to RW 3, land title was largely in the form land tribal right or 'hak girik' (50.7 percent), followed by freehold title (24 percent), and building right title (6.7 percent). Here too, about 18.6 percent of interviewees had no information on the land status, presumably because they were tenants.

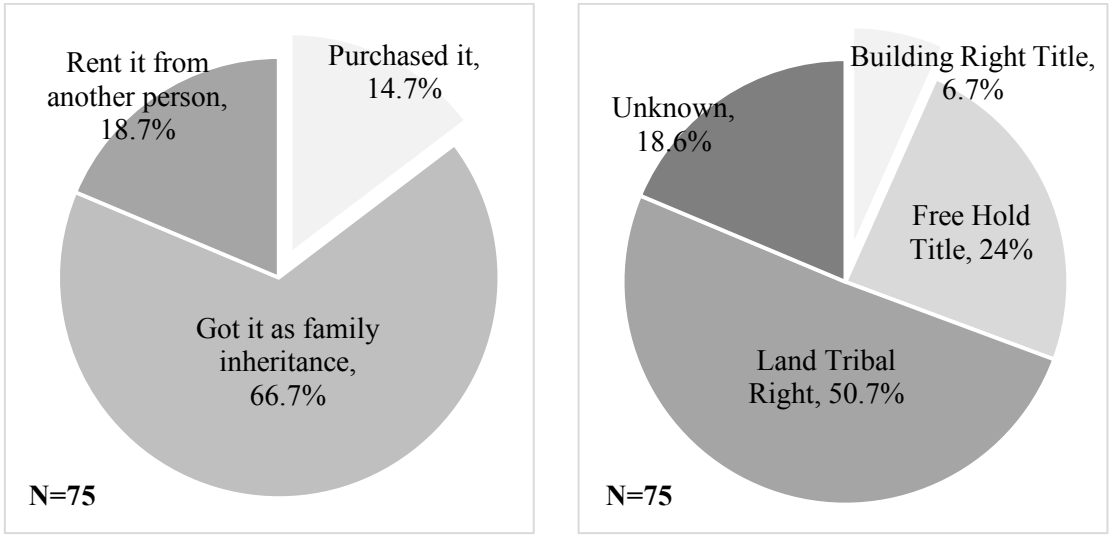


Figure 5. 29: Land tenure acquisition (left) and land title deed (right)

5.6.4 Spatial Structure: Network, Hierarchy and Typology

Road Network

The physical distribution of road networks shows a stronger physical accessibility in community group of RW 8. The bordering networks such as arterial roads, main street and local roads were usually dense with traffic. It was unsurprising, therefore, to observe the concentration of informal activities along these roads. The roads directly connect this community group to commercial areas to the South, other community groups to the North and East, and another urban village to the West. Even though, RW 8 was well served with well distributed networks in terms of physical accessibility, it was noticeable that the lack of sidewalks which always bother on pedestrian safety was also a serious problem here. The existence of kiosks, food stalls and illegal parking in the borderline of RW 8 has reduced the right of way, thereby worsening the traffic situation (Figure 5.30).

Figure 5. 30: The existence of kiosks, food stalls and illegal parking in RW 8

Hierarchy

Here, spatial network of roads including streets and alleys was categorized into a 7-level hierarchy of roads (See Figure 5.31 and Table 5.6). The first was an arterial road linking Kelurahan Kebon Kacang to other kelurahans, sub-districts, or other parts of Jakarta and acting as the widest and densest road within RW 8. There was also Kebon Kacang Raya, which plays an important role as a connector between the arterial road and local road I and also a separator between settlement and commercial areas such as shopping malls and offices. The third was local road I that links directly Kebon Kacang Raya to the Northern part of Kelurahan Kebon Kacang and also the settlement to the most of community groups (e.g. RW 2, RW 3, RW 4, RW 5, and RW 11). Besides, there were local road II and neighborhood connectors which were respectively in the fourth and fifth levels of the network hierarchy. Essentially, local road II links the arterial road to the local road I and also separates the settlement of RW 8 from social

housing of RW 10 and RW 11, whereas neighborhood connectors link Kebon Kacang Raya to local road II and help inhabitants access into the area of RW 8. As mentioned in RW 3, historically these neighborhoods connectors were only available type of road network inside the community group.

Last but not least, alleys and cul-de-sacs which emerged organically were in the sixth and seventh level of the network hierarchy. They were helpful for the inhabitants in reaching their isolated slot of houses. The alleys spontaneous link with any other to the other hierarchies depending on location, whereas, cul-de-sacs primarily connect to several individual houses.

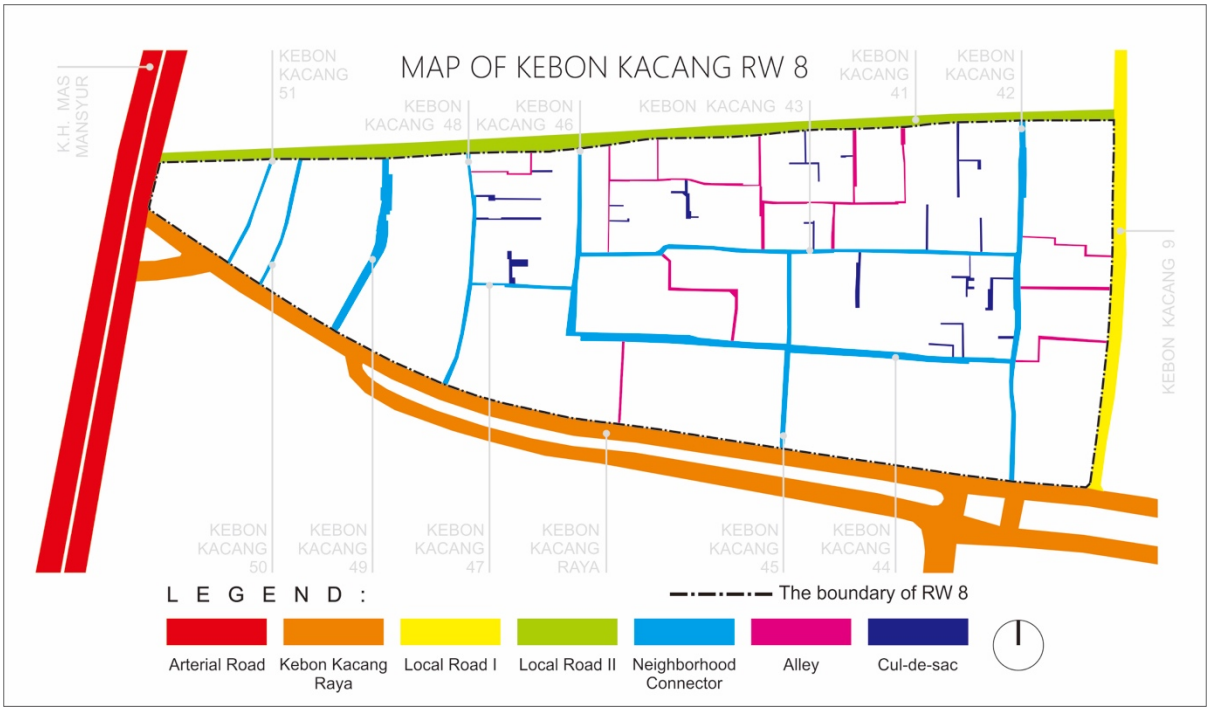


Figure 5. 31: Map of road hierarchy of RW 8

Table 5. 6: Explanation of hierarchy of spatial network of roads in RW 8

CLASSIFICATION	DEFINITION
1. Arterial Road	Links Kelurahan Kebon Kacang to other parts of Jakarta (Kelurahan, Sub-district, etc.).
2. Kebon Kacang Raya	Serves as a link between the Arterial Road (1) & Local Road I (3).
3. Local Road I	Connects Kebon Kacang Raya (2) to the Northern part of Kebon Kacang and other community groups.
4. Local Road II	Links the Arterial Road (1) to the Local Road I (3). Its function is as a separator among RW 8, RW 10 and RW 11.

5. Neighborhood Connectors	Connect the Kebon Kacang Raya (2) and the Local Road II (4). It helps residents access into the area of RW 8.
6. Alleys	Spontaneous link Kebon Kacang Raya to local access roads (3, 4, 5) and houses.
7. Cul-de-sacs	Connect to residential units or isolated houses.

The prospect of business investment and income generation has meant there was a gradual reduction in residential use along the higher hierarchy roads. Based on observation in this study area, total number of houses located along the higher hierarchy roads (e.g. Kebon Kacang Raya, local road I, and II) has decreased steeply (Figure 5.32). In other words, it has changed become a commercial function. However, several houses which still exists in the higher hierarchy roads have better conditions in terms of physical appearance since they have been modified to accommodate business interests.

Figure 5. 32: The on-going transformation of residential units into commercial uses

Typology

Typology, as part of spatial analysis, was considered based on the physical form of the various networks in RW 8. The study categorized this typology into five sections (Table 5.7 and Figure 5.33). The most open street was represented by 'M' type (linking this settlement to other parts of Jakarta), where the arterial road, Kebon Kacang Raya were representative of this type. The traffic load of these roads was high, that was why many economic activities were mushrooming along these roads. There was also 'I' type (straight line) as shown by local road I and II. It was a more open street linking Kebon Kacang Raya to the Northern part of

Kelurahan Kebon Kacang or other community groups and also arterial road to local road I. Besides, another type was 'L' type street passing through the block and characterized as an open street. It was represented by neighborhood connectors and several alleys. Conversely, closed street labelled as 'Z' type has a meandering shape. It was represented mostly by alleys. Then, the most closed / isolated street was marked by 'C' type where its character was irregular. It connects to several isolated houses.

Table 5. 7: Typology of spatial network of road in RW 8

TYPE	DEFINITION	HIERARCHY
M	a main street connecting the settlement to other parts of Jakarta (Kelurahan, Sub-district, etc.) and acting as the most open street	1, 2
I	a street connected to main street in a straight line and more open	3, 4
L	a street passing through the block in a L-shape and open	5, 6
Z	a meandering street passing the block and closed	5, 6
C	Cul-de-sac and most closed	7

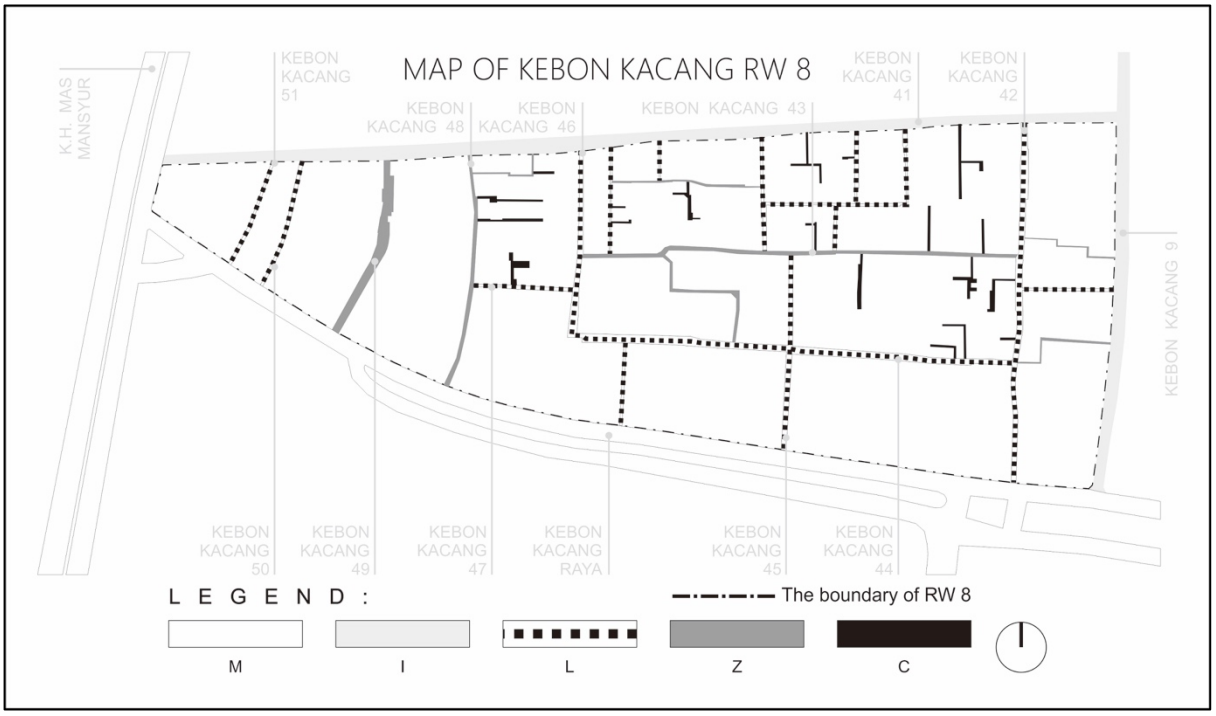


Figure 5. 33: Map showing typology of each street and alley

5.6.5 Relationship between House Condition and Street Typology

Through this section, the study based on observation of 75 houses and street mapping explained how the street typology affects the house condition. Accordingly, an illustration to help understanding the relationship between them was presented in Figure 5.34. Here, we found similar results as that of RW 3. Specifically, M and I-type have a lower proportion of houses in very bad condition as compared to Z and C-type. For example, only 1 house (1.3 percent) along I-type street was in very bad condition, whereas Z-type has as much as 10 houses (13.3 percent). In other words, a similar trend existed here in terms of poor housing conditions along narrow streets (Figure 5.36 and 5.37). Here again, the two main factors of limited accessibility for transporting building materials and residents' low incomes explain the situation.

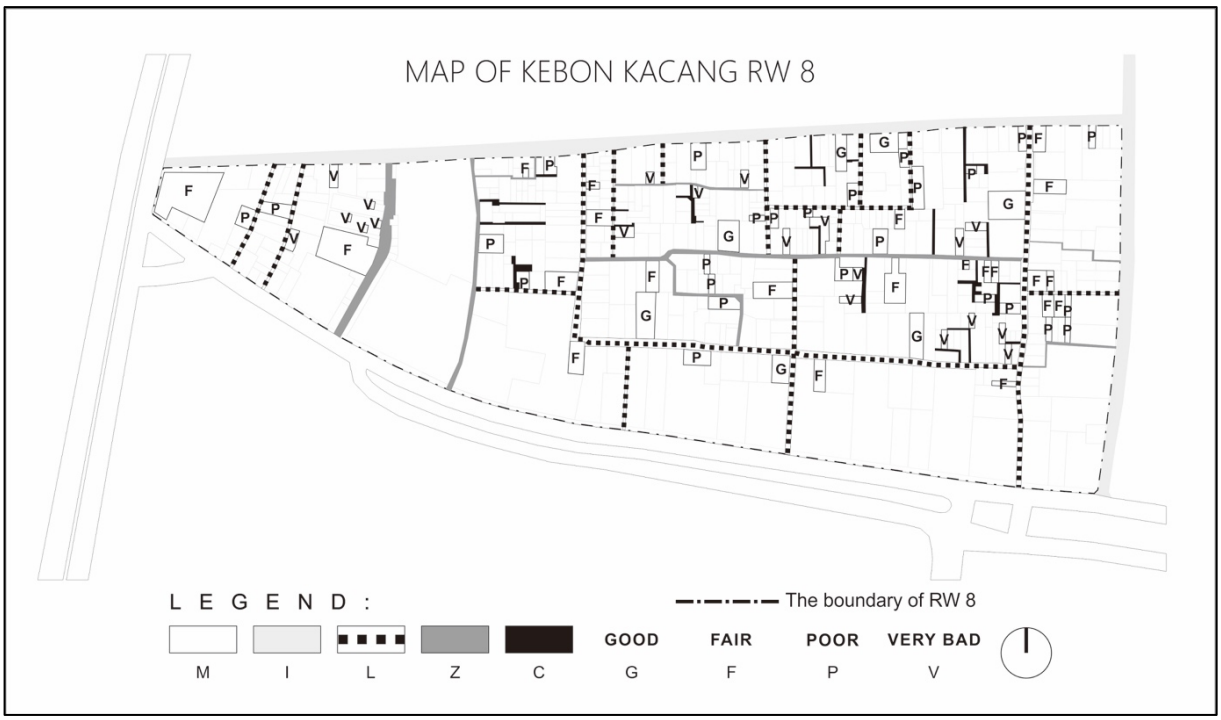


Figure 5. 34: Map showing relationship between house condition and street typology in RW 8

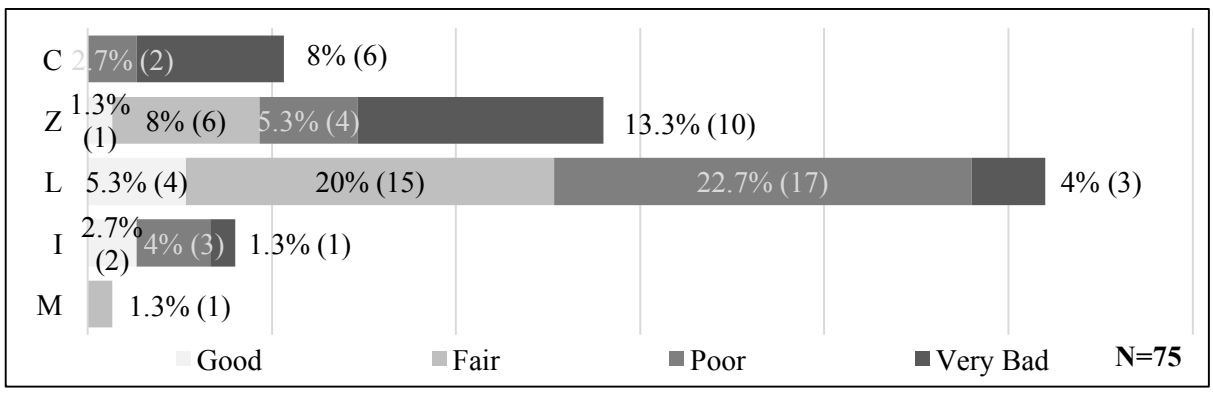


Figure 5. 35: Relationship between house condition and street typology in RW 8

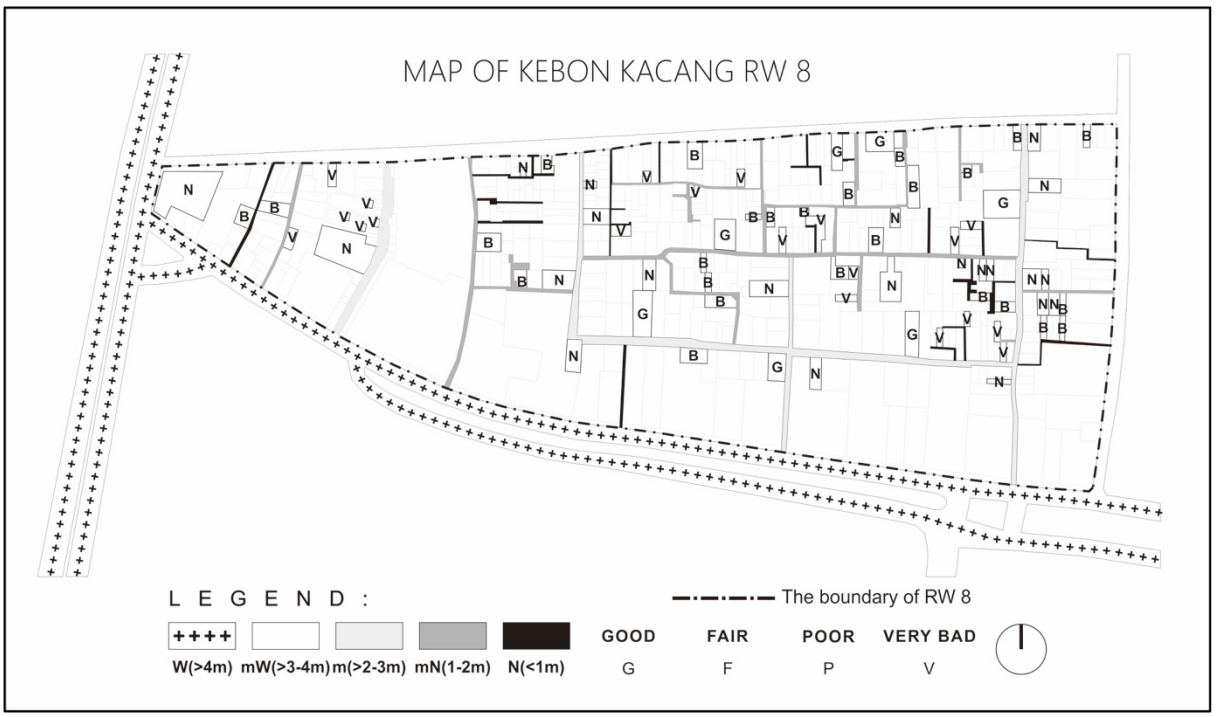


Figure 5. 36: Map showing relationship between house condition and width of the street in RW 8

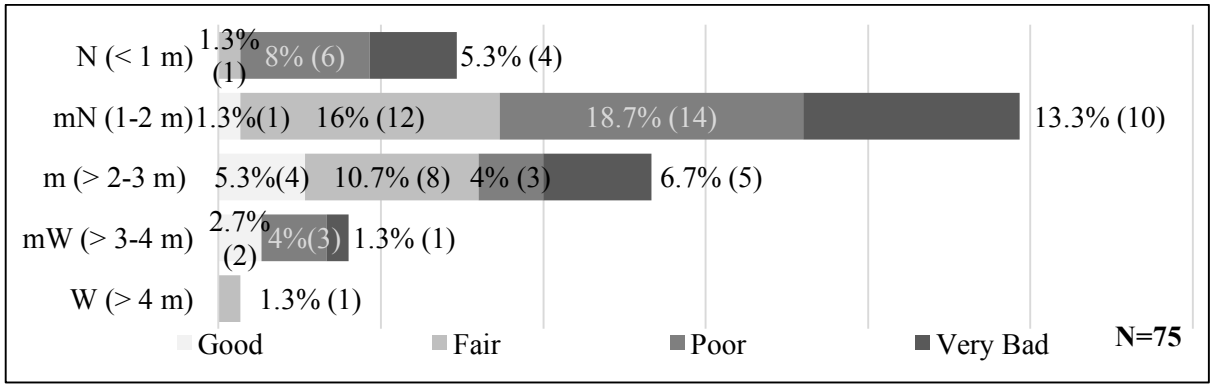


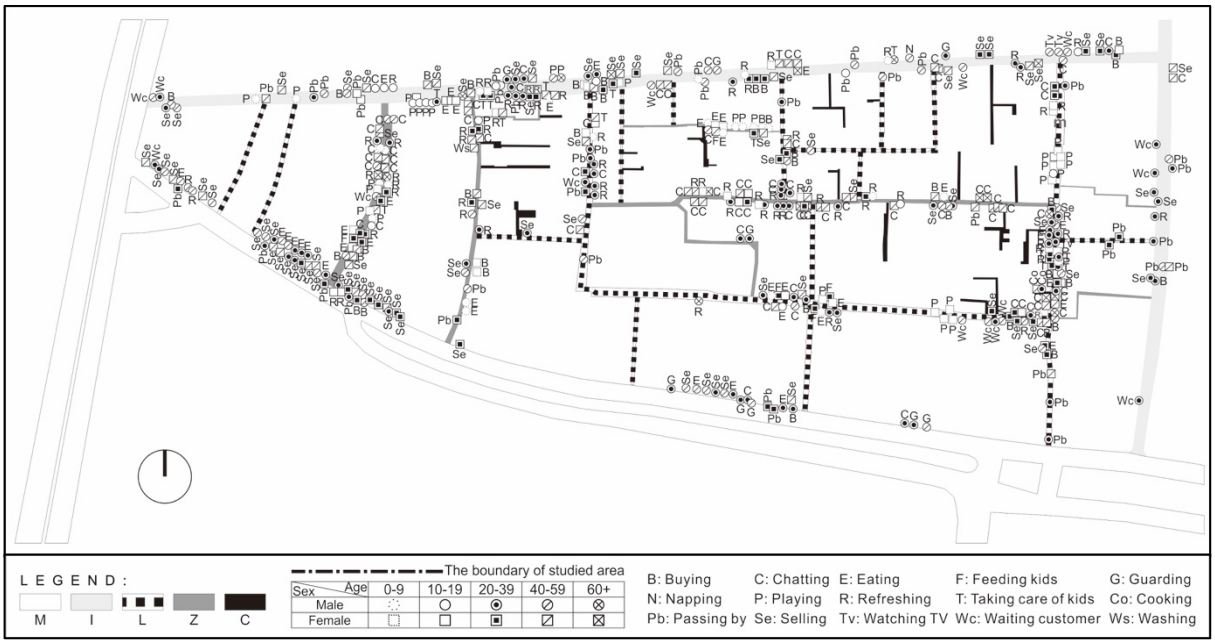
Figure 5. 37: Relationship between house condition and width of the street in RW 8

5.6.6 Human Behavior Activities

To what extent is the interactions between the spatial context and everyday life manifested in the study area? This part of the spatial analysis looks at observed human behavior in relation to physical space. It follows the same pattern of analysis that discussed in RW 3. By walking around the study area and recording activities, we classified them into social, economic and stationary. Age cohorts are divided into 0-9 years (children), 10-19 years (teenagers), 20-39 years (young adults), 40-59 years (middle age) and above 60 years (elderly).

In terms of economic activities, the study found the same trend where young adults and middle age people were the main actors here. Unsurprisingly, these age groups were within the economically active and working age cohort. In detail, there were 50 people (11.7 percent)

within the age-cohort of 20-39 years and 56 people (13.1 percent) within the age-cohort of 40-59 years involved in economic activities (See Figure 5.38). According to the field survey, all age groups were involved in social activities such as chatting, gathering, playing and eating together. In general, children and teenagers made use of streets as a playground, while the others for socialization purposes. As shown in Figure 5.38, stationary activities were also mixed in terms of the diversity of age cohorts. Notwithstanding, number of young adults (20-39 years) involved in the stationary activities was more dominant than the others (53 people or 12.4 percent). During the survey, they could be seen spending their time sitting, smoking or using their phones along the street. Besides, we found that the same trend occurred in RW 3 also existed here, where only few of elderly people were hanging about on the streets.



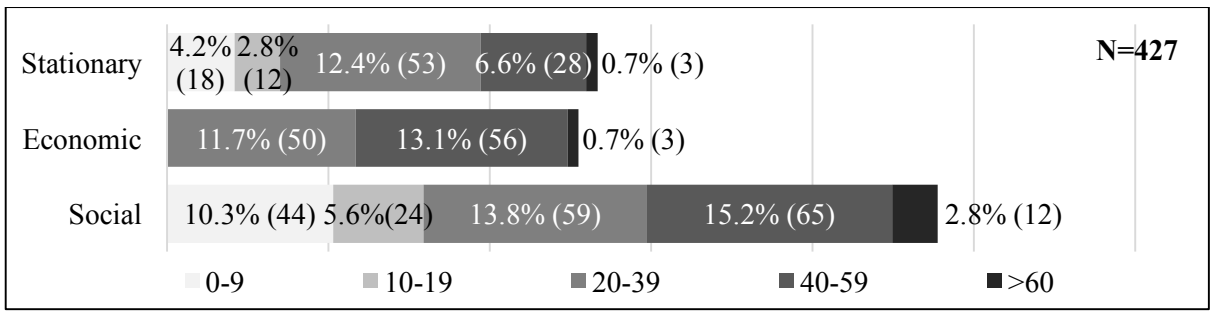


Figure 5. 38: The diversity of age cohorts involved in any kind of activities on the street in RW 8

Following the discussion of human behavior activities and its relationship with age cohorts, the study wanted to comprehend the correlation between the human activity and the typology of the street. It relates to what kind of activities happened on which type of the street and the reasons behind it. In RW 8, we found that economic activities were concentrated along M, I,

L, and Z-type streets (Figure 5.39). For instance, comparatively, M-type street has 39 people (9.1 percent) while Z-type has 11 people (2.6 percent) involved in economic activities. As shown in Figure 5.41, the proportion of economic activities declines as the street narrows. It was perhaps due to there is no enough space for selling items.

The field survey revealed that social activities were predominant along I, L, Z-type streets. Thus, L and Z-type streets were the most sociable streets in RW 3 and RW 8. This suggests that typology of the street was important for social activities in both study areas. Observations during the survey indicated that this situation was due to local residents' appropriation or privatization of the street space. Due to the low traffic on these streets, residents have put benches and tables where they frequently gather to chat and socialize among themselves. In terms of stationary activities, the study found that these activities were common in I, L, and Z-type streets for both studied areas. This was due to the amenities along these streets such as benches, tables, canopies, and trees.

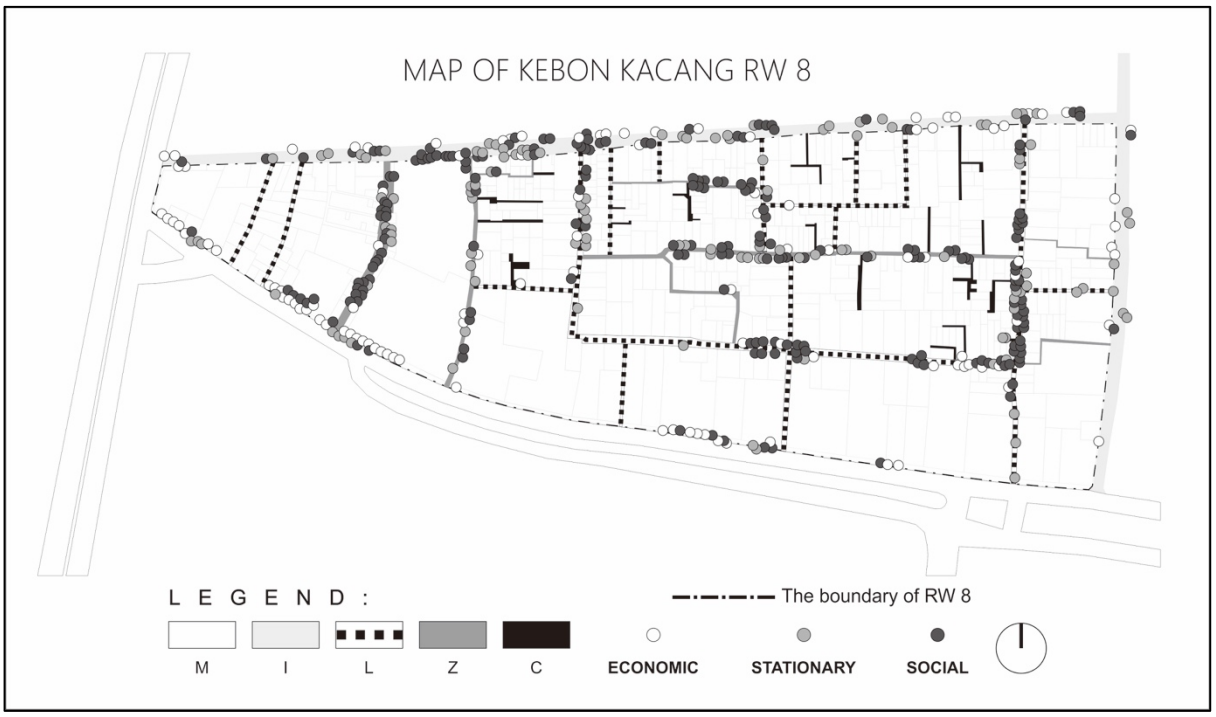


Figure 5. 39: Map showing relationship between human behavior and street typology in RW 8

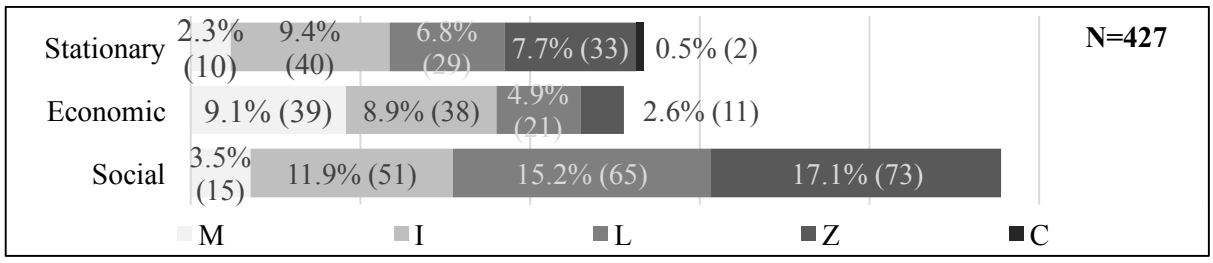


Figure 5. 40: Relationship between human behavior and street typology in RW 8

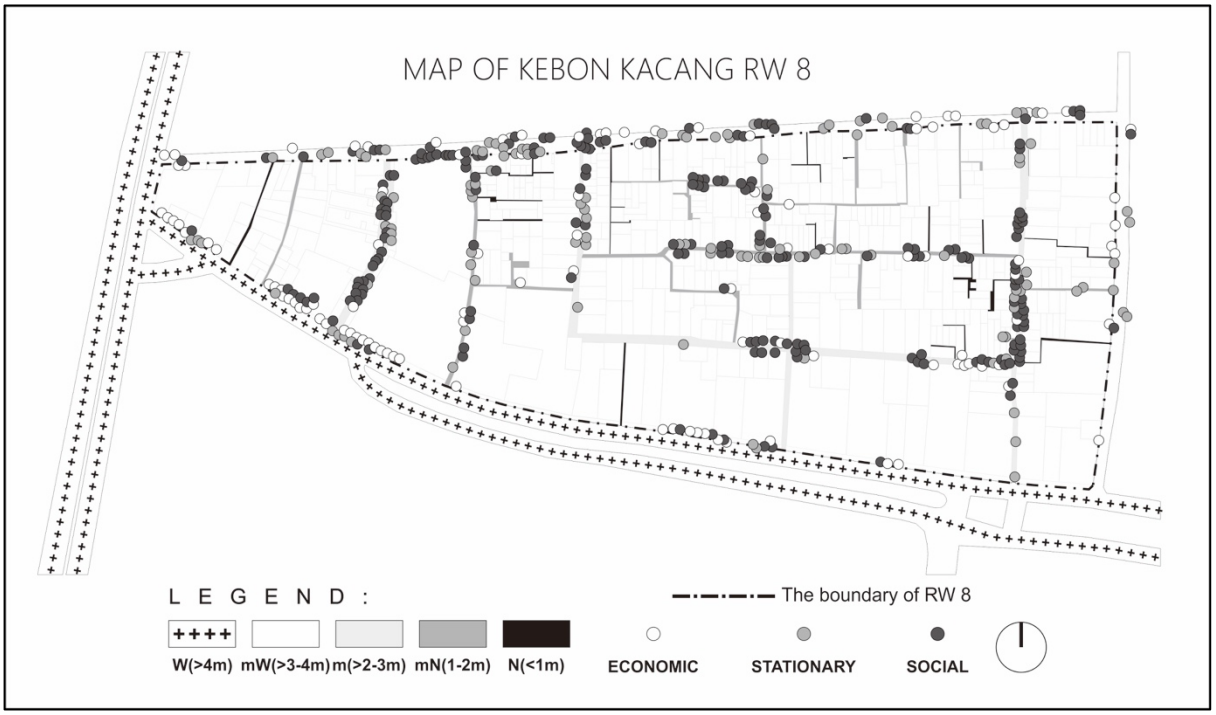


Figure 5. 41: Map showing relationship between human behavior and width of street in RW 8

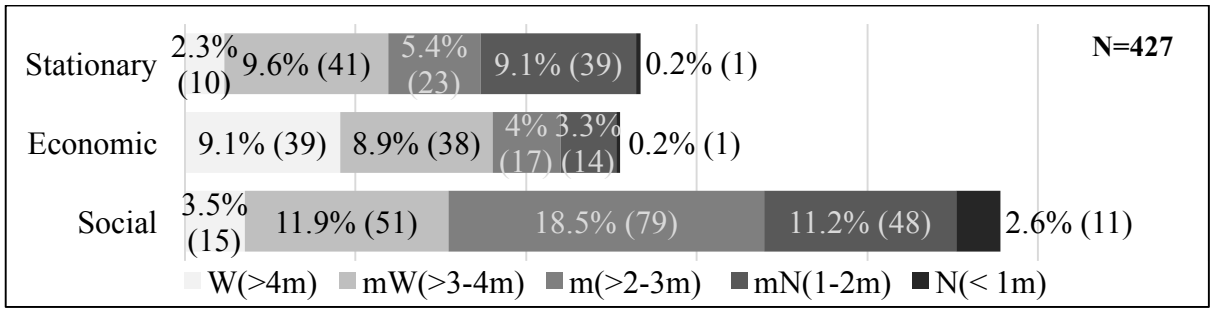


Figure 5. 42: Relationship between human behavior and width of the street in RW 8

As stated before that there were other factors apart from the width of the streets that contribute to attractiveness of a street space. Therefore, through this section, this study tried to explain on how these contributing factors—sitting places, small-scale shops and plants could influence the human behavior activities. Here, I, L, and Z-type streets in which most of activities were concentrated on were selected to analyze human behavior. These were selected as they are open to public use and offer diversity in physical distribution and function for informed analysis.

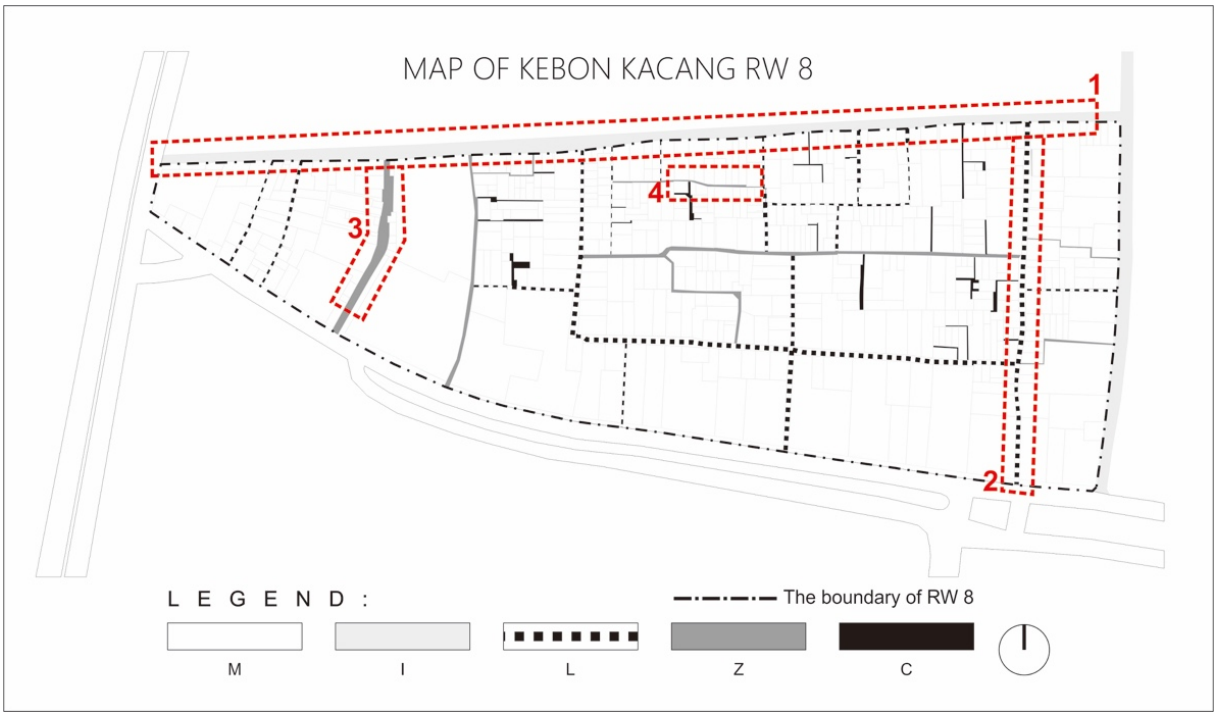


Figure 5. 43: Map of observed spaces in RW 8

Detail 1. Human Behavior Activities on I-type street—Kebon Kacang 41

This was the longest and widest open space in this group where 14 junctions were directly connected to this street and one of the most strategic locations for economic and commercial activities due to the dense human traffic. The observations revealed that this open space was utilized for various activities such as chatting, playing, taking care of kid(s), feeding kid(s), eating / drinking (social), selling, and loading, lingering and stationary activities (Figure 5.44).

Street vending (food vending) and illegal parking activities were some of the economically oriented human behaviors observed. Informal economic activities marked by the existence of kiosks, food stalls and illegal parking in this space often take roadside or even a part of the street, so that the road and traffic became narrow and slow. To address safety concerns and the social use of this space, residents created speed bumps on the street as to regulate vehicular movement and foster the social and economic use of the space. Moreover, trees along Kebon Kacang 41 were another attraction for many people to socialize as provides shading and suitable physical environment for behaviors such as siting, chatting, or selling. This kind of interventions encourage social behavioral activities and deepen bonds in the community.

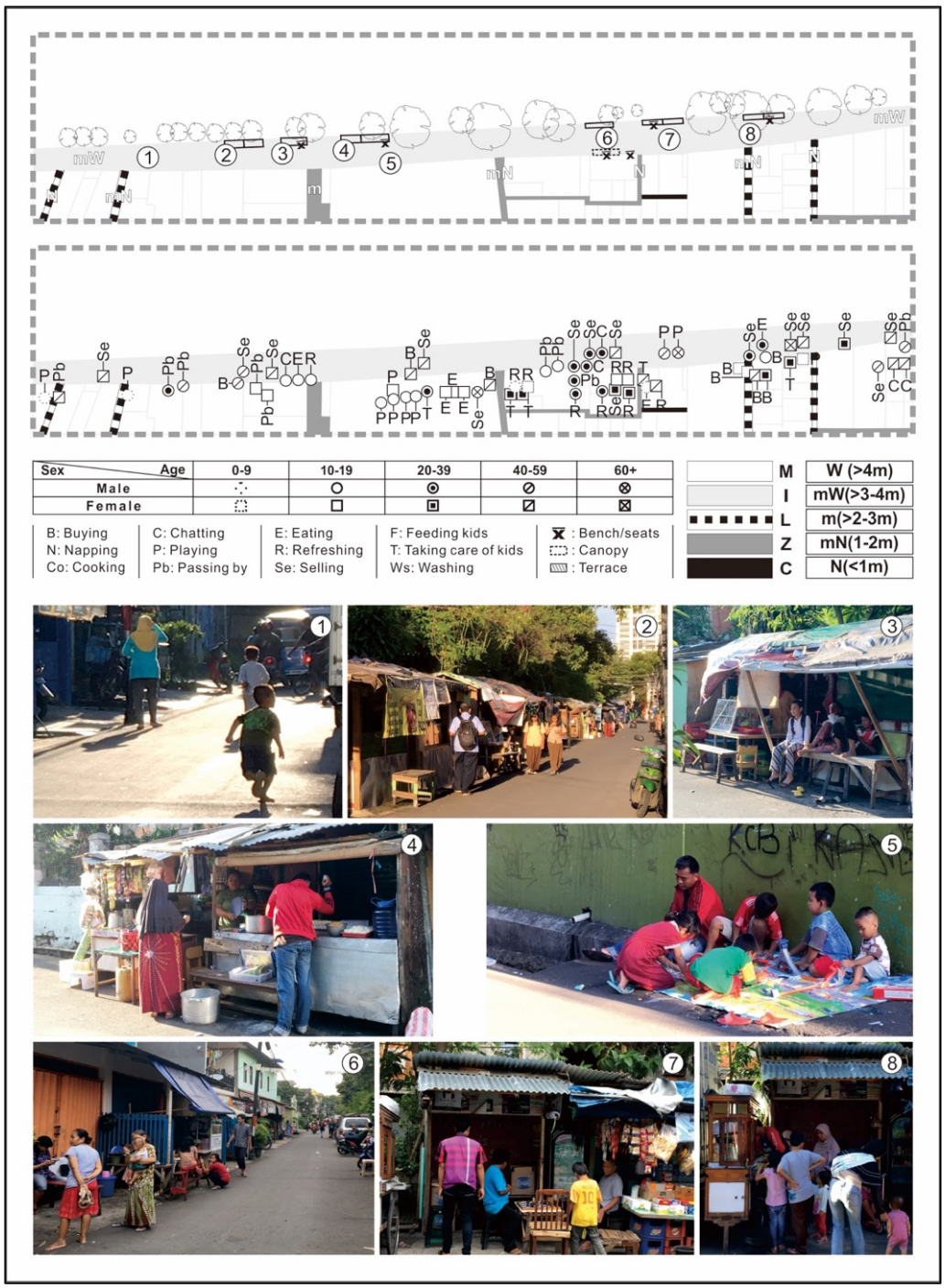


Figure 5. 44: Observed human behavior on I-type street of RW 8

Detail 2. Human Behavior Activities on L-type street—Kebon Kacang 42

Originally, this section was a street space intended to be a channel for movement or passage. However, the field survey revealed that most part of this space—exactly between Kebon Kacang 43 and 44—has been taken over by the residents living along this street to the extent that it cannot no longer support movement. By putting tables and benches on the street for social and economic reasons and coupled with the presence of street vendors and parking

lots have reduced traffic flow. The space has therefore become a social space with recorded activities such as chatting, eating / drinking, playing, and taking care of kid(s). Food vending and TV watching were also identified. The situation of residents' appropriation of space, in the sense of modifying street space to meet private needs was present here—a sort of semi-privatization of space. Moreover, economic (selling), lingering (passing by), and stationary activities (sitting and watching TV) also found here (Fig. 5.45).

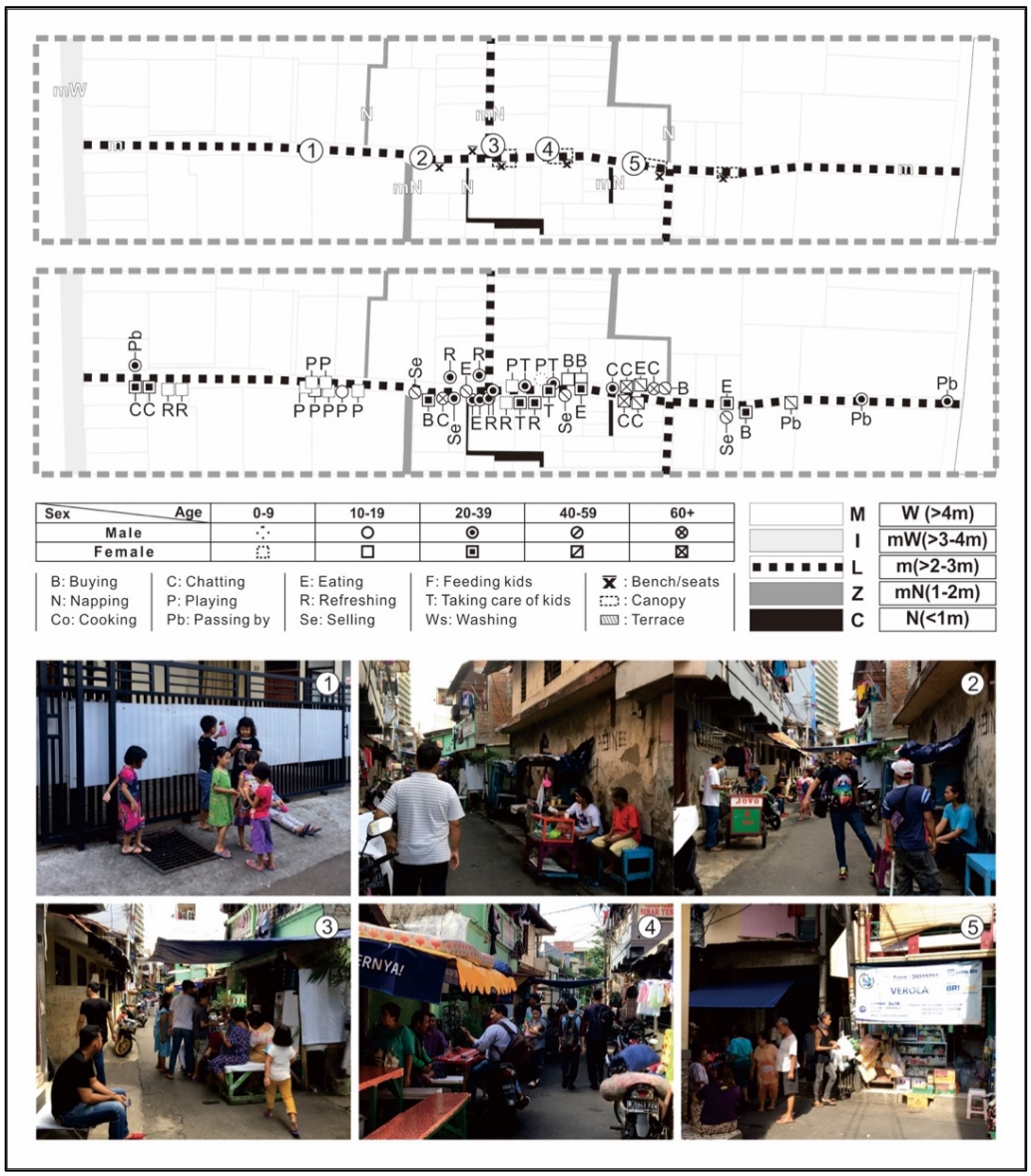


Figure 5. 45: Observed human behavior on L-type street of RW 8

Detail 3. Human Behavior Activities on Z-type street—Kebon Kacang 49

About quarter of this space was used as a traditional market, organized mainly by people living along this street. The Northern part of this street was utilized as motorcycles' parking lots. Located along the street were rental housing units and temporary structures. The use of

street space for their domestic activities such as cooking, washing or drying clothes were observed during the survey. This situation was explained by the lack of or inadequate space inside the house for domestic activities. Moreover, the presence of substandard, rental housing units and temporary structures without basic housing facilities such as kitchen and washing space further compound the problem. It pointed to the process of gradual semi-privatization of street spaces as an effort to meet basic housing needs. Subsequently, the right of way for human traffic has reduced as residents have deposited their belongings along the street.

Additional observations of human behavior also included activities such as playing, chatting, taking care of kid(s), feeding kid(s), eating or drinking, and sitting, whereas food vending and lingering were also observed (Figure 5.46). Moreover, the survey found that activities happened in the traditional market were not solely economic activities but also social activities (chatting and gathering) since those selling at the traditional market also reside in nearby the rental housing units and temporary structure.

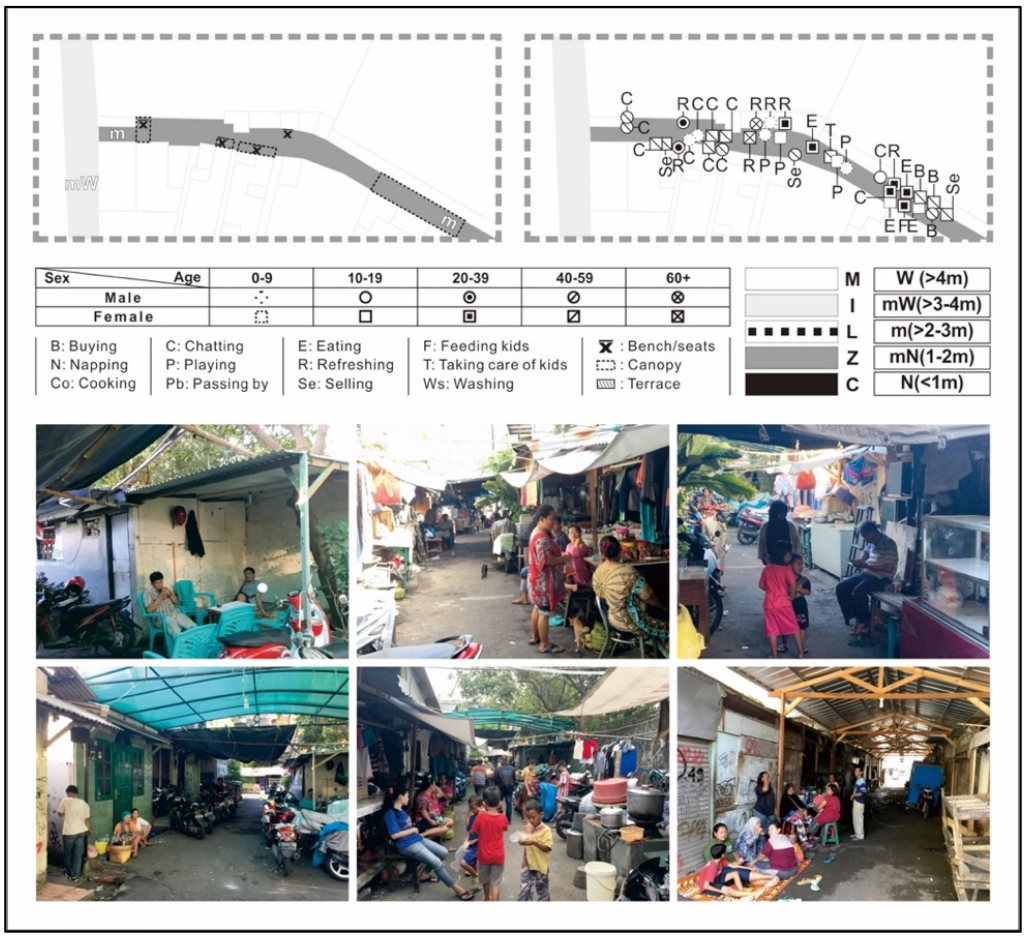


Figure 5. 46: Observed human behavior on Z-type street of RW 8

Detail 4. Human Behavior Activities on Z-type street—alley

This alley was quite narrow with a width of 1.4 meters and closed with almost no vehicular traffic. It enclosed between a row of houses with entrances toward the alley. Along this alley was situated a prayer room, small shops and benches on terraces along the street. Observed human behavior included food vending, playing, chatting, taking care of kid(s), feeding kid(s), eating / drinking, sitting, lingering (Figure 5.47). Most of them were concentrated around the prayer room or small-scale shops. The availability of seating seems to provide the supportive environment for social behaviors like chatting and sitting. The presence of the prayer room was also a unifying element, as those coming to pray will tend to initiate and activate social bonds through chatting or conversing.

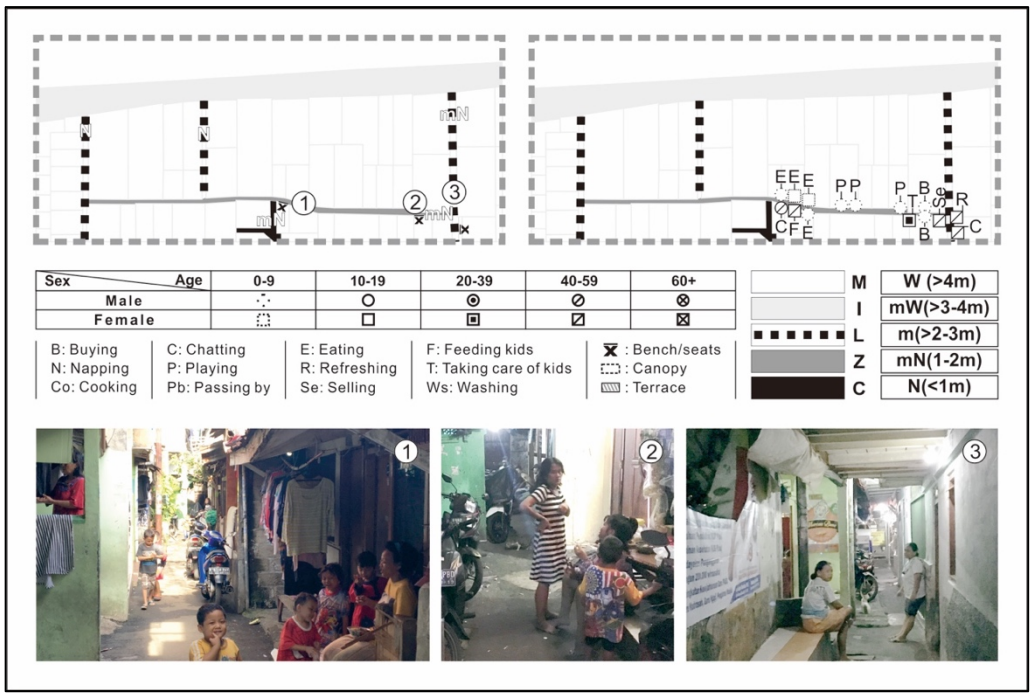


Figure 5. 47: Observed human behavior on Z-type street of RW 8—along the alley

CHAPTER SIX

STREET TYPOLOGY AND HUMAN BEHAVIOR ACTIVITIES IN PERIPHERY KAMPUNG

6.1 Introduction

This chapter describes extensively details of the second study area of periphery Kampung Kapuk. The discussion is started with narrating the profile of the study area including its history, and selected community group of RW 13. Subsequently, it discusses socio-economic characteristic of residents, spatial structure, empirical data on conditions of observed houses, and human behavioral activities.

6.2 Profile: Kampung Kapuk

Kampung Kapuk is located in the periphery area of West Jakarta administrative city and closed to Soekarno-Hatta International Airport, Tangerang City, Banten. It is the most populated kelurahan within Cengkareng Sub-district (Table 6.1). In detail, Kelurahan Kapuk has an area of 563 hectares and was divided into 16 Rukun Warga (RW) and 272 Rukun Tetangga (RT). It was bordered by the intersection of major streets such as Kapuk Raya, Pedongkelan Raya and Daan Mogot (Figure 6.1e). Its area was divided by the river into two—residential area to the West and industrial area to the East. The existence of industrial area here has made this periphery kampung become one of the most sought after settlement for new migrants from the rural areas, smaller towns, and even evicted people from inner-city or other strategic areas. Furthermore, the existence of one of the most prestigious residential areas of Pantai Indah Kapuk at its Northern part is a stark demonstration of spatial inequalities that is common in several areas of the city, including the urban peripheries.

Table 6. 1: Population density of Cengkareng Sub-district

KELURAHAN / URBAN VILLAGE	TOTAL AREA (Ha)	(%)	RW	RT	TOTAL POPULATION	DENSITY / Ha
DURI KOSAMBI	591	22.27	15	165	86097	146
RAWA BUAYA	407	15.34	12	144	70732	174
KEDAUNG KALI ANGKE	281	10.59	10	97	37049	132
KAPUK	563	21.21	16	272	154003	274

CENGKARENG TIMUR	451	16.99	17	226	90593	201
CENGKARENG BARAT	361	13.6	16	182	74590	207
TOTAL	2654	100	86	1086	513064	193

Source: Cengkareng in Figures, 2015.

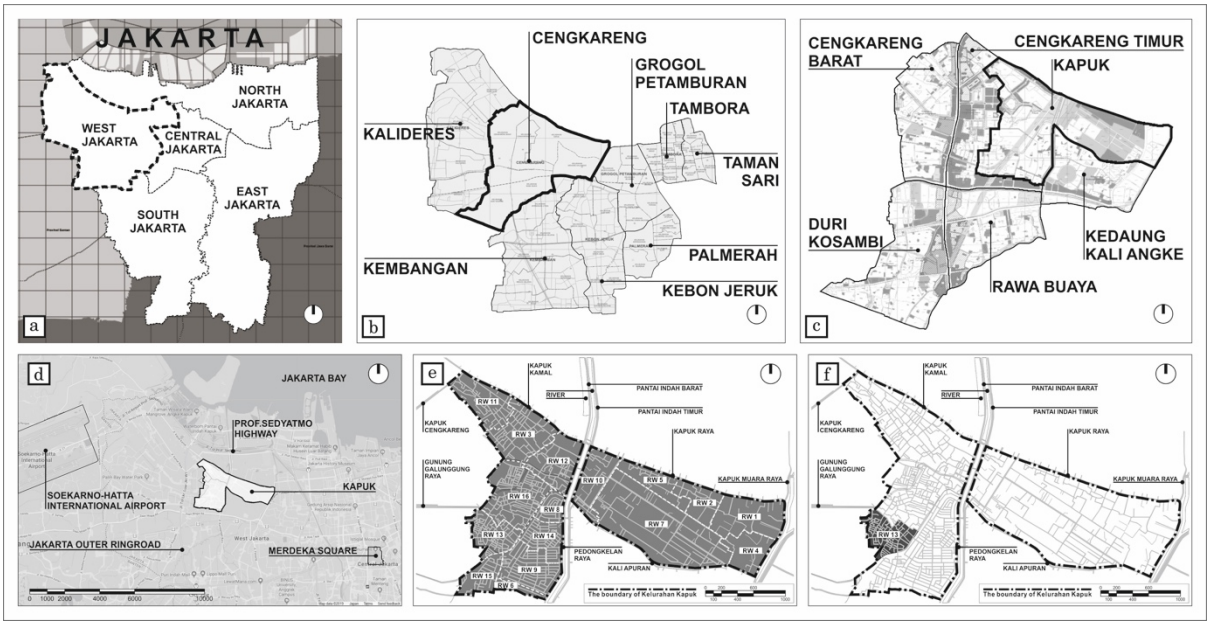


Figure 6. 1: a) Map of Jakarta b) Map of Sub-districts within West Jakarta c) Map of Kelurahans within Cengkareng Sub-district d) The position of Kelurahan Kapuk and its surroundings e) Map of periphery Kampung Kapuk f) Map of study area of RW 13

6.3 The History of Kampung Kapuk

Kampung Kapuk was a rice field during the late Dutch colonial period with very limited access to other areas of Jakarta and only small communities existed here. This location was a remote area which was inconvenient for many, especially newcomers. Since then, kapok which was originally a Javanese term to describe disillusion was used to replace its former name—Kampung Kayu Besar. Nevertheless, for many Indonesian who do not know Javanese they converted the term of Kapok into Kapuk—an Indonesian syllable that refers to Kapok tree. Overtime, improved infrastructure in this urban village appealed to the clustering of industrial activities. The existence of industrial areas and the movement from the city center to the peripheral areas in order to get affordable housing or as an impact of eviction in the branding of redevelopment projects have extremely changed the evolution and circumstances of the area from an agricultural field to densely populated residential area. Kampung Kapuk which is a representative of periphery kampungs has similar characteristics to inner-city kampung such

as having diversity in size, structure, and style of the house, but in different level of density and condition of living environment—mostly denser and worse. In recent times, Kampung Kapuk with its hundreds of houses lining up along narrow streets has become one of the densest kampungs with limited open spaces. In this sense, streets and alleys have become an important component of the residential environment beyond passages to encompass adaptable spaces.

6.4 Survey Results: Rukun Warga (RW) 13

6.4.1 Overview of Study Area

The reasons for the selection of Kelurahan Kapuk as a study area were the density of residential land use—the densest kelurahan within Cengkareng Sub-district with 274 people/ha, and the clustering of industrial activities which has contributed to the settlement consolidation over the years. In terms of the size, Kampung Kapuk is about 560 hectares with 16 RWs. Specifically, RW 13 having 17 RTs was selected for this study. The main reason for selecting RW 13 was that it is physically characterized by small dense and crowded houses and a seemingly poor living environment represents a challenging situation to consider proposals for its development. Secondly, compared to other RWs, RW 13 has not been redeveloped and thus provides the needed scope to critically consider its upgrading alternatives for future improvement.

In detail, RW 13 that has a total land area of approximately 57 hectares is located on the Southwest of Kelurahan Kapuk—an isolated area which is quite far from the main accesses. It is bordered by other community groups (RW 9, RW 14, RW 15, and RW 16) and neighboring to Kelurahan Cengkareng Timur (Figure 6.2). In terms of common facilities, this study area of RW 13 was equipped with three mosques, eight prayer rooms, several schools, a traditional market, two multi function rooms, and a semi-public open space (Figure 6.3).

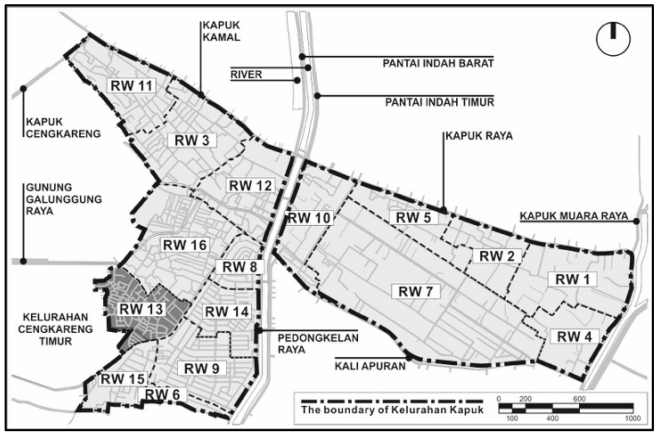


Figure 6. 2: The position of RW 13 within Kelurahan Kapuk

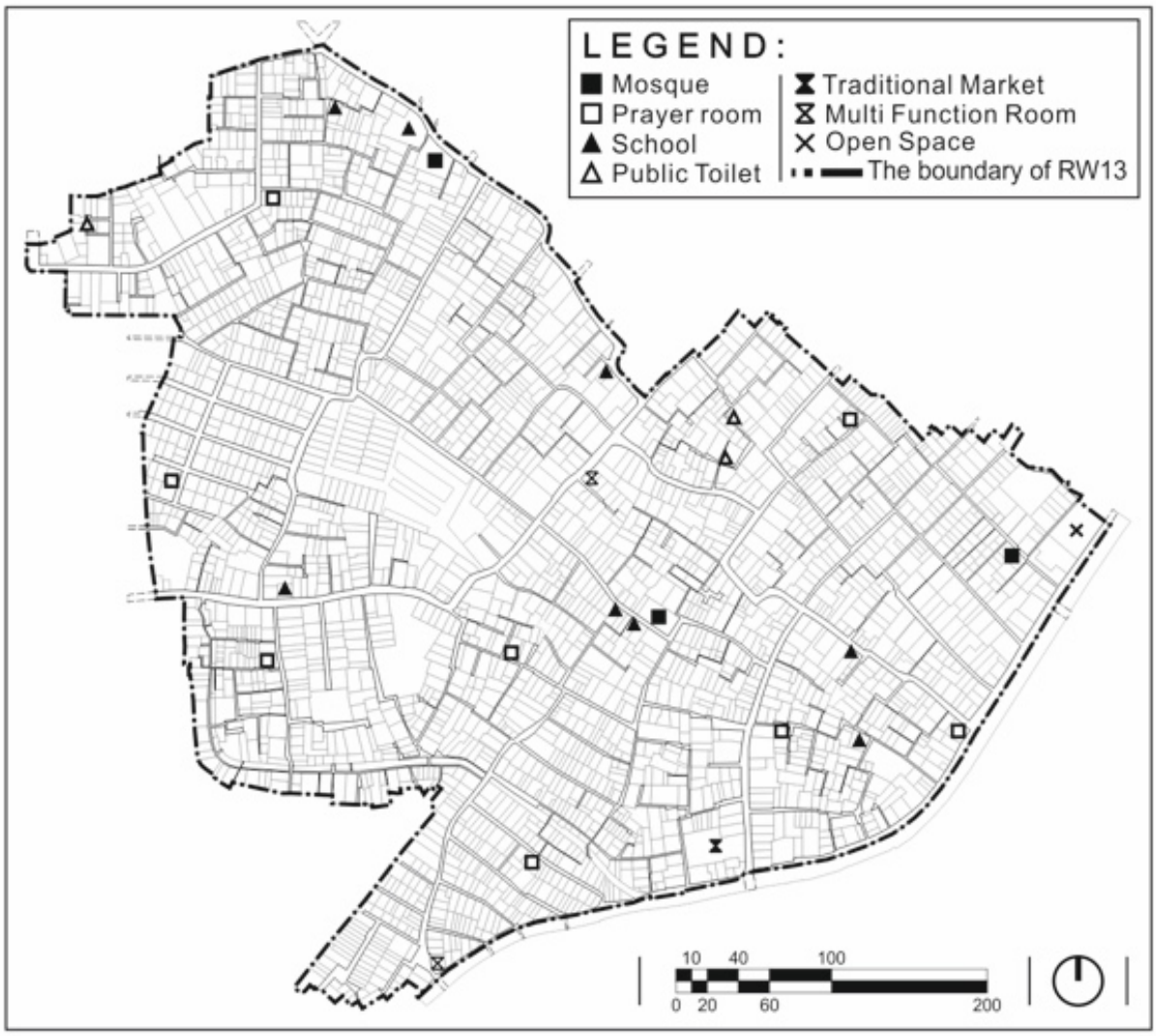


Figure 6. 3: Existing common facilities in RW 13 of Kampung Kapuk

6.4.2 Profile of Respondents

The field observation organized here in RW 13 involved 85 interviewees in total. Regarding the place of origin of the respondents, the field survey showed that 48.2% (41 people) of interviewees were from the Jakarta region, while 47% (40 people) came from other cities within Java Island and the remaining minority 4.7% (4 people) originated from other Islands. In summary, more than half of respondents were internal migrants outside of the Jakarta region.

With regard to the period of stay, the proportion of residents who have been living in this area for more than than 40 years represented 11.8 percent of interviewees. On the other hand, however, results showed that about 35.3 percent have just been living here for 10 years or less. The data on length of stay of the residents showed that this area became denser in a short period of time. As shown in Table 6.2, for instance, about 20 years ago or since the year of 1998, about forty-five new households came and settled. One major reason was due to the practice

of evictions which occurred in city center or nearby strategic locations or real estate market forces which priced people out of inner-city areas. Furthermore, the field survey data revealed that 69.4 percent of respondents were house owners while the proportion of tenant was 30.6 percent. It appeared the ownership or tenancy was strongly related to length of residence in the study area. For example, among those with 20 years' residency or more, owners constituted 43.6 percent as compared to only 3.6 percent who rent a house. On the contrary, the proportion of owners and renters living less than 20 years' occupancy was similar: 25.9 and 27 percent respectively. This trend was perhaps influenced by situational shift from isolated area where few people wanted to live to the most populated and sought-after settlements in West Jakarta. Moreover, the existence of industrial areas within Kelurahan Kapuk and other redevelopments of the surrounding areas have led to increase in the land value which until about two decades ago was considered relatively cheap.

Table 6. 2: Duration of living and property ownership in RW 13

RW 13	Owner		Tenant	
	Number	Percentage (%)	Number	Percentage (%)
0-10 years	10	11.8	20	23.5
11-20 years	12	14.1	3	3.5
21-30 years	10	11.8	1	1.2
31-40 years	17	20	2	2.4
> 40 years	10	11.8	0	0
Total	59	69.4	26	30.6

Concerning the occupation of the respondents, the survey revealed that more than half of the interviewees (52 percent) were self-employed persons typically engaged in the informal sectors such as food vendors, tailors, and motorcycle drivers. There were only 7 and 1 percent of residents who were able to work in the private sector (usually as factory workers or drivers) and governmental organizations respectively. The proportion of retired and housewife were as 4 and 36 percent respectively (Figure 6.4a). The link between the educational attainment level and lack of formal and public sector employment could be understood in Figure 6.4b. The data revealed almost all interviewed residents (99%) have no higher education and 10 percent of them never went to school.

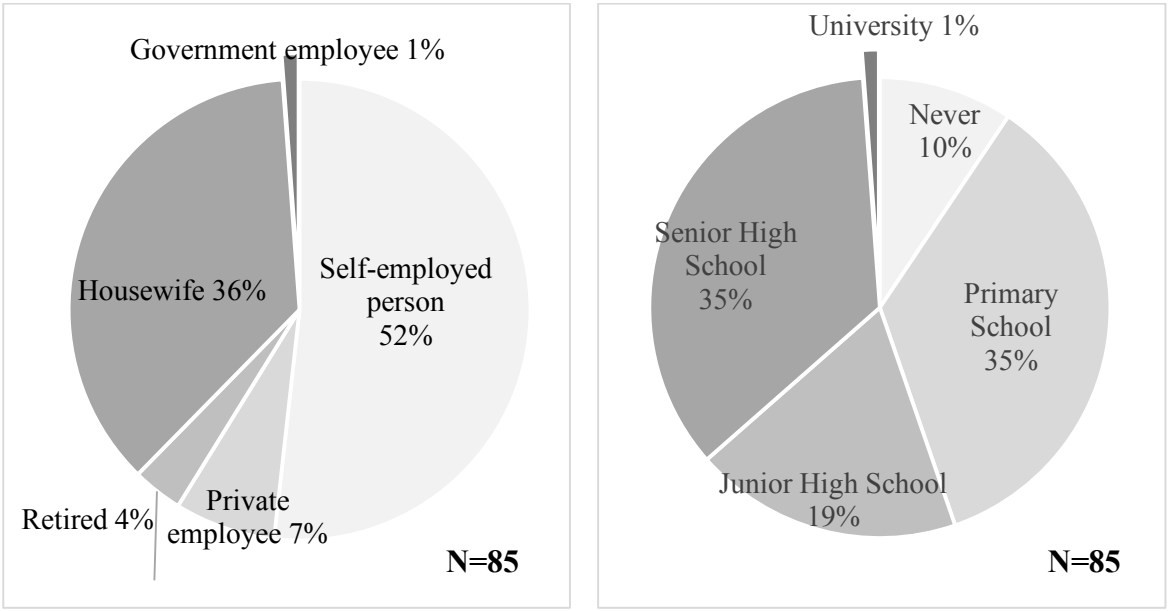


Figure 6. 4: a)The occupation of residents b) Educational background of residents

6.4.3 Housing and Land Tenure

The housing typology in the periphery kampung was not different from the ones in the inner-city, wherein, detached single-story houses were still the predominant type. Some of these have been renovated into two stories for either personal or business purposes such as renting a room for newcomers or selling food items. The interviewees revealed that they built their houses incrementally, hence, almost all houses here have been renovated at least once to improve its quality or addressing deteriorating conditions. Besides, the field observation found the same trend occurred in the inner-city kampungs, wherein, houses having better accessibility were usually better in terms of physical appearance.

The study reported that there were 44 out of 85 respondents (51.8%) who have adjusted their houses for business purposes. In detail, 21 people (24.7%) modified the space for small-scale shops selling daily commodities such as groceries, cooking oil, snacks, etc. to serve both natives and newcomers. Besides, there were also observations of home-based enterprises where interviewed residents engaged in food vending (13 people or 15.3%), tailoring or repairing (8 people, 9.5%) from or around their houses. Another two respondents (2.4%) have managed their houses as a lodging for newcomers.

The ability to engage in informal economic activities offering potential income generating advantages seems to have prevented residents interest in selling their property to speculators. This underlined the reason why majority of respondents (55 people or 64.7%) do not want to

sell their own lands. There were only 4 interviewees (4.7%) who have an interest to cash their property if there is a good deal. The other respondents (26 people or 30.6%) who did not answer this question were tenants (See Figure 6.5a). Regarding land tenure, the field survey indicated that 33 interviewees (38.8%) obtained their lands from their families as a family inheritance. Furthermore, there were 26 inhabitants (30.6%) who bought their own lands, while 26 residents (30.6%) rented (Figure 6.5b).

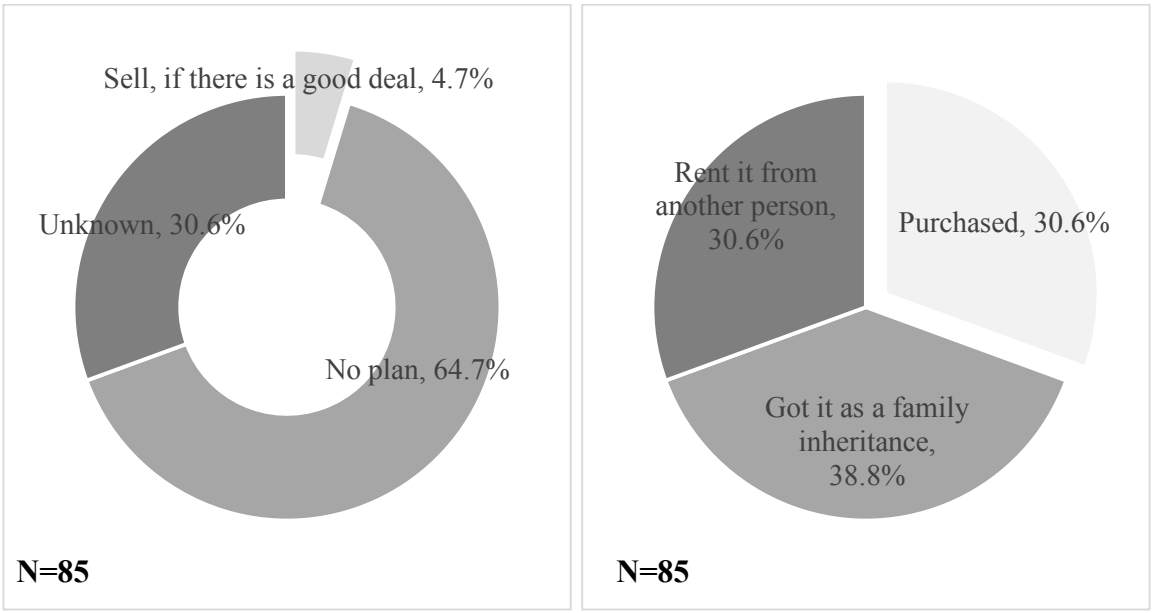
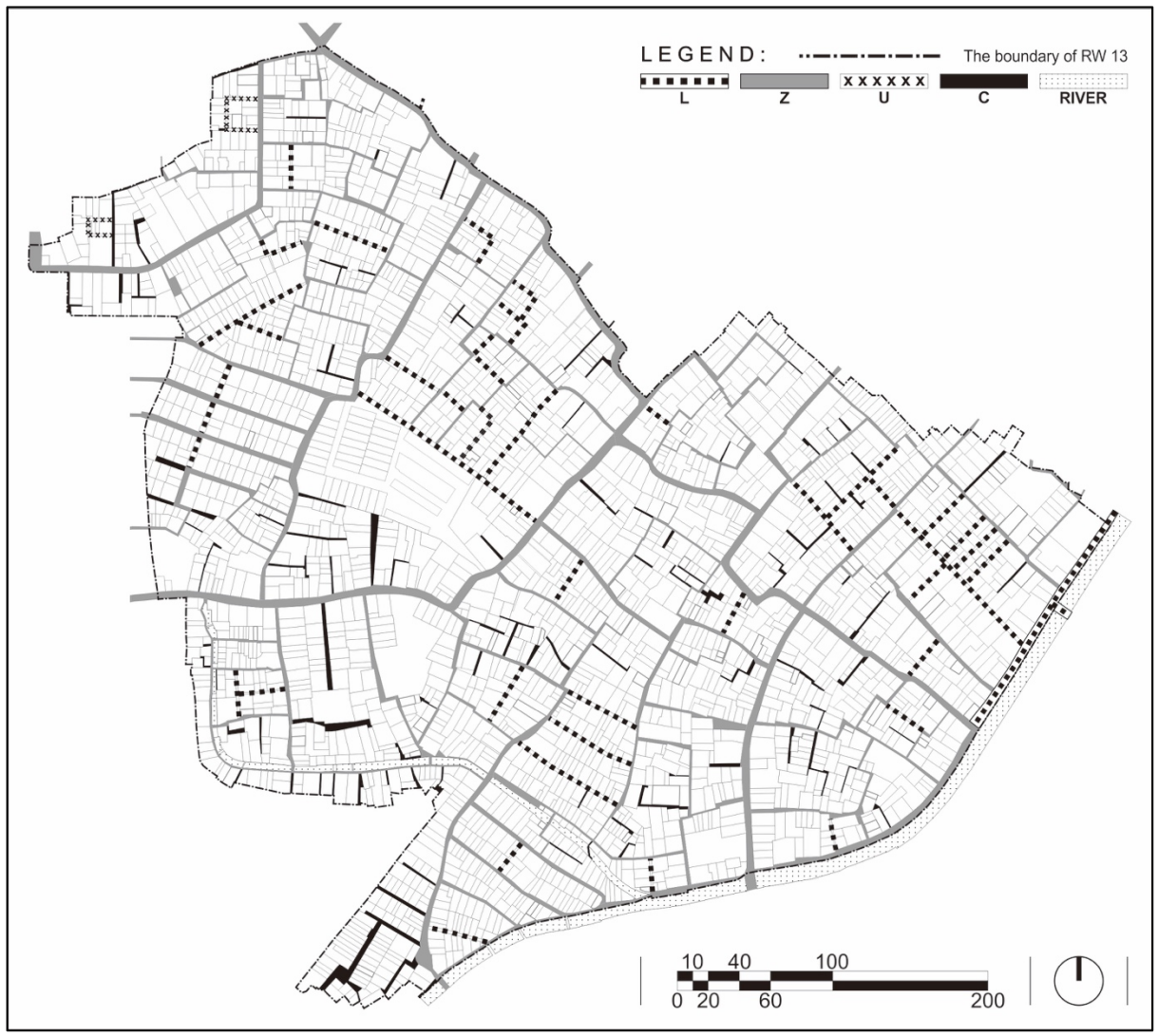


Figure 6. 5: a) Residents' future plan towards their property b) Land tenure acquisition

6.4.4 Spatial Structure: Street typology

Typology

As an essential part of spatial analysis, street typology here was classified into four categories based on the physical form of each street/alley (See Figure 6.6). The classifications are as follows: L (a street passing through the block in L-shape and open), Z (a meandering street passing the block and closed), U (U-shape street attached to any type of the street, connected several houses only and more closed) and C (cul-de-sac and the most closed). Field mapping showed that C-type was the predominant type in RW 13.



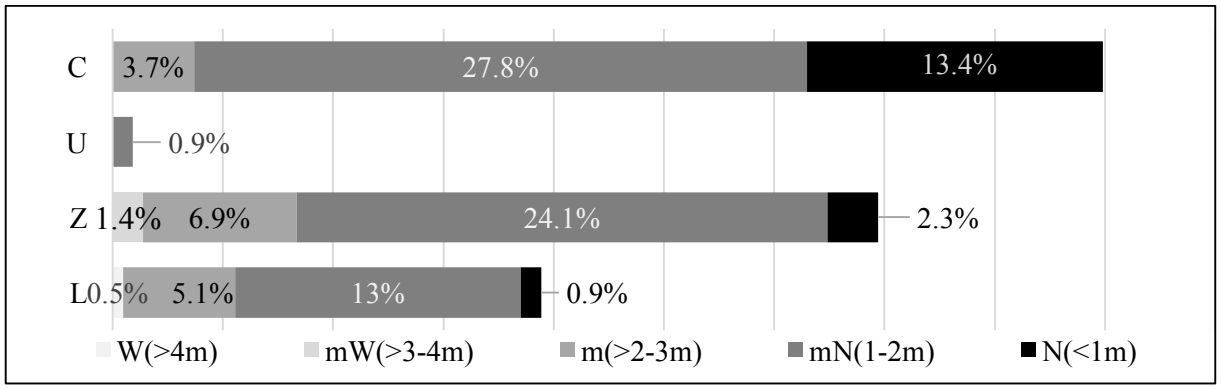


Figure 6. 6: Street typology of RW 13

6.4.5 Relationship between House Condition and Street Typology

In order to understand the relationship between condition of houses and typology of the street, the study has conducted a field observation on houses and street mapping and illustrated them in Figure 6.7. The classification of house condition was based on its appearance, whilst the classification of the streets and alleys are defined on their physical form.

Figure 6. 7: Map showing relationship between house condition and street typology in RW 13

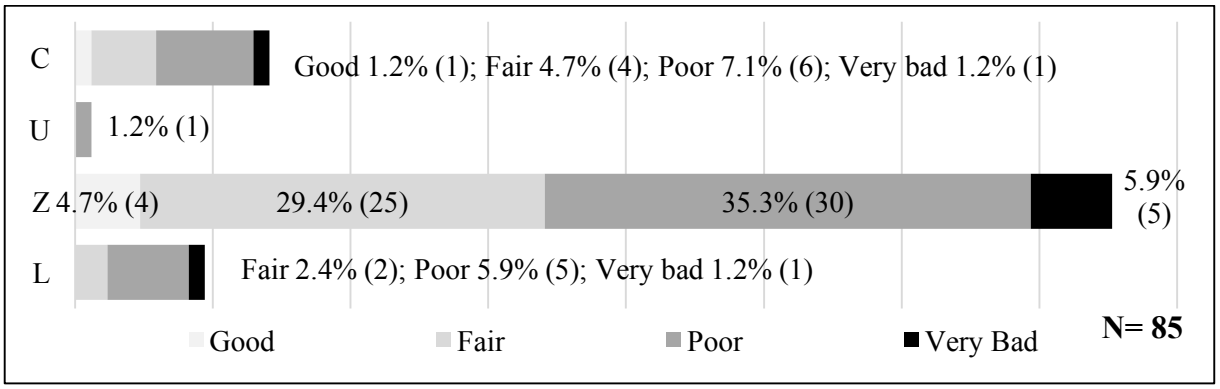


Figure 6. 8: Relationship between house condition and street typology in RW 13

Based on data of 85 houses surveyed in this area, the study found that the majority of houses were in poor and very bad condition. For instance, there were 5 houses (5.9 percent) along L-type streets that were in poor condition, while Z-type has higher number of houses in poor condition (30 houses or 35.3 percent, See Figure 6.8). The data in Figure 6.9 which represents

the conditions of houses and the width of streets illustrates the reasons behind this phenomenon.

Figure 6. 9: Map showing relationship between house condition and width of the street in RW 13

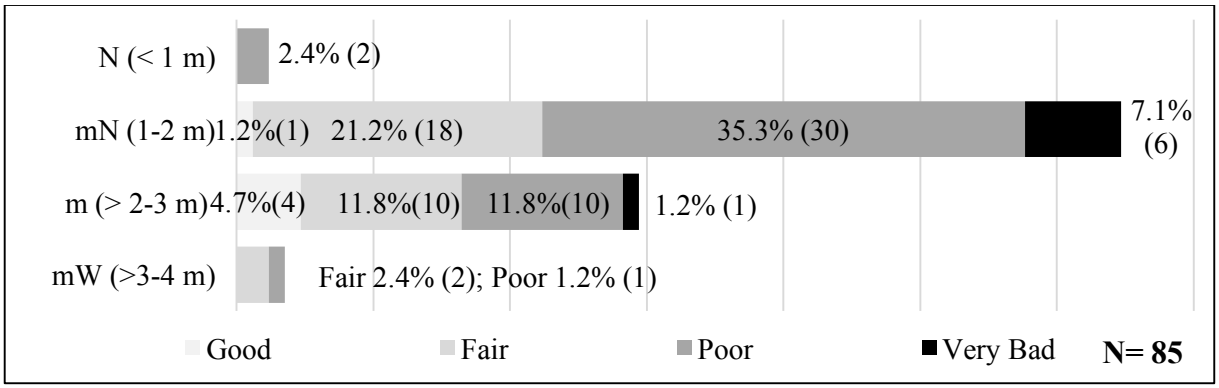


Figure 6. 10: Relationship between house condition and width of the streets in RW 13

As shown in Figure 6.10, the total number of houses which was in poor and very bad condition was increasing in line with the narrowing of the streets. Particularly, mN streets (1-

2 m) have higher proportion of houses in poor and very bad condition—30 (35.3 percent) and 6 houses (7.1 percent) as compared to m streets (>2-3 meters) having 10 (11.8 percent) and 1 house (1.2 percent). The reason for this, according to field interviews, was that higher land values around wider streets, which only wealthy residents are able to purchase for house construction and maintenance. In contrast, houses along narrower streets were usually cheap because of low land value (due to limited accessibility) and hence popular among low-income residents who either rent (without any interest in maintenance) or build incrementally.

6.4.6 Human Behavior Activities

The study also sought to understand how different residents, classified within age cohorts utilize the streets in the study area. This was necessary to comprehend how the streets supported or deprived the actualization of behaviors from a demographic perspective of residents. Data was obtained by walking around the study area and recording all activities classified the activities into social, economic and stationary. Age cohorts were divided into 0-9 years (children), 10-19 years (teenagers), 20-39 years (young adults), 40-59 years (middle age) and above 60 years (elderly).

The field survey revealed that economically active and working age groups within 20-59 years dominated economic activities. For instance, 32 young adults (2.8 percent) and 50 middle-age people (4.4 percent) were recorded involved in economic activities (Figure 6.11). Besides, the study found that all age cohorts were involved in both social and stationary activities including elderly residents. However, the number of elderly were lower as only 49 (4.3 percent) and 28 people (2.5 percent) engaged in social and stationary activities respectively. Elderly interviewees explained that their tendency to stay indoors was because they did not find the street characteristics friendly or supportive to their everyday space demands. In view of mobility of the elderly and their dependency on assistance from the others, public spaces that could protect them from the extreme weather and allow them to stay longer in a particular spot without being disturbed by the vehicular traffic is crucial to foster their social interactions and behavior activities in public areas as open streets. Regarding social activities, the study showed that residents chatting, children playing and eating together on the streets were the most common activities. Survey results showed that children and teenagers socializing on the streets were predominant (370 out of 720 people) compared to young adults, middle-age and elderly groups engaged in similar activities. A similar situation was recorded for stationary activities where children (0-9 years) constitute the majority of groups. As

presented on Figure 6.11, there were 125 children, 45 teenagers, 54 young adults, 77 middle-age and only 28 elderly engaged in stationary activities.

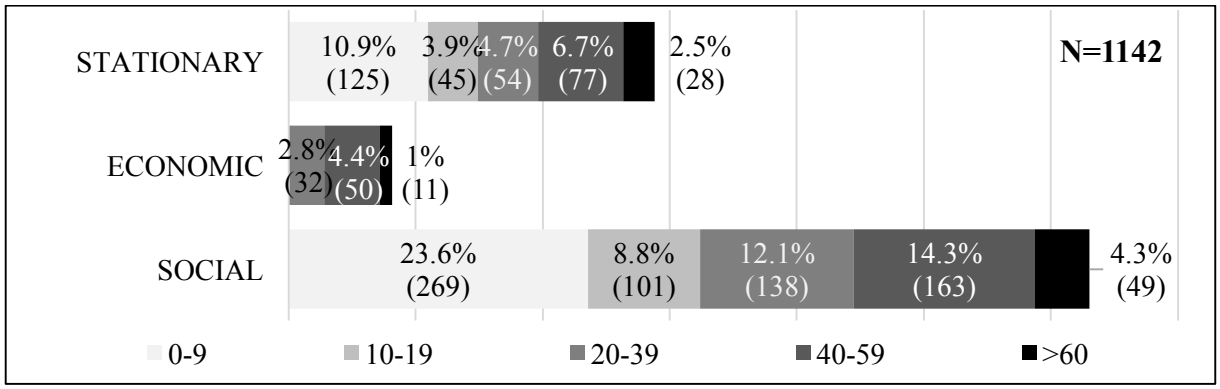


Figure 6. 11: The diversity of age cohorts involved in any kind of activities on the street in RW 13

Through this section, the study tried to identifying what the kind of activities occurred on which type of street / alley and the underlying rationale. As shown in Figure 6.12, the study found that economic activities took place in any type of street including U-type (more closed) and C-type street (the most closed). However, the total number of economic activities observed in the U and C-type was relatively lower compared to other street types. Additionally, economic activities were concentrated in Z-type street as about 79 people (6.9 percent) were recorded engaging in economic activities (Figure 6.13). This could be explained by the economic strategy of informal street vendors who would run their businesses in strategic or open streets where the opportunity of profit can be ensured based on the volume of prospective buyers or consumers walking on the street. Nonetheless, it was worthy to note that the study area is dominated by C-type street and the number of L-type street was very limited. With regards to the role of the width of the street, the field survey also indicated that economic activities diminished as the width of the street decreases to below 2 meters. The exception to this result was the informal mobile vendors, who typically ply their trade by moving across streets / alleys in the areas in search of customers. Interestingly, m-streets (>2-3 meters) have higher proportion of people doing economic activities—38 people (3.3 percent) as compared to the mW streets (>3-4 meters) having 23 people (2 percent). Two main field observations probably account for this situation. Firstly, there are few medium wide streets (>3-4 m) in the study area and most of these are characterized by heavy vehicular traffic which makes it difficult for residents to organize informal economic activities. Secondly, informal street vendors face difficulties in getting permission from landowners whose houses are located along such streets due to demand for rent. Consequently, residents appropriated narrower streets into commercial alleys in front of their houses where there are no rental fees / even move within the settlement from one street to another (mobile informal vendors) to avoid such rental payments.

Figure 6. 12: Map showing relationship between human behavior and street typology in RW 13

Moreover, social activities were dominant along L and Z-type streets (Figure 6.13). By constituting 562 social activities (49.2 percent), Z-type street was identified as the most sociable street. However, the study found C-type streets which were classified as the most closed but still had 56 social activities (4.9 percent) such as residents chatting, doing physical exercise or helping their neighbors preparing for socio-cultural events. For instance, detail B (cul-de-sac, see Figure 6.17), the study observed that residents sometimes blocked the alley to organize traditional wedding activities (e.g. cooking) based on collective agreement with neighbors.

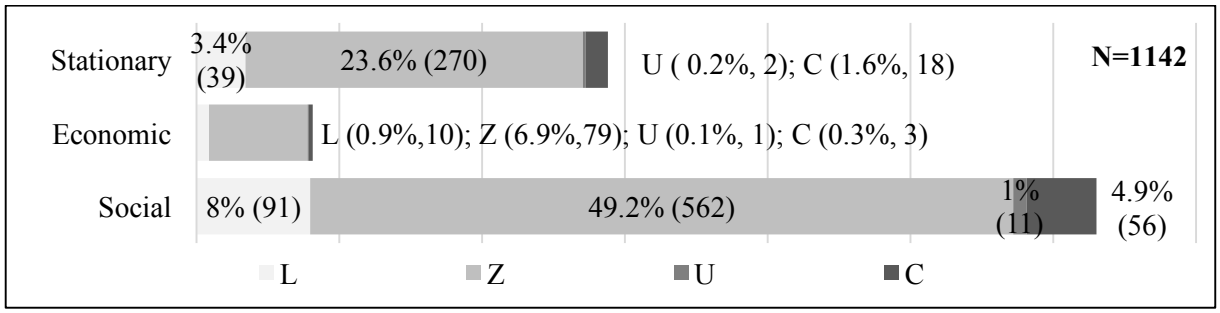


Figure 6. 13: Relationship between human behavioral activities and street typology in RW 13

As shown in Figure 6.14 and 6.15, strong social activities also occurred on the narrower street between 1-2 meters, 372 people, higher than those in medium (>2-3 meters) and medium wide (>3-4 meters). This phenomenon was influenced by some factors such as the existence of amenities in form of benches and canopies, natural elements such as plants or trees, the width of the street, attractions for children as well as socio-cultural events (See Fig. 6.16, 6.17, 6.18).

Figure 6. 14: Map showing relationship between human behavior and width of the street in RW 13

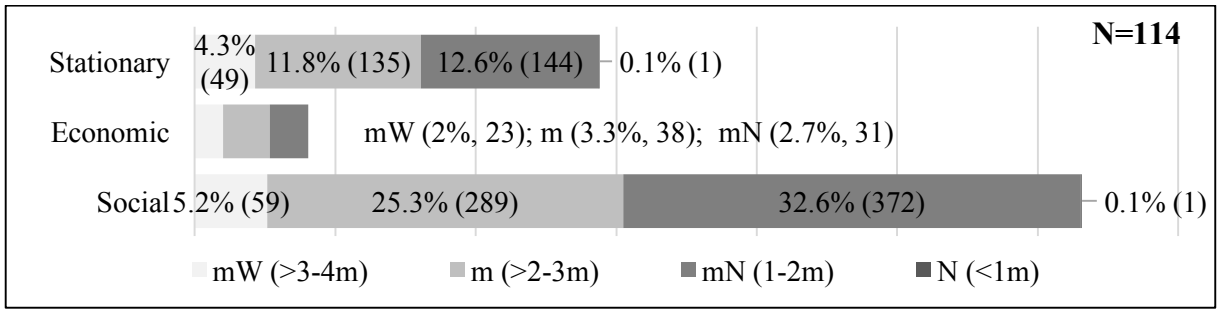


Figure 6. 15: Relationship between human behavioral activities and width of the street in RW 13

Figure 6.16 shows in detail that on Z-type street, physical devices such as benches and canopies influence gathering and socialization on the street. Such devices symbolize the appropriation of the streets by local residents. Natural elements such as trees (shown in Figure 6.18) based on their shading effect offers comfortable environment for residents to use for relaxation or chatting. However, stationary activities, occurred on any type of street. Z-type street with 270 people (23.6 percent) constituted the highest, followed by L-type (39 people or 3.4 percent), C-type (18 people or 1.6 percent) and U-type (2 people or 0.2 percent). In view of the foregoing, the study results showed that mN streets between 1-2 meters were the most diverse and lively, clustering 372 social activities, 31 economic activities and 144 stationary activities.

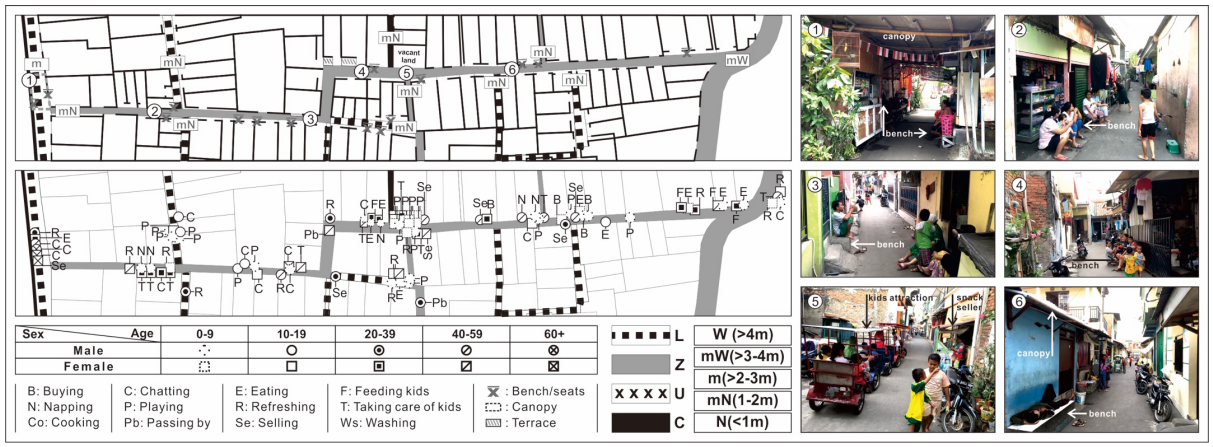


Figure 6. 16: Detail A showing human behavior influenced by amenities and kids playing carts

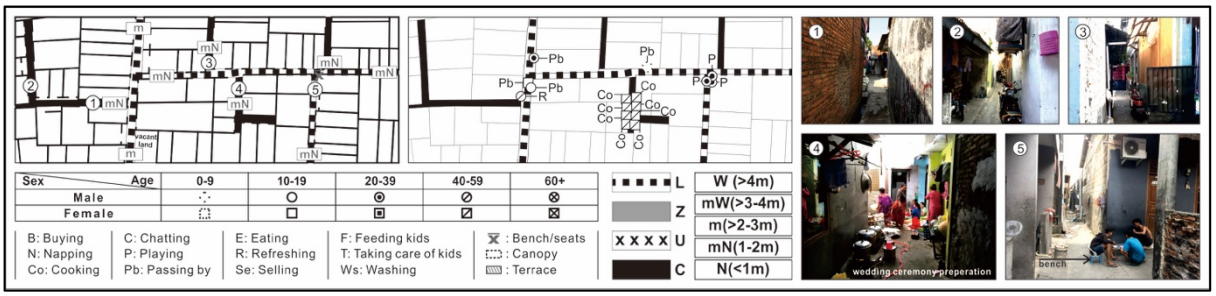


Figure 6. 17: Detail B showing human behavior influenced by socio-cultural events

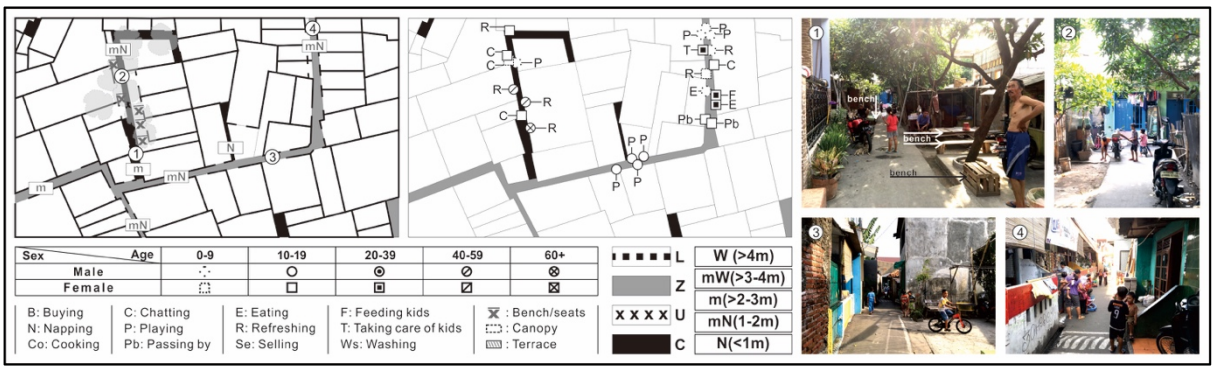


Figure 6. 18: Detail C showing human behavior supported by the presence of trees

CHAPTER SEVEN

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

Following the analysis and discussion of survey results in the preceding section, this chapter focuses on the main findings, recommendations and conclusion to the entire thesis report. The findings have been categorized under characteristics of interviewees, informal economic activities, spatial structure and human behavior activities. In view of this, a set of suggestions (recommendations) were made to improve current conditions and promote habitable and livable conditions among residents in the study areas.

7.2 Summary of Findings

Characteristics of Respondents

Case Study 1—Inner-city Kampung Kebon Kacang

- The study found long term residency among interviewees in both RW 3 and RW 8. Specifically, most of the residents have been living in the respective communities for more than 20 years.
- In terms of origin of residents, interviewees from RW 3 were native to the Jakarta urban region (71.4 percent). In other words, they originated from Jakarta or within the Java Island (20 percent). On the contrary, in RW 8, although half of respondents are native to Jakarta (54.7 percent), the area had a significant proportion of respondents from Java (33.3 percent) or other Islands (12 percent) within the Indonesian Archipelago.
- The study also found that educational attainment among residents in both study areas was basic. In both studied areas, more than two-thirds of interviewed residents had up to Senior High School education.

Case Study 2—Periphery Kampong Kapuk

- In terms of length of stay, the data reported that the proportion of residents living here for less than 20 years was a little bit higher (52.8 percent) than those who have been

living here for more than 20 years. That is, RW 13 has become denser in a short period of time.

- The study found an interesting fact where more than half of respondents were internal migrants outside of the Jakarta region, 47 percent (within Java Island) and 4.8 percent (from other Islands). It proved its status as one of sought after settlement within West Jakarta.
- The field survey discovered similar trend as happened in the inner-city kampung where the educational attainment level was low. As reported, almost all interviewed residents (99 percent) had no higher education and even 10 percent of them never went to school.

Informal Economic Activities

Case Study 1—Inner-city Kampung Kebon Kacang

- Without enough qualification for formal employment, the survey found a very high incidence of informal economic activities among interviewees in both RW 3 (54.3 percent) and RW 8 (54.6 percent).
- The main economic activities included food vending (both home-based and street-based), tailoring, motorcycle drivers, and kiosk-style grocery store among others.
- Location also affects informal economic activity, as RW 8 closer to the CBD had a stronger presence of street vending and other informal economic activities than RW 3. This explained the readiness of respondents in RW 3 to sell their properties and live elsewhere where it would be profitable to engage in informal economic activities.

Case Study 2—Periphery Kampung Kapuk

- The study revealed there was a relationship between lack of educational attainment level and informal occupation. The proportion of respondents who were able to work in formal or public sector employment was very low (7 percent work in the private sector and 1 percent works for governmental organizations).
- The study also found that home-based and street-based food vending, small-scale shops selling groceries and daily needs, and mobile kids' recreation service providers were the main informal economic activities among others.
- The chance to engage in informal economic activities has influenced respondents not to sell their lands or properties. The study reported only 4.7 percent of respondents are willing to cash their property if there is a good deal.

Spatial Structure: Street typology

Case Study 1 and 2—Inner-city Kampung Kebon Kacang and Periphery Kampung Kapuk

- For both case study areas, the typology of the street networks was categorized into six groups based on the physical form of each street / alley: M, I, L, Z, U and C. Thus, M, and I were more open (linking the studied areas externally to other parts of the sub-district), while L was open (providing a connective link between two local roads). Conversely, Z, U and C were close, typically meandering, irregular or spontaneous (connecting houses and isolated spaces).

Human Behavior Activities

Case Study 1—Inner-city Kampung Kebon Kacang

- Three main categories of human behavior were identified during the survey: social, economic and stationary. Gathering, chatting, playing, were the main human behaviors within the studied areas. Economic included informal income generating activities such as mobile food vending, home-based enterprises and small grocery shops. Lingering, napping and sitting within public spaces were the common stationary activities.
- The study also found the existence of domestic activities such cooking, washing being organized within the street or alleys—a sort of territorializing or semi-privatization of street space. The causative factor was due to temporary structures along streets and the lack of spaces for domestic activities in some private rental housing units.
- The study found that location significantly affected economic behaviors while the availability of space and seating facilities influenced social behaviors. Interestingly, the study found that residents were always devising ways of making available spaces supportive to human behavior by adding seats, introducing speed bumps to restrict motor traffic or tenting to provide shading.

Case Study 2—Periphery Kampung Kapuk

- The study discovered all categories of human behavior activities existed here. However, the predominant observed human behavior here was social activities (63.1%) such as playing, chatting, eating together, taking care of kid(s) and doing physical exercise among others. The economic activities were dominated by home and street-based food vending, small-scale shops, and mobile kids' recreation service providers. Besides, the

stationary activities in the form of sitting, relaxing, smoking appeared during the field observation here.

- Apart from the openness and width of the street, the study found that the practices of appropriation of street space by local residents played an important role in influencing the human behavior activities. In the other words, these actions / efforts—introducing seating places, speed bumps on the street and providing shading by tenting in making use of available spaces have been encouraging people to gather and socialize. For the economic activities, the study found that it was strongly determined by the location.
- Another interesting finding was the socio-cultural events that seem to be another intangible factor influences human behavior and determines how the space could be used. For instance, residents sometimes blocked the alley based on collective agreement with neighbors to organize traditional wedding activities (e.g. cooking).

7.3 Recommendations

In view of the results, discussion and the summary of findings enlisted above, the following suggestions were made to guide the development and improvement in social and physical conditions of the studied areas.

- *Minor land adjustment through re-blocking with lots*: Reorganization of the spatial network system through land adjustment. Specifically, a community based strategy for land pooling and redesign could be experimented in the studied areas. Also, reblocking with lots to improve spatial permeability and free up more space for common areas such as public open spaces for use by residents.
- *Provision of common and public spaces*: Redesign kampung spatial structure to provide public spaces for recreation and social liveliness. Judging by inadequate spaces and congested nature of the studied areas, this calls for participatory, collaborative and community led actions.
- *Access to local building materials and affordable housing*: There is the need for government to introduce subsidies on quality, durable locally made building materials as incentive for low-income kampung residents to modify their houses and improvement conditions.
- *Reorganize the existing sub-district structure*: To develop a new community management system for improving physical and social conditions.

- *Prevent land speculation and economic displacement*: To protect the studied areas from excessive land speculation and eventual dispossession, some local regulations and rules must be set in place. Currently, if situations continue unabated, land speculation will buy out several residents of kampung to other low-income settlements in different parts of the city, leading to a vicious cycle of creating new informal settlements. A regulation that prevents unnecessary sales of land and property and encourages an inclusive and sustainable upgrading of existing conditions is critical.

7.4 Conclusions

Jakarta mega city region continues to manifest one of the marked urbanization dynamics within the Indonesian archipelago and the South East Asian sub-region. Its dual city status, referring to the daily intersections of formal and informal socio-spatial and economic dynamics exerts significant implications on the urban planning and design of the region. The study has attempted to provide an exploratory analysis of both an inner-city Kampung Kebon Kacang and periphery Kampung Kapuk. The aim has been to comprehend the socio-spatial aspects of existing conditions as a first step into planning and design of areas that are in urgent need of improvement.

To wit, this thesis has contributed to existing research on informal settlements in the developing world and kampung in Indonesia. Importantly, the study has shown the relevance of human behavior analysis in understanding the relationship between human and physical components of space and how it helps to identify spatial necessities and criticalities. The study has therefore recommended the need to protect residents against land speculation and introduce participatory and collaborative planning and design of kampung for sustainable urban development. This includes minor land adjustment, creation of public open spaces, incentives for house improvement, provision and management of communal facilities among others. Guiding residents to have deep interest in their community and supporting their initiatives represents a formidable strategy for the development of kampung in Jakarta. Future studies may have to look at the specific mechanisms of improving the condition of streets and alleys and the reorganization of the street layout. Specifically, experimental studies on land adjustment as a methodology for improving kampung and the role of community residents.

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APPENDIX: QUESTIONNAIRES

Respondent: Inhabitant of Kampung….

Date of Interview:

Time of Interview:

General Information

Name : Sex: M / F
Address :
Age :

Marital Status : [ ] Single [ ] Married [ ] Divorced

Place of Birth : [ ] Jakarta [ ] BOTABEK [ ] West Java
[ ] Java [ ] Others :

Religion : [ ] Moslem [ ] Christian [ ] Catholic
[ ] Hindu [ ] Buddhist [ ] Confucian
[ ] Others:

Education : [ ] Never [ ] Junior High School [ ] Bachelor Degree
[ ] Kindergarten [ ] Senior High School [ ] Master Degree
[ ] Primary School [ ] Practical School [ ] Doctoral Degree

Occupation : [ ] Self-employed [ ] Private employee [ ] Public Servant
[ ] Retiree [ ] Housewife [ ] Student
[ ] Others :

Household Profiles

1. How many generations of your family have lived here? 1 I 2 I 3 I 4
2. How long have you lived in this house?
   [ ] 0-10 years [ ] 21-30 years [ ] > 40 years
   [ ] 11-20 years [ ] 31-40 years
3. Where do you live before?
4. Are you? a. [Owner] b. [Tenant]
5. If owner, do you share your house with tenants? [Yes / No]
   How many tenants are living with you?

Property Status, and Ownership

6. Who owns this house?
   [ ] Myself [ ] Family [ ] Others:
7. How do you obtain this house / land?
   [ ] Purchased [ ] Rent
   [ ] Family inheritance
8. Do you have a land title registration of ownership? [Yes / No]
   What kind of title do you have?
   [ ] Building Rights Title [ ] Land Tribal Right / ‘hak girik’
   [ ] Freehold Title [ ] Others:

Informal Growth Factors

9. Why did you decide to live in this community and not any other part of the city?

10. What are the factors in this community that attracted you and make you feel comfortable to live here? (answer could be more than 1)
    [ ] All I need is available here [ ] Nearby economic activities
    [ ] Affordable commodities [ ] Existing facilities
    [ ] Accessibility [ ] Relationship among inhabitants
    [ ] Easy to get money [ ] Others :

Housing Transformations and Vulnerability

11. Have you ever modified your house? [Yes / No] If yes, how many times?
    [ ] Once [ ] Twice
    [ ] More than twice
    What parts of the house did you modify? (e.g. walls, windows, doors, floor, ceiling, roof and its structure, or number of rooms)

12. What was the reason for this modification?
    [ ] Accommodate household needs [ ] Both
    [ ] Business interests [ ] Others:

13. Has your house ever been affected by fire or flooding before? [Yes / No]
    If yes, what's the causative factor?

    How did you respond, what are the specific changes you have made soon after the disaster?

    If no, what actions have you ever made to prevent the damage in case of fire or flooding?

Access to Basic Facilities

14. Do you have any access to following basic facilities?
    [ ] Roads / alleys [ ] Clean Water
    [ ] Drainage system [ ] Private Toilet and Bathroom
    [ ] Street Lighting [ ] Sewage system / Septic tank
    [ ] State Garbage Collection [ ] Others:
15. Who created these basic facilities?
    [ ] Local Government [ ] Others:
    [ ] Community
16. What do you think about existing basic facilities;
    0: Poor l 1: Bad l 2: Enough l 3: Good l 4: Very Good
    From the scale of 0-4, which one could describe the condition of existing basic facilities including infrastructure?

Employment and Informal Economy Activity

17. Do you have your own business in your house or this community? [Yes / No]
    How long have you been running your business?
    [ ] 0-5 years [ ] > 10 years
    [ ] 6-10 years

What kind of business?

[ ] Small-scale shop	[ ] Lodging	[ ] Laundry
[ ] Cooked-Food	[ ] Service	[ ] Others:

Who are your clients?

[ ] People who live in the neighborhood
[ ] People who work in the neighborhood
[ ] People from other neighborhoods

How do you manage it, do it by yourself or helped by someone? How many?

18. Do you usually buy goods, foods or services from the informal sectors? [Yes / No]
    How many times a week?

[ ] 1-2 times	[ ] 3-4 times	[ ] > 4 times

Evaluation

19. Which part of your house do you think needs improvement and why?

[ ] Facade	[ ] Structure	[ ] MEP
[ ] Ventilation	[ ] Lighting	[ ] Privacy
[ ] Others :		

20. Which part(s) of your neighborhood do you visit very often? Why?

[ ] Alleys	[ ] Food stall
[ ] Small-scale shop	[ ] Others :

21. How many hours a day do you spend outside your house to socialize / interact with the other people?

[ ] < 1 hour	[ ] 1-2 hours	[ ] 2-3 hours
[ ] 3-4 hours	[ ] > 4 hours	

22. What do you think about your neighborhood;
    0: Poor l 1: Bad l 2: Enough l 3: Good l 4: Very Good
    From the scale of 0-4, which one could describe the condition of your neighborhood?

23. What do you consider as bad in your neighborhood and needs improvement? why?

[ ] The condition of streets and alleys	[ ] The condition of clean water
[ ] The condition of drainage system	[ ] The condition of sewage system
[ ] The condition of street lighting	[ ] Others :

24. Would you sell your property in the future? Why?