

City of Kampung: risk and resilience in the urban communities of Surabaya, Indonesia

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City of *Kampung*: risk and resilience in the urban communities of Surabaya, Indonesia

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543

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Abstract

Purpose – The purpose of this paper is to bring a new perspective on the meaning of resilience in Indonesia's main urban settlement type, known as *kampung*. The paper reviews *kampung* in major urban centres in Indonesia, but focuses on a case study of Surabaya, Indonesia's second largest city. Despite effectively accommodating the majority of Surabaya's population, *kampung* inhabitants are stigmatised and *kampung* are viewed as slum-like habitats. Such a normative view neglects to consider the importance of *kampung* and ignores their inherent and potential resilience. It is important to study both the risks and resilience of *kampung* so that they can be developed to address social, economic and environmental vulnerabilities in Southeast Asian cities.

Design/methodology/approach – A comprehensive literature review was conducted to identify the risks and resilience of *kampung*. Key themes were mapped from the literature and used to construct a framework for understanding and enhancing resilience within this distinctive vernacular settlement type. In addition, a place-based approach constructed from remote sensing and field studies provide a deeper understanding of the structure of this urban settlement type.

Findings – *Kampung* play an important role in housing the majority of Surabaya's population and are an intrinsic part of the city's urban structure. The characteristics and conditions of *kampung* vary throughout Indonesia. Surabaya has a variety of *kampung* types which demonstrates distinctive forms of both risk and resilience. This research finds that there are many positive dimensions of *kampung* and that this vital form of settlement is well suited to support the growth and sustainability of Southeast Asia's emerging megacities.

Research limitations/implications – This paper evaluates the current state of knowledge on risk and resilience of *kampung* within Surabaya. To gain a clearer understanding of why *kampung* are resilient, long-term field work and deeper analysis of *kampung*, in particular the social and physical structures, are needed.

Practical implications – Planning for high-density urban development needs to integrate *kampung* as a part of existing and new urban settlements to accommodate diverse populations.

Originality/value – This paper demonstrates that knowledge on *kampung* resilience is relevant to the adaptation of existing urban settlements and the future development of new urban settlements. This paper contributes a clearer understanding of why *kampung* in Surabaya are not slums and establishes a framework that supports the development of *kampung* as a resilient and functional settlement type in current and future urban developments. Considering the large and rapidly growing populations who depend on *kampung* in the Southeast Asian region, this research is of considerable significance.

Keywords Risk, Resilience, Informal settlement, Urban settlement, *Kampung*

Paper type Literature review

Introduction

Southeast and East Asia are amongst the most rapidly urbanising regions in the world. By 2050, the region is expected to add one billion people to the global population with 90 per cent of that growth occurring in cities (Schneider *et al.*, 2015). Indonesia is representative of the regions' urban challenges with a total population nearing 270m and an urban population currently stands at 55.2 per cent of the total population in 2017 (CIA, 2018), which is growing at an annual urbanisation rate of 4.1 per cent (World Bank, 2016). Indonesia's settlements have grown from networks of agrarian villages to urban giants in just a few decades. In less than ten years, Indonesia is expected to house 68 per cent of its population in cities (World Bank, 2016). To accommodate this population growth, cities in the country have been growing in two



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distinctive ways. The population density of inner city areas has increased dramatically, while peripheral areas are expanding at a rate comparable to China, which 41 achieved the largest amount of urban land conversion within Asia. After China and Japan, Indonesia has gained the third largest amount of new urban land in the regions (Schneider *et al.*, 2015).

Despite this, Indonesia's urbanity is not well recognised. Developing Asian cities commonly look towards Singapore and other hi-tech urban models for the answers to urban growth and transformation. High-rise condominium developments, luxury shopping malls, hi-tech industrial parks, middle class villa landscapes and a highly mechanised transport system are accepted as the way to modernise and grow. Although such urban functions are arguably necessary within the modernising metropolis, they do not address the needs of most residents within Indonesian cities. These international or global urban types and development models are expensive and accommodate only a small fraction of the overall demographic of the region's emerging megacities.

In contrast, the traditional *kampung* is the main urban settlement type that houses the majority of Indonesia's inhabitants. It forms a fundamental part of the structure of major urban centres such as Surabaya, one of the Indonesia's premier cities and the nation's second largest after the megacity of Jakarta. Surabaya has more than 3m inhabitants (Municipal Government of Surabaya, 2015) and features a distinctive type of *kampung* when compared to other cities in Indonesia. *Kampung* cover large parts of the city and provide housing options, especially for low-income households. Silas, an influential urban planner in Surabaya, argues that *kampung* house more than 60 per cent of the city's inhabitants (Duncan, 2006). This distinctive housing type forms the only affordable housing option for both long-term residents and newcomers, who arrive from surrounding areas to seek education, employment, health and amenities services within the emerging megacity.

Despite its functional importance and deep historical roots within Southeast Asian urbanism (Hawken, 2017), the *kampung* settlement type has been considered as a slum-like habitat. Scholars frequently mention the role of *kampung* in accommodating the city's inhabitants; however, often such settlements are described as transitory with pathological elements inherent within the type. Scholars, such as Hawken (2017), emphasise that this bias is unsubstantiated and that *kampung* needs to be reassessed as a deep heritage and a fundamental city making type of relevance to the future prosperity and resilience of emerging megacities. Silas (1996) charted the heritage of *kampung* prior to the Dutch colonisation in Indonesia. Although *kampung* exists outside the formal planning processes of Southeast Asian cities, their structures demonstrate a social urban logic of benefit to local communities and an urban asset that can house a growing population within the city.

Most research in *kampung* focuses on the pathological elements of *kampung*. Degraded environmental conditions, poor infrastructure and the precarious nature of such settlements are often highlighted by scholars, but few address the resilience of *kampung*. Notwithstanding shocks and stresses in uncertain environments, *kampung* has the potential to systematically support urban liveability and livelihoods through providing affordable housing and informal economic activities. However, as they are an underappreciated type, *kampung* remain vulnerable to demolition and neglect (Aprianto, 2016; Evansyah and Dewi, 2014).

This paper first sets out to define *kampung* as the main type of urban settlement in Indonesia. The paper then investigates the inherent resilience and risks of *kampung* through a comprehensive review of the current research literature. The review covers *kampung* in Java, the most populated island in the country and contextualises this in relation to the resilience challenge within Indonesia's emerging megacities.

Following this, the investigation focuses on the development of *kampung* in Surabaya. An initial classification based on spatial characteristics interpreted through remote sensing and field work is established through a series of documentation techniques, such as photography and mapping. This paper uses a place-based approach to achieve a clearer

understanding of *kampung* in Surabaya and to more accurately define risk and resilience in relation to the settlement type. The comparison of different types of *kampung* in Surabaya is expected to provide a broader perspective of *kampung* as an urban settlement. The detailed case study focuses on Surabaya's *kampung*, but is relevant to city planning throughout Indonesia and other Southeast Asian cities. In Southeast Asia, the term *kampung*, or *kampung*, refers to traditional villages of an urban or rural nature. Although this type is found throughout Southeast Asia, different cultures in Singapore, Malaysia, Myanmar, Thailand and Cambodia have their own distinctive variant of this settlement. Hawken (2017) described challenges of Southeast Asian cities, such as Yangon, in accommodating rapid growth of population and pointed out the potential of urban vernacular settlements in delivering housing, particularly for poor urban communities. He argues that *kampung* have the potential to supplement the existing capacity of local authorities by providing a liveable and affordable mode of urban development in a much more cost-effective way than formal modes of residential development. Such an approach is distinct from imported hi-tech urban development modes, in that it better considers the existing structures and social dynamics in local communities. The paper concludes with the construction of a conceptual framework for urban development involving *kampung*. Surabaya as a case study offers a valuable perspective on how *kampung*, as a model urban settlement type, can help the majority of people cope with physical, social, economic, environmental problems and enhance resilience.

Defining *kampung*: a vernacular urban settlement

In Indonesia, *kampung* specifically refers to a vernacular residential settlement (Ellisa, 2016; Funo *et al.*, 2002; Obermayr, 2017; Raharjo, 2010; Silas, 1989, 1992; Silas and Ernawati, 2013). They exhibit rural characteristics and a traditional way of life (Silas, 1989). Defining characteristics of this intimate community-focused settlement are described in literature on *kampung*. Such characteristics are important for community resilience (Funo *et al.*, 2002; Guinness, 2009; Setiawan, 2006; Winayanti and Lang, 2004) and include high solidarity (Silas and Ernawati, 2013) and strong social interactions (Ellisa, 2016; Raharjo, 2010; Setijanti *et al.*, 2016; Silas and Ernawati, 2013; Wilhelm, 2011). Based on their vernacular character and tight social networks, houses in *kampung* are mostly built cooperatively by the residents. Through a community-based process outside the formal planning system, *kampung* inhabitants construct their houses gradually and according to their needs (Ellisa, 2016; Ernawati *et al.*, 2013; Funo *et al.*, 2002; Winayanti and Lang, 2004).

The variation within such settlements comes from this evolutionary approach and they often come to feature irregular laneway patterns and narrow alleys. Fine grain infrastructure and basic facilities are available in *kampung*. Some *kampung* have narrow alleys at the entrance to the settlement but wider alleys and open space within them to accommodate social functions and recreation. Such urban forms promote defensible space and a close-knit community fabric which lends itself to resilient community networks.

Magis (2010, p. 402) defined community resilience as "the existence, development, and engagement of community resources by community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise". *Kampung* resilience in this paper refers to adaptive capacities and the engagement of community to sustain changes across various types of disturbance (physical changes, socio-economic pressure and environmental degradation). Common pejorative descriptions and negative attitudes towards *kampung* overlook such positive aspects of this settlement type.

***Kampung* as community-based housing**

Kampung are commonly perceived as slum-like habitats (Dovey and King, 2012). UN-HABITAT (2015) defines a slum household as one in which the inhabitants suffer one or

more of the following household deprivations: ¹³ lack of access to improved water source; lack of access to improved sanitation facilities; lack of sufficient living area; lack of housing durability; and lack of security of tenure. The Indonesian Ministerial Regulation No. 02/PRT/M/2016 puts criteria of slum based on building condition (irregular, high density exceeding 400 persons per hectare, unsuitable for safety and healthy living), infrastructure (poor accessibility), unavailability of potable water provision, unavailability of drainage, ¹⁵ appropriate waste water and solid waste management and no means of fire protection (Ministry of Public Works and Public Housing Republic of Indonesia, 2016).

According to the above definitions, most *kampung* in Surabaya are far from being slum habitats. Significant research completed in Surabaya attempts to counter popular perceptions and asserts that *kampung* are not slums (Devas, 1981; Funo *et al.*, 2002; Santosa, 2008; Setijanti *et al.*, 2016; Silas, 1988, ³⁷ 96). Silas has argued strongly for a fair appraisal of the settlement type suggesting that “*kampung* is therefore not a slum nor a squatter” (Silas, 1988, p. 1). Similarly, Devas (1981), in his research evaluating the *Kampung* Improvement Programme (KIP), concluded that not all *kampung* can be considered as slums.

Furthermore, Santosa (2008) argued that *kampung* as an informal settlement, with minimum urban services and facilities, is being improved by the inhabitants gradually; thus, *kampung* cannot be considered as slums. Similarly, Setijanti *et al.* (2016) affirmed that *kampung* inhabitants in Surabaya are committed to improving their living environments and, as such, cannot be perceived as slums, but rather a unique part of the city and an enduring heritage (Setijanti *et al.*, 2016).

Letfiani and Widyasari (2015) carried out a study on old *kampung* in Surabaya and remarked that *kampung* previously demonstrated slum-like characteristics, but over time have benefited from improvements that upgraded life in the *kampung*. After Indonesian independence, the density of *kampung* increased and *kampung* suffered from poor infrastructure and sanitary conditions (Dick, 2002). However, the municipality together with community in *kampung* has successfully implemented improvement programs in *kampung* throughout the twentieth century. The first *kampung* improvement, *Kampung Verbetering*, w¹² introduced in 1924 during the Dutch colonial period (Dick, 2002). The original intention was to prevent the spread of diseases from *kampung* to other neighbourhoods (Silas, 1988). Silas (1988) also mentioned that in 1969 during the modern independence era, Surabaya implemented a KIP with the objective to improve the physical infrastructure. According to Das (2017), KIP in general is perceived as slum upgrading, but KIP in Surabaya has rarely targeted illegal or squatter settlements. The improvement ¹⁹ programme is ongoing and a priority to achieve cities without slums in Indonesia, in line with the Long-Term Development Plan (*Rencana Pembangunan Jangka Panjang*) 2005–2025 (National Development Planning Agency, 2005).

Kampung in Surabaya have also received local and international acknowledgements as settlements that offer a decent quality of life. Locally, *kampung* in Surabaya participate in green and clean initiatives and have received awards recognising these initiatives. The “clean and green” programme, started in 2005, has successfully continued to the present (Mintorogo *et al.*, 2015). It is not merely because of ¹⁰ government’s initiative to eliminate the negative image of *kampung*, but the community awareness of the importance of a clean and green environment in *kampung* that has made the initiative successful. Internationally, *kampung* have obtained an Aga Khan Award for *Kampung* Kebalen in 1986, UNEP Award in 1990 and the Habitat Award in 1991 (Ernawati *et al.*, 2014).

Over time, *kampung* in Surabaya have demonstrated resilience and durability with the continual upgrading of living conditions through the twentieth century. Hence, it is important to integrate *kampung* with new urban development plans for the city if this resilient and affordable housing type is to continue to serve local communities into the future. Along with the many positive qualities of *kampung*, they are also susceptible to risks. In the next section, the specific risk and resilience profile of Surabaya’s *kampung* is assessed with reference to the

relevant literature and case studies on this distinctive settlement type. Selected studies are presented to show *kampung's* risk and resilience dimensions in Surabaya, and some brief comparisons are made with *kampung* in other urban centres in Java.

Risk and resilience in *kampung*

Various studies have sought to identify problems in *kampung* and the coping mechanisms of *kampung* inhabitants to overcome those problems. These studies mostly focused on inner city *kampung*. This paper reviews 16 studies on *kampung* located on the island of Java in Indonesia. These are presented in Tables I and II with the findings thematically coded. Ten of these were conducted in Surabaya and the other six were from other urban centres, including Jakarta, Bandung and Yogyakarta. As the most populated island in the country, Java accounts for 58 per cent of the total population, even though the island only covers 7 per cent of the total land area in Indonesia (Central Bureau of Statistics, 2010). From the studies presented, risks in *kampung* can be categorised into physical, social, economic and environmental risks (Table I).

Physical risk is the most prominent issue in almost all cases. *Kampung* can be displaced for a range of reasons, including urban development projects (Putra, 2016), urban beautification (Peters, 2013), commercialisation (Damayanti and Kossak, 2016; Ernawati *et al.*, 2013; Setijanti *et al.*, 2016) or land speculation (Raharjo, 2010). Hayati *et al.* (2017) pointed out that in Surabaya's inner city *kampung*, houses have been left empty and not maintained due to socio-economic mobility. Furthermore, a lack of open space for neighbourhood's social activities is also mentioned repeatedly (Rahmadaniyati *et al.*, 2017; Rolalisasi *et al.*, 2013; Santosa, 2008; Setijanti *et al.*, 2016). For *kampung* without clear land ownership status, eviction is a threat to inhabitants (Guinness, 2009; Raharjo, 2010). Furthermore, as noted by Silas (Ginanjar, 2011), the number of quality *kampung* is decreasing due to demolition. Globalisation and land speculation have resulted in the displacement and loss of *kampung's* community structures, especially in *kampung* inhabited by migrant workers (Putra, 2017). The displacement and destruction of such enduring environments has led to new peripheral *kampung* without secure community ties, heritage and a history of resilience.

Social risk is related to a loss of social interaction within *kampung* community neighbourhoods, especially if *kampung* are relocated. Hellman (2015), in his research on poor riverbank areas of Jakarta, concluded that relocation is perceived as the main danger since it will break social ties in the *kampung* community, which help them survive during difficult times. Similarly, Guinness (2009) also identified that exclusion from the city will disconnect *kampung* inhabitants from their social networks. In Surabaya, Ernawati *et al.* (2013) highlighted that the heterogeneity of *kampung* inhabitants may create social conflicts between poor and middle-income people and between different ethnicities and religions if there is no tolerance.

Economic risk is related to the loss of livelihoods and is a primary concern for *kampung* inhabitants (Hellman, 2015). Relocation to another place can break not only the inhabitants' social networks, but also cause them to lose their daily income-earning activities as *kampung* inhabitants depend on their strategic location for informal income-generating activities (Ernawati *et al.*, 2013; Hellman, 2015; Wilhelm, 2011). Insecure jobs and unstable income in this case are consequences of informal income-earning activities (Damayanti and Kossak, 2016; Peters, 2013). Such risks are a common feature of life in the volatile economies of Southeast Asia's globalising cities (McGee, 2002).

Since most *kampung* are located in high-density and low-lying neighbourhoods, environmental risks, such as flooding and environmental degradation, are difficult to avoid (Damayanti and Kossak, 2016; Ernawati *et al.*, 2013; Jones, 2017; Peters, 2013; Setijanti *et al.*, 2016; Wilhelm, 2011). Surabaya, in particular, is located on low-lying land within a monsoonal climatic system. The Asian monsoon climate supports a range of

Table I.
Recent studies about
Kampung

<i>Kampung</i> location	Previous studies	Physical risk	Social risk	Economic risk	Environmental risk
<i>Jakarta</i> Inner City Inner City	Ellisa (2016) Wilhelm (2011) ^a			Loss of daily income due to flooding Dependency on network for livelihood	Overcrowding Risk of flooding
Inner City Riverbank	Hellman (2015)		Relocation is perceived as the main danger – breaking of social ties		
<i>Bandung</i> Inner City Riverbank	Jones (2017) ^a	Lack of formal circulation patterns			Absence of clear water and inadequate sanitation Dark alleyways and rooms with reduced sunlight Poor ventilation and drainage
<i>Yogyakarta</i> Inner City City Fringe	Guinness (2009) Raharjo (2010)	Risk of expulsion by city authorities Land speculation Risk of eviction	Exclusion from the city		
<i>Sarabaya</i> General	Ernawati <i>et al.</i> (2013)	Insistence of city development needs	Social conflict	Economic shocks and fluctuations related to the disruption of livelihoods	Flooding Environmental degradation Pollution
General	Silas and Ernawati (2013)		Culturally diverse – prone to social conflict	Socio-economic diversity is not well supported by the municipality	
General Inner City	Rolalisasi <i>et al.</i> (2013) Santosa (2008)	Lack of space for communal activities Lack of space for neighbourhood development Decreased area of open space			

(continued)

<i>Kampung</i> location	Previous studies	Physical risk	Social risk	Economic risk	Environmental risk
Inner City	Peters (2013)	Cramped neighbourhood Displacement for urban beautification		Informal income earning: street stalls raze Illicit income earning	Flooding
Inner City	Rahmadaniyati <i>et al.</i> (2017)	Shortage of land Dead end road circulation	Individualistic economic activities rather than collectively in promoting <i>kampung</i> economies Crime		
Inner City and Old town	Setijanti <i>et al.</i> (2016) ^a	Poor public space Selling land in the <i>kampung</i> to investors Limited space			Flooding Environmental degradation
Inner City Old <i>Kampung</i>	Hayati <i>et al.</i> (2017)	Lack of maintenance (vacant building)			
Inner City Old <i>Kampung</i>	Damayanti and Kossak (2016)	Commercialisation of houses as boarding houses and temporary accommodation	Security issues Lack of education and family bonds	Job insecurity Unstable income	Flooding
Inner City Old <i>Kampung</i>	Putra (2016)	Displaced by urban development			

Note: ^aResilience term is used in the research explicitly

Table I.

KAMPUNG LOCATION	PREVIOUS STUDIES	RESILIENCE FACTORS WITHIN LITERATURE	RESILIENCE THEMES																			
			Social ties	Adaptation	Community initiative	Place attachment	Place identity	Security	Economic stability	Environmental protection	Government Support											
JAKARTA	Inner City	Elisa (2016)		X																		
	Inner City	Wilhelm (2011) ^a			X																	
	Inner City Riverbank	Hellman (2015)				X																
BANDUNG	Inner City Riverbank	Jones (2017) ^a				X																
	Inner City	Guinness (2009)																				
YOGYAKARTA	City Fringe																					

Table II.
Resilience themes
from previous studies

(continued)

ecosystem services which in turn support the livelihoods and well-being of billions of people. A trade-off for such ecosystem services is the disservices which also accompany these systems. *Kampung*, and the cities that they exist within, are built on fertile deltas and coastal swamps which support agriculture but also expose inhabitants to regular flooding. High and low water flows have been a feature of *kampung* for centuries if not millennia. Several studies discuss flooding as a problem within *kampung* in Surabaya (Damayanti and Kossak, 2016; Ernawati *et al.*, 2013; Peters, 2013; Setijanti *et al.*, 2016). However, for *kampung* inhabitants, annual monsoon flooding is an accepted feature of their lives and they adapt their buildings to the flood situation. Some of the buildings are elevated or have two storeys, so the residents can move their important belongings upstairs during flooding. *Kampung* inhabitants have even developed an informal warning system in cooperation with the municipality office (Wilhelm, 2011). More serious than flooding are the storm surge events that characterise the region and are becoming more frequent and severe with climate change. Overcrowding (Ellisa, 2016), dark alleyways and poor ventilation are other environmental risks sometimes associated with *kampung* (Jones, 2017).

The following section presents how *kampung* inhabitants cope with the risks and transform these capacities into resilience. The purpose is to identify resilience themes for a framework for urban development in uncertain environments.

Resilience themes emerging from the literature

From the selected studies, this paper has identified resilience factors in *kampung*, which can be categorised into nine resilience themes (Table II), namely, social ties; adaptation; community initiative; place attachment; place identity; security; economic stability; environmental protection; and government support. The term resilience has not often been explicitly mentioned in research on *kampung*. Therefore, in the following section, the capacity of *kampung* communities to cope with the four dimensions of risk is carefully appraised.

A striking pattern emerges from the resilience factors identified in the 16 studies as presented in Table II. In all the studies, social ties in *kampung* are found to be the fundamental asset for *kampung* inhabitants to negotiate all kinds of risks. *Kampung* inhabitants use this social capital in mitigation and adaptation strategies to cope with everyday problems, like flooding, and more formidable problems, such as economic shocks or severe natural disasters (Wilhelm, 2011). It is this help from neighbours that *kampung* inhabitants can count on during difficult situations, as stated by Hellman (2015, p. 473) in his research in Jakarta: "Knowing people meant several things, the most important being that one could depend on them in times of distress [...]". This is supported by the resident's opinion: "Here I have people who care about me and take care of me although I am poor" (Hellman, 2015, p. 473). As a community, *kampung* inhabitants help their neighbours to rebuild their houses after devastation by floods (Hellman, 2015). *Kampung* social networks also help the community after flooding. Guinness (2009) provided more examples on strong social ties in action, such as after a death in the *kampung*, the inhabitants help with the funeral costs; or, when neighbours are hospitalised, *kampung* inhabitants raise funds to support them. In Surabaya, examples of strong social bonds in the *kampung* are social activities, such as *arisan* (a savings group for housewives), Independence Day celebration and *slametan* (a ritual ceremony to celebrate births, marriage, housewarming or commemorate the deaths) (Peters, 2013; Putra, 2016). *Kampung* inhabitants prepare and share food together during these social events (Peters, 2013) and hold occasional celebrations within the public space (Rolalisasi *et al.*, 2013).

The next resilience theme is adaptation. Adaptation in the form of housing transformation and the mixed functions of public space is evidence that *kampung* inhabitants are resourceful and can make the optimum use of their environment to accommodate all basic daily activities (Ellisa, 2016). Limited space is therefore not necessarily a problem for *kampung* inhabitants.

In the same way, community-based initiatives may show that *kampung* inhabitants are not a passive community. They actively develop systems to support their built environment, such as building informal warning systems (Wilhelm, 2011), community-based environmental projects (Ernawati *et al.*, 2013; Silas and Ernawati, 2013), neighbourhood maintenance systems (Raharjo, 2010; Setijanti *et al.*, 2016) and communal work programs (*gotong royong*).

Other factors related to resilience are place attachment and place identity. Place attachment refers to a symbolic relationship between people and a specific place. It is characterised by either emotional feeling or affective meaning (Low, 1992, p. 165 in Hutama, 2016). In contrast, place identity is “a result of the connection between people, physical elements of places, and activities associated with them” (Damayanti and Kossak, 2016, p. 18). Place attachment includes cultural activities which connect people to a place. Damayanti and Kossak (2016) investigated place attachment in Keputran, one of the old *kampung* in Surabaya and found that the residents, especially the young adults, spend most of their time in *kampung*, at home or in the alleyways. *Kampung* residents have feelings of place attachment, particularly because the place is inhabited for many years through several generations (Putra, 2016). In terms of place identity, Putra (2016) concluded that uniqueness and historical value are the elements which make place identity stronger based on his research in *Kampung Tambak Bayan*, an old *kampung* in Surabaya.

Security is also identified as one factor which makes *kampung* inhabitants stay in *kampung*. When *kampung* inhabitants know their neighbours, they feel more secure (Santosa, 2008). This factor is related to strong social ties in the *kampung*, which further reduce criminal rates and increase security (Setijanti *et al.*, 2016). Since *kampung* forms strong community networks, a stranger can be spotted when entering the settlement. According to Funo *et al.* (2002), *kampung* in Indonesia and similar western settlement types contrast in their social system and values. *Kampung* are generally more social and safe spaces with lower crime rates, when compared to corresponding neighbourhoods in western cities (Funo *et al.*, 2002).

Economic stability is another sign of *kampung* resilience where small house-based enterprises help *kampung* residents earn additional incomes for the family. Silas and Ernawati (2013) pointed out activities and products of *kampung*, which range from electric generators to local cakes to waste recycled products. In this example, the programme was supported by the municipality, using the “one village one product” approach (Silas and Ernawati, 2013, p. 5).

Finally, government support is essential in determining the future of urban *kampung*. It is the task of the municipality to acknowledge and authorise *kampung* existence in the city and to ensure that *kampung* are part of future development. Housing improvement in the *kampung*, especially those with unclear land rights, is driven by the administrative authorisation (Raharjo, 2010). As concluded by Ernawati *et al.* (2013), good cooperation between *kampung* communities and the municipality is an important factor in the ongoing resilience of *kampung* from generation to generation.

Surabaya: city of *kampung*

This paper focuses on *kampung* in the context of Surabaya. The objective is to understand the link between risk and resilience and to identify strategies to enhance resilience within *kampung*. The field work for this paper was undertaken in February and March 2018 and focused on understanding various *kampung* characters in Surabaya.

Surabaya is the second biggest city in Indonesia, located in the island of Java. It is also the capital of East Java province and borders Madura Strait in the North and East, Sidoarjo Regency in the South and Gresik Regency in the West. The city is experiencing mega-urbanisation processes, which involve not only an increase in scale and number of urban localities, but a diversification from manufacturing to trade and services (Firman, 2017).

Kampung in Surabaya cover large parts of the city and provide housing for low-income households. Many of them have been upgraded through the KIP, which provides basic

infrastructure and improved paved ways and drainage. Surabaya is renowned as having the best implementation of the KIP and has received international recognitions for this programme. Integration of *kampung* in the vision and plans for the city are thus challenges for urban developers and the government. The local knowledge embedded in *kampung* incorporates both past memory and linkage to the future. The following section explains the development process of Surabaya *Kampung* before colonisation in Indonesia.

Development of Surabaya Kampung

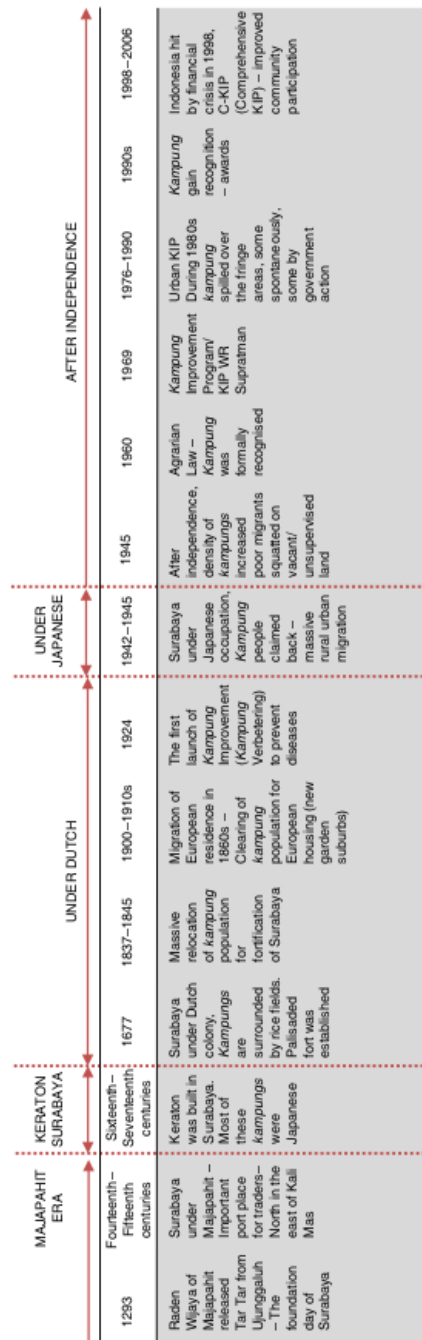
Surabaya consists of a giant agglomeration of *kampung*, which have developed from pre-colonial traders' settlements (Figure 1). During the fourteenth and fifteenth centuries, Surabaya was an important place for traders under the Majapahit Kingdom, especially Chinese and Arab traders, who settled on the northern part of Surabaya in the east of Kali Mas (Purwono, 2006). The irregular settlement pattern evolved in relation to the network of canals that originally connected the settlements. *Kampung* emerged in between the coastal swamps, which eventually silted due to the Kelud Volcano eruptions from 1037 to 1468 (Sugiyarto, 1975 in Josstoday.com, 2015). When the Majapahit Kingdom fell in 1526, Keraton Surabaya was built and *kampung* became important places to support the Keraton (Purwono, 2006).

According to Purwono (2006), the Keraton of Surabaya was similar to Keraton in Solo and Yogyakarta, showing core Javanese elements. In the north, there was Alun-alun Utara, while in the south there was Alun-alun Contong. In the west of the Keraton, *kampung* were named based on Keraton workers status, such as *Kawatan* (heroes memoriam), *Tumenggung* (Tumenggung), *Maspatih* (Patih) and *Praban* (Prabu)[1]. In the east of the Keraton, *kampung* were settlements for workers, for example *Pandean* (iron maker), *Plampitan* (mat maker), *Peneleh* (pot maker) and *Pejagalan* (butcher)[2]. Some other *kampung* were occupied by Keraton's family members (Keputran, Sidi Keputran, Kayoon, Magersari, Simpang and *Kampung Malang*) (Purwono, 2006). Therefore, during this Surabaya kingdom period, *kampung* were important villages.

When Surabaya was formally colonised by the Dutch, *kampung* were still surrounded by rice fields and the Dutch built a small Belvedere Fort (Dick, 2002). Later the Dutch built an "inside walled city" (*Benedenstaad* – Lower City), occupied by Dutch settlers, Chinese business quarters, the Malay *kampung* and Arab quarters. The Dutch fortification required a massive relocation of *kampung*. Furthermore, the migration of European residents caused housing shortages inside the walls. *Kampung* clearance had to take place to make way for new European suburbs. In 1910s, the housing shortage worsened, and *kampung* inhabitants were driven to the urban fringe and were forced to take the compensation given. During colonial times Kali Mas silted up and brackish water became a breeding ground for malaria. As a result of these environmental changes, health problems increased. The first *Kampung Improvement* (*Kampung Verbetering*) was launched in 1924 to prevent the spread of diseases from *kampung* to other wealthier settlements (Dick, 2002; Silas, 1988).

When the Dutch were defeated and expelled in 1942, Surabaya fell to the Japanese occupation. *Kampung* inhabitants claimed back their land, and there was a massive rural-urban migration. People flooded into the city and began squatting by building huts along canals and railways. After Indonesian independence in 1945, the density of *kampung* increased, and squatters were spotted in vacant or unsupervised lands. In 1960, the new Agrarian Law was launched, and *kampung* inhabitants were finally given rights for their occupancy and tenure. Despite this acknowledgement, squatters along riverbanks, fire lanes, and roadways continued to be demolished (Dick, 2002).

The KIP gained momentum again in 1969. Surabaya adopted WR Supratman KIP, an upgrading programme which put community participation at the local level. The programme was implemented based on the request and proposals from *kampung* inhabitants. It aimed to improve basic infrastructure and services in *kampung* (Septanti, 2016). Concrete slabs and



Sources: Constructed from Dick (2002) and Purwono (2006)

Figure 1. Development of Surabaya Kampung

gutter were provided by the municipality and *kampung* inhabitants contributed half of the financial cost and volunteered as labourers (Silas, 1988). Furthermore, comprehensive KIP (C-KIP) – Urban KIP funded by World Bank (1974–1978), UNEP (1978–1980) and UNICEF (1981–1983) took place and the programme focused on high-density *kampung*. Since 1980s, *kampung* have expanded beyond the inner city to the outer urban fringes (Dick, 2002). In 1998, Indonesia experienced a financial crisis when the municipality implemented C-KIP which involved universities as facilitators and improved community participation. KIP was stopped for three years due to the financial crisis and resumed in 2001 with financial support from the municipality (Septanti, 2016). The new C-KIP is known as *Tribina* programme which transformed KIP from a programme focused only on physical development to a threefold approach: physical development, social improvement and economic improvement (Tunas and Darmoyono, 2014). The programme included the empowerment of the community through basic education facilities and micro-scale economic programs.

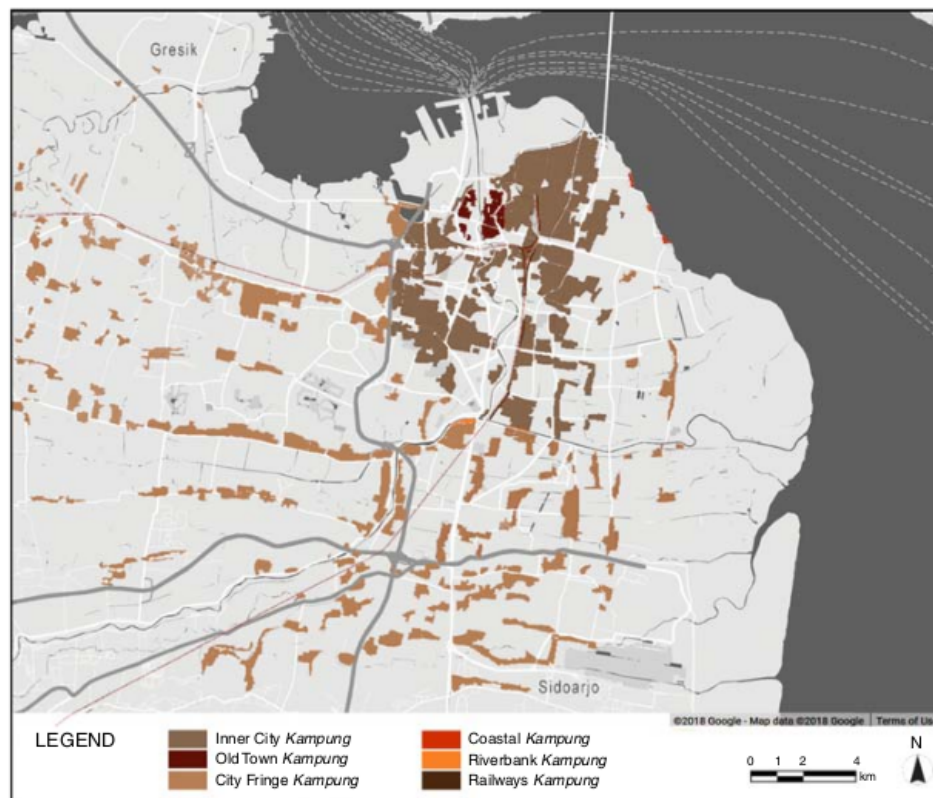
Apart from the [26] project, other slum rehabilitation projects have been carried out in Surabaya, such as: Social Rehabilitation of Slum Area (*Rehabilitasi Sosial Daerah Kumuh*) since 2003 and Programme for Reducing the Urban Poor (*Program Pengentasan Kemiskinan di Perkotaan*) since 1999 (Septanti, 2016). In addition to these programs, the municipality initiated the Green and Clean programme in 2005 to create sustainable *kampung* habitats; a programme which still continues (Mintorogo *et al.*, 2015). As a result, Surabaya is one of the references for other cities in implementing community-based upgrading programs.

The resilience of *kampung* in Surabaya is well documented throughout history. Prior to Indonesian independence, during the Second World War, many *kampung* were bombed; however, the municipality quickly rebuilt the city (Silas, 1988). When the density of *kampung* increased, *kampung* in Surabaya started KIP, which gained international recognitions. *Kampung* are clearly a fundamental unit in the urban structure of the city. The following section explains types of *kampung* in Surabaya using a place-based approach and evaluates existing risk and resilience in the *kampung*.

Place-based dimensions of resilience in the *kampung*

This paper employs a place-based approach to understand urban settlement and suggests six types of *kampung* in Surabaya based on locations and characteristics: inner city *kampung*, old town *kampung*, city fringe *kampung*, coastal *kampung*, riverbank *kampung* and railway *kampung* (figure 2). David Canter, *The Psychology of Place* (1977 in Damayanti, 2015), explained the place-based approach as a method of understanding a place based on the analysis of physical environment, people's behaviour and people's conceptions. The rationale of using this approach is first that "place" is a powerful social concept that can be used to inform the study of natural resource politics (Cheng *et al.*, 2003). According to Cheng *et al.* (2003), by taking a "place" perspective, the connection between human and environment resources are recognised. Hence, the linkage between *kampung* characters and the location can be evaluated. Second, place, which includes social and physical environments, shapes people's well-being (Centre for Community Child Health, 2011). Third, place-based approaches capture local uniqueness and attributes and address social dimension of development (Salvia and Quaranta, 2017). Surabaya has a distinctive spatial urban structure, which consists largely of the irregular pattern of *kampung* housing. As such, studying this urban settlement needs to look at place as a space with meaning.

Most *kampung* are located close to job opportunities, either behind commercial districts or industrial areas. Many *kampung* inhabitants are relatively poor people, which can be seen from the modest housing conditions. However, middle-income people also live in *kampung* and own private cars for their transportation mode. The majority of *kampung* are characterised by narrow alleyways, in some only three metres wide, just enough for a motorbike or *becak* (pedicab) to pass, and other *kampung* have wider alleyways, enough



Source: Author, traced from Google Earth (2018)

Figure 2.
Location of Surabaya
Kampung

for one vehicle to pass through. After KIP implementation, most *kampung* alleyways are paved and gutters are provided to prevent flooding during rain. Guinness (2009, p. 29) observed that “There is no uniformity about *Kampung*”, *kampung* in Surabaya are distinctive, even between *kampung* in the same districts. All *kampung* houses are unique and constructed gradually by the *kampung* inhabitants. Mixes of better houses and poor houses are common in *kampung*. The public spaces in *kampung* are often used to support their income-earning activities, for example, in coastal *kampung*, *kampung* inhabitants dry fish in the alleyways (Shirleyana and Sari, 2013).

Inner city kampung

Inner city *kampung* are located within the central business district (CBD) of Surabaya. Examples of inner city *kampung* are *Kampung* Kebangsren, Ketandan, Peneleh and Lawang Seketeng. The *kampung* are located off street, behind towers, shopping malls, offices and other shops or commercial facilities. The workers of these commercial offices often rent rooms in these *kampung*. Informal *warung* (small home-based enterprises) managed by *kampung* inhabitants sell affordable food for the workers. According to Statistics of Surabaya Municipality (2017) in the population census 2010, housing density in Central Surabaya ranges from approximately 11,000 to 31,000 people per square kilometre. Development of the city starts from the northern part, where the old town exists, thus, northern *kampung* take up a larger space in the city. *Kampung* circulation uses small alley networks with an irregular pattern, connecting one *kampung* to another. Riding bikes in *kampung* is strictly prohibited, or

otherwise is considered impolite. *Kampung* inhabitants are socially active and participate in environmental management projects to improve *kampung* conditions. Inner city *kampung* have existed since the Keraton Surabaya was built, have survived through wars and have been improved over time with KIPs. However, inner city *kampung* encounter physical and social risks. Large urban development projects dominate the inner city area and the CBD, and the existence of these *kampung* in the future is uncertain. Many *kampung* houses are for sale or inhabited by migrants and some former residences now function as boarding houses. Sometimes old houses in *kampung* are abandoned and not well maintained. On the other hand, many inner city *kampung* have been listed as heritage *kampung*, which means the municipality has supported *kampung* existence in the city.

Old town kampung

Inside the inner city area, there are old *kampung* which previously were Chinese settlements, Dutch settlements, as well as Arab and Malay settlements which existed during the Dutch colonisation. Many of these *kampung* have also been listed as heritage *kampung*, protected by the municipality from large development projects. Arab *kampung*, like Ampel, are now tourist destinations with strong Arab and Islamic values featuring heritage mosques. Chinese *kampung*, like Gili and Songoyudan, have evolved to feature a strong commercial character and operate as business quarters within the city. During daytime, these *kampung* are often busy with economic trading activities in main streets like Kembang Jepun. In contrast, during the night, they are quiet and dark. *Kampung* houses function as home-based enterprises and are active in daytime for trading activities. However, despite their seemingly lively environments, many houses are abandoned or have been placed on the market for sale. As a result, old town *kampung* may also face physical and social risks that threaten their existence.

City fringe kampung

On the fringe of the city, *kampung* take on different qualities according to their locations. Towards the mangrove conservation areas on the eastern coastal [27](#) of the city, *kampung* are rare and dispersed in-between private real estate ventures. In the southern and the western borders of the city, *kampung* are located near industrial areas. *Kampung* here form linear settlements, located along main arterial roads. In the west, city fringe *kampung* have the lowest density in the city, ranging from about 2,000 to 3,500 people per square kilometre (Statistics of Surabaya Municipality, 2017). The street widths vary from 4 to 8 metres. The city fringe *kampung* are open for expansion since they are surrounded by vast areas of vacant lots and agricultural lands. Examples of city fringe *kampung* include: *Kampung* Jambangan, Gunung Anyar and Darmokali. In contrast to the inner city *kampung*, individuals are allowed to ride on bikes in most areas of city fringe *kampung*, especially when the alleys are wide. Home-based enterprises are more varied than those in the inner city *kampung*, ranging from general stores, food stalls, laundry, photocopy providers, to private contractors. Social risk is prominent in most city fringe *kampung* where many of the inhabitants are migrants and not very active in mingling with their neighbours. In *Kampung* Darmokali, security of tenure is a problem because some areas of *kampung* are illegal. Nevertheless, *kampung* inhabitants take initiatives to share available public facilities.

Coastal kampung

Considering Surabaya is a coastal city, some *kampung* are located in the coastal area, next to [24](#) the Kenjeran Beach. Along the eastern coastline of Surabaya, there are *Kampung* Kejawan Lor, Sukolilo Lor and Cumpat. These *kampung* have small alleyways, and no vehicle can enter the areas. Most of the public spaces are occupied for daily livelihood activities. Most *kampung* inhabitants work as fishermen and depend on marine products for their livelihood. The new

Bulak Fish Market cannot support the fishermen in selling marine products because it has a limited number of visitors. Poor sanitary condition and lack of proper drainage are evident in this coastal area (Shirleyana and Sari, 2013). Furthermore, because Surabaya occupies low-lying land with insufficient drainage, the area suffers from daily flooding. However, the municipality has taken an initiative to construct a sea embankment to prevent flooding. The municipality has also helped the community make coastal *kampung* houses colourful to support fishermen *kampung* tourism. The provision of a public open space (Taman Suroboyo) next to Cumpat is a response to the need for open space in this area. The residents welcome these initiatives and are willing to support in the improvement of their *kampung* conditions.

Riverbank kampung

Riverbank *kampung* in Surabaya have diminished over time. Some of them were previously squatters, having poor living conditions and high health risks. As a consequence, they have been relocated to social housing areas or evicted. In 2008, the riverbank areas in Surabaya were occupied with squatter settlements along the Kali Mas and Kali Wonokromo rivers. After the relocation, riverbank *kampung* are now limited in extent; however, some *kampung* still exist like Pulo Wonokromo and Baratajaya Tangkis along the Kali Wonokromo river. Surya (2017) reported that *kampung* community founded the Surabaya Riverbank *Kampung* Community (*Paguyuban Warga Srenkali Surabaya*) in 2002 and has put in efforts to avoid eviction by the municipality. According to the news (Surya, 2017), *kampung* inhabitants took the initiative to change the house orientation to the river and provide a 3- to 5-metre setback from the river for alleyways. This *kampung* has existed since 1950, when massive rural–urban migration occurred during the Japanese colonisation. Those migrants who cannot find housing during this period squatted wherever vacant lands available – this was frequently along the riverbanks.

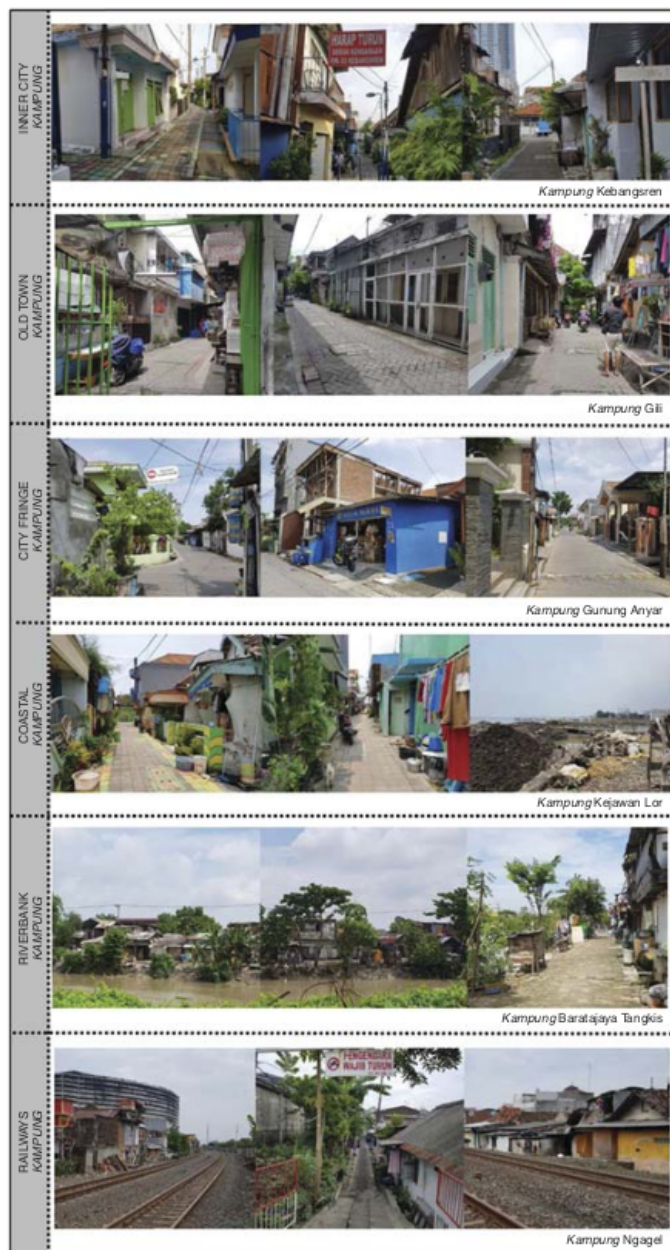
Railways kampung

The railways constructed during the Dutch colonisation have influenced the emergence of *kampung* settlements along the railway lines. Examples of railway *kampung* include Ngagel, Ambengan and Sidotopo. Among the other locations of *kampung*, railways *kampung* and riverbank *kampung* have the poorest living conditions. The alleyways are narrow, allowing for no entry for vehicles. They are also affected by the unclear status of land ownership. Railway *kampung* houses are dense, thus, sunlight can hardly enter in the open outdoor spaces. It is dangerous to live in such areas because people must walk on the railway tracks. In some railway *kampung*, the municipality has erected fences to secure the railway area; however, many parts of the railway are still open and accessible to the inhabitants.

Overall, *kampung* conditions are varied. Even within the same district, *kampung* alleyways are varied in terms of width. The housing conditions are also mixed, ranging from the poorest to middle-income residents. Table III summarises the risk and resilience factors in *kampung* in Surabaya. Physical and social risks are prominent, because many *kampung* houses are empty, occupied by migrants and have been converted into boarding houses or waiting for the houses to be sold. However, despite these risks, *kampung* inhabitants find ways to be resilient, making *kampung* not only a place to live but also to support their livelihood and social activities. The diversity of physical and socio-economic conditions of *kampung* inhabitants demonstrates their ability to function as inclusive and social spaces (Figure 3).

Resilience of the *kampung*: a framework for urban development

Based on the risk and resilience factors of *kampung* in Surabaya, this paper develops a framework for urban development with *kampung* as a role model to achieve resilience. In Indonesia, the National Resilience Council (2015) has defined national resilience as “the dynamic conditions of a nation which encompasses all national life that is integrated, contains perseverance and ability to develop national strength in facing and overcoming all challenges,



Source: Author's photographs (2018)

Figure 3.
Various *Kampung*
condition based
on locations

threats, obstacles and disturbances, both from internal or external, to guarantee identity, integration, and the survival of the country to achieve national goals". Existing housing policy aims to upgrade *kampung* and has benefitted the city and the country for more than 30 years (Bertaud and Bertaud, 2012). However, to manage and enhance resilience of the *kampung* at multiple scales, the inherent strengths and linkages between Surabaya's urban systems need to

be assessed. Currently resilience is not strongly expressed within Surabaya's policy framework. By building upon existing capacity rather than introducing new and foreign housing and settlement models, resilience is enhanced at local levels.

In the recent special issue on innovation in housing policy in the Global South, Monkkonen (2018, p. 167) wrote that three important lessons have emerged from global experience: "that it is difficult to mass produce housing well"; "that community-based upgrading programmes often fail to benefit the worst off"; and "that ultimately, housing policy is a political problem that often fails to consider the diversity of populations at the expense of the least powerful". The KIPs within Indonesia have been amongst the most successful of Indonesia's housing initiatives and go some way in meeting the above challenges (Tunas and Darmoyono, 2014).

Furthermore, by building on existing capacity and housing models, Surabaya can enhance local networks that are at the heart of resilience. However, in order to do so, a couple of questions must be answered: "Resilience for whom and against what? Many different entities (e.g. individuals, communities, academic disciplines, professional fields, governments, corporations) all seek to claim the term. How do they decide whose resilience to care about?" (Vale, 2014, p. 191). Meerow *et al.* (2016) extended the questions to include the 5 Ws of resilience: resilience for whom, what, when, where and why. Therefore, enacting local resilience in *kampung* should be based on addressing *kampung* inhabitants' needs and capacities. Drawing from the literature, key themes emerge within the local resilience framework: social ties; adaptation; community initiative; place attachment; place identity; security; economic stability; environmental protection; and government support. These themes are discussed in the context of *kampung* in Surabaya in the following sections.

Social ties

Kampung inhabitants' capacity to live with all four dimensions of risks (physical, social, economic and environment) is built on social capital. Neighbours within *kampung* can help each other in difficult situations, such as daily stress, loss of livelihood, sick or loss of family members and even help with rebuilding when *kampung* inhabitants lose houses devastated by frequent floods. Social ties have been acknowledged as significant factors in building community resilience (Salvia and Quaranta, 2017). An example of strong interaction is mutual work (*gotong royong*), which has been a basic character of Indonesians. Further investigation is needed, because in the case of Surabaya, social risk is prominent as many *kampung* inhabitants are migrants or only temporary residents. Some *kampung* areas are still socially active, but many of Surabaya's *kampung* are in danger of being abandoned and left by the inhabitants.

Adaptation

Adaptation refers to the adaptive capacity which influences resilience (Walker *et al.*, 2004). As Guinness (2009) and Jones (2017) pointed out, density leads to various types of adaptation to meet housing needs in *kampung*. In the case of Surabaya, adaptation is the most significant factor contributing to resilience. In the inner city *kampung* where housing density is higher than other locations, *kampung* have slowly evolved by adapting to changes in the urban centre. Transformation in public space, alleyways and in houses is achieved incrementally based on the demand. To mitigate flooding risk which is perceived as normal, housing level in *kampung* is elevated. In addition, the location of *kampung* behind commercial districts and shopping malls has also influenced the spread of informal income-earning activities in *kampung*. These efforts show the adaptive capacities of *kampung* inhabitants to changes.

Community initiative

As *kampung* inhabitants try to cope with challenges in *kampung*, they develop community-based projects, such as small home-based enterprises, green and

clean programs, waste management and various cultural activities. These community initiatives further induce physical, social and economic improvements in *kampung*. The creation of the Riverbank Community Organisation demonstrates how a community initiative can support *kampung* existence and help the community negotiate with the municipality.

Place attachment and place identity

Place attachment is closely related to emotional feeling and connection to a place while place identity is a result of this connection. Old *kampung* in the city carry these themes as attachment of people to *kampung* is strong. People with a strong “place attachment” are likely to help their community during disasters (Renschler *et al.*, 2010). Residents in old *kampung* may stay for many years and over several generations. The old *kampung* have survived through wars and socio-economic deprivation. However, in Surabaya, social attachment may be stronger than place attachment. The challenge now is urban development projects which gradually eliminate old town *kampung*. *Kampung* houses may still exist but building functions have changed to commercial use rather than accommodating residential use. Moreover, entry of migrant workers cannot be avoided, and they move into *kampung* as an affordable housing option in the city. For *kampung* with a strong identity and character such as Ampel (religious character) and Kejawan Lor (fishermen character), they are likely to thrive and become commercial and community role models for other *kampung* developments.

Security

Security here is not only limited to preventing crimes in *kampung*, but also networks that enable access to information, and in emergency situations provide support to meet basic needs. In *kampung* where communities are interconnected, safety networks are inevitably created. A feeling of security thus makes the attachment to the place stronger. For instance, in the railways *kampung*, fences are built to provide security for *kampung* inhabitants, although in some areas there are still direct accesses to the railways.

Economic stability

Although *kampung* inhabitants are mostly low-income households, they cope with char³s and economic stresses in a resourceful way. Renschler *et al.* (2010, p. 7) argued that “resilient communities are characterized by their involvement in a diverse array of products and services that are both produced in and available to the community”. Small home-based enterprises are present in most *kampung*, from *warung* (small shops), food or snacks vendors, to waste recycled products. At almost every *kampung* location in the city, *warung* can be spotted either off-street inside *kampung* or on-street in front of *kampung* gate.

Environmental protection

Ecological sustainability is linked to community resilience. *Kampung* in Surabaya have been through upgrading programs for more than 30 years. The programs help *kampung* to improve living conditions, i³¹ only with physical development, but also social and economic improvements, which also improve the quality of life of the inhabitants. In Surabaya, all *kampung* participate annually in “green and clean” competitions which have been around for more than ten years.

Government support

Urban governance is crucial to reduce vulnerability and increase adaptation to risks (Adetokunbo and Emeka, 2015). Support from the local government (Surabaya Municipality) will determine the future of urban *kampung* in the city. The Municipality of Surabaya has been acknowledging *kampung* existence in the city through the *kampung*

upgrading programme and the green and clean competition to demonstrate that *kampung* are liveable settlement with a decent living quality. According to a riverbank community leader, relocation to rental flats/*rusunawa* (social housing) can never replace “the webs of life, culture and social capital; the space and agglomeration that support livelihoods; and access to amenities” in *kampung* (Das, 2017, p. 15). In a riverbank *kampung* in Baratajaya Tangkis, the community negotiated with the local government and established a setback between their houses and the river. The municipality agreed and this *kampung* survived while other riverbank *kampung* have been relocated. Another example is in the coastal *kampung* of Surabaya, where some improvements have taken place with the support of the municipality. The municipality has painted *kampung* houses with colourful paints, built a large public open space next to *kampung* and constructed a sea embankment to reduce the risk of flooding. As a result, the conditions of coastal *kampung* have improved.

Overall, *kampung* have served as a form of self-help housing and capital for their inhabitants. *Kampung* integrate social, financial, natural, physical and human capital, which demonstrate resilience of *kampung* inhabitants. Residents improve their quality of life through creativity, innovation and local knowledge (Tunas and Darmoyono, 2014). However, this approach is controversial and all-too-convenient for governments, according to critics of recent neoliberal approaches to housing delivery within Indonesia. As stated by Kusno (2018), the dominant narrative within housing provision has been the withdrawal of government housing initiatives in favour of housing provision with private capital. However, private capital favours formal housing markets and neglects the majority of Surabaya’s *kampung* housing landscapes:

[...] the state is seen as neither neglecting nor intervening through policies and programmes but maintaining a safe distance by letting the people in the irregular settlements (called *kampung*) house themselves (Kusno, 2018, p. 69).

Current urban policies overlook *kampung* potential as a future development model in Indonesia and other Southeast Asian countries. The promotion of resilience thus calls for a greater engagement by the government if such settlements are going to improve and remain sustainable in the face of urban shocks and developments in the long term. A resilience framework that integrates community initiatives, government support and adaptation of the diversity of the *kampung* model maybe a way for today’s neoliberal governments to reinforce this enduring, inclusive and resilient urban settlement type. Ultimately, resilience policy frameworks are important to link local capacity and local knowledge to a wider level, connecting past memory to the future development of urban settlements.

Conclusion: *kampung* as a diverse resilience network

Kampung, as the main urban settlement in Surabaya, cover a large area of the city and are home to most of its inhabitants. On the one hand, *kampung* have been stigmatised as a slum habitat since the majority of their inhabitants are poor income households. On the other hand, *kampung* provide resilience and a support system for the city. To demonstrate the resilience of *kampung*, this paper has employed selected studies from urban centres in Java and taken Surabaya as a detailed case study to provide a clearer understanding of *kampung* as a part of urban space with its various characteristics, risk and resilience. There is a clear need for more in-depth study of *kampung* to find resilience factors, particularly in supporting the socio-economic life of *kampung* inhabitants.

The main findings of this study include the following. First, the greatest risk to *kampung* is the physical risk of being evicted due to large urban development projects, or urban beautification programs. Physical risk is followed by economic risk. Unstable sources of livelihood are more significant concerns than environmental problems like overcrowding or flooding. Furthermore, this study reveals that the key to survival of *kampung* inhabitants in

facing all risks are social ties. Social ties in *kampung* neighbourhoods are an asset which facilitates adaptation strategies in times of distress. Further investigation into the nature of social ties in Surabaya *kampung* is needed because they are in danger of being abandoned as a viable community housing model. Finally, in terms of developing a local resilience framework, nine key themes are clear: social ties; adaptation; community initiatives; place attachment; place identity; security; economic stability; environmental protection; and government support. In a broader context, this resilience framework is important to address the social, economic and environmental vulnerabilities of Southeast Asian cities. While this paper attempts to understand risk and resilience of *kampung* as an informal type of urbanism using expert studies, there is a need to identify risk and resilience measures derived from community perspectives. This research demonstrates that *kampung* in Surabaya are distinctive, located in almost all areas of the city, making Surabaya a city of *kampung* with diverse local resilience networks. Given that *kampung* are a fundamental unit within the urban structure of the city, their inherent resilience needs to be integrated into future resilience policies.

Notes

1. *Kampung* names were derived from the position of Keraton workers. *Tumenggung*, *Patih* and *Prabu* refer to position of Keraton workers.
2. *Kampung* names were derived from the literal translation (toponym) of the occupation of *kampung* inhabitants.

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