Migration and the Formation of Kampungs in Surabaya: Historical Dynamics and Typologies of Inner-City Settlements

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Abstract. This study examines the historical role of migration in shaping the formation of kampungs within urban contexts in Indonesia. Strategically located as a coastal port city, Surabaya has long served as a migration hub, attracting traders, laborers, and settlers from across the archipelago and beyond. The diverse migration flows have played a central role in the emergence, expansion, and persistence of kampung settlements. Drawing on historical archives, secondary literature, and urban studies frameworks, this research analyzes how migration patterns have shaped kampung formation.

The analysis identifies economic opportunity, political transition, and environmental constraint as key drivers of migration that have shaped where and how people settled. These forces produced diverse kampung forms and settlement behaviors that adapted to both opportunity and limitation. The study proposes a typology of migrant, indigenous, and instant kampungs to explain how migration generates distinct socio-spatial logics and morphological patterns. Findings reveal that kampungs are not residual or transitional spaces but evolving urban systems shaped by long-term mobility, adaptation, and collective agency.

By foregrounding migration as a central driver of kampung urbanization, the paper contributes to broader debates on urban informality and settlement morphology. It challenges static understandings of kampungs as residual or transitional spaces, instead framing them as active sites of city-making shaped by historical mobility and socio-economic change. This study recognizes migration as a generative force of urban morphology, underscores the need to embed historical and migratory perspectives into inclusive urban and housing policy in rapidly urbanizing cities of the Global South.

Keywords: Migration, Kampung Formation, Typology, Informal Settlement

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1 Introduction

Surabaya, Indonesia's second-largest city, has evolved as a strategic urban hub shaped by centuries of political, economic, social, and cultural transformation. Like many Global South port cities, it has long served as a gateway for commodities and labor, intertwining mobility and settlement (Dick, 2003). Surabaya's origins date to the mid-13th century, when it developed as an early settlement, then continued and driven by its identity as a port city. Surabaya was described as a wealthy and influential state, a major trading hub by the 16th century and a prominent coastal power in the 17th (Ricklefs, 1993). As a key port in colonial and post-independence eras particularly since the 18th century, Surabaya grew into a maritime, trading, and industrial city. Later, industrialization during New Order (1965-1988) shifted its economy from agriculture to industry, manufacturing, services, and informal trade (Dick, 2003). These transformations generated new labor demands, attracting migrants from surrounding rural areas, smaller towns, and other provinces.

Migration to Surabaya has historically been continuous and multifaceted. Migrants arrived from nearby rural areas of East Java, from other regions across the Indonesian archipelago, and even from abroad, including Chinese, Arab, and Dutch communities. Major migration movements have been closely linked with the establishment and expansion of human settlements (Walter et al., 2017; Elder & Catriona, 2021). Surabaya is no exception. Its migration landscape reflects both the pull of economic opportunities and the push of limited rural prospects, resulting in diverse settlement trajectories.

However, the capacity of formal housing systems to absorb these migrants has been limited. Rapid urbanization has often outpaced the provision of adequate, affordable housing, leading to the proliferation of informal settlements. This is a well-documented pattern: informal settlements emerge as structural responses to systemic gaps in affordable urban housing and policy and planning systems (Bhan, 2019). Low income or tenure insecurity issues drive them to settle in makeshift communities on marginal lands, such as along riverbanks, railways, or congested alleys (Davis, 2006). Simultaneously, urban expansion has been accelerated by natural population growth and globalization (Shatkin, 2017). Migrants' settlements have produced dense, socially embedded, and economically vibrant neighborhoods that form the core of Surabaya's urban fabric, especially through the typology of kampung as a form of vernacular informal settlement.

While this relationship between migration and kampung formation is widely acknowledged, existing studies tend to emphasize social organization, governance, or housing provision, often treating kampungs as socially resilient but spatially incidental environments. As a result, the role of migration in shaping the urban morphological characteristics of kampungs remains underexplored. Most developing countries continue to render migrants largely invisible, resulting in planning theories that do not engage with urban migration until recently (Das, 2017).

Few studies systematically examine how the dynamics of migration have shaped kampungs over time, including in Surabaya. Yet kampungs occupy a substantial proportion of Surabaya's urban land and population, forming a significant component of

the city's urban infrastructure (Shirleyana, 2018). Moreover, migration to Surabaya involves multiple temporalities and trajectories that may produce distinct kampung formations and typologies.

This research addresses this gap by examining how migration influenced the formation and transformation of Surabaya's kampungs. It traces the historical and contemporary migration processes from the colonial, post-independence, and contemporary eras, that underpin the city's kampung morphology. Beyond identifying migration drivers, the study links these processes to observable spatial characteristics of kampungs, framing urban informality as a historically embedded and morphologically differentiated condition. It also aims to develop a typology of kampungs that reflects these migration dynamics. This perspective aligns with contemporary urban theory that views informality not as an aberration but as an integral part of city-making processes in the Global South (Roy, 2005; Robinson & Roy, 2015).

By doing so, this study contributes to a nuanced understanding of the interplay between migration and urban informality, framing kampungs not as residual or transitional spaces but as evolving urban systems shaped by long-term mobility and adaptation. This morphology-focused perspective provides a basis for fine-grained planning and redevelopment approaches that engage with existing kampung structures rather than replacing them wholesale. As cities across the Global South grapple with accelerating migration and housing pressures, this research offers a critical lens for understanding how urban form is produced through everyday practices of settlement and adaptation.

2 Literature Review

Lee (1966) conceptualizes migration as a process driven by the evaluation factors associated with places of origin and destination, while Rapoport (1977) approaches migration as a process of habitat selection, where humans choose their living environments by assessing attractions across multiple spatial scales. These perspectives situate migration not only as demographic or economic process but also spatial and cultural act of place-making. Throughout history, migration patterns have been shaped by various events, including natural disasters and human-induced crises that influenced population counts, settlement dynamics, and broader urbanization processes (Reba et al., 2016). During the medieval era to pre-industrial era (from prehistoric times to before the 18th century), migration was primarily driven by agriculture, commerce, conquest, and pilgrimage (Manning & Trimmer, 2020). The migrations were typically cyclical or seasonal, following rhythms of agricultural production, trade circuits, and political shifts (Manning & Trimmer, 2020). During this period, urban centers function as nodes within fluid networks. Importantly, global migration networks already existed, such as the Silk Road through Central Asia, and the movements of Muslim and Chinese merchants (Manning & Trimmer, 2020). The onset of industrialization in the 18th to 20th century shifted migration pattern, intensified rural-urban migration, emphasizing the urban-rural dichotomy transformed by industrial and political transformations (Saunders, 2010). Cities became engines of economic growth, attracting rural populations

seeking industrial employment and political autonomy. Since the 20th century, globalization and post-colonial transformations further expanded the scale and complexity of migration. Urbanization tendencies have intensified, leading to large-scale spontaneous migration to cities and the emergence of global megacities. Contemporary migration is characterized by transnational mobility, multiple forms of legal status, and the centrality of cities as hubs within global networks of capital, labor, and culture (Castles, de Haas & Miller, 2014). Consequently, migration often brings changes to spatial organization through the creation and adaptations within the built fabric.

2.1 The Impact of Migration on Urban Informality and Settlement Formation

Migrants shape urban environments not only through their movement but also through the everyday spatial practices that sustain cultural values and social networks (Saunders, 2010). As populations relocate, they carry needs and cultural expressions embedded in everyday practices, which shape how they organize and inhabit spaces. These spatial practices through lived experience function as active forms of place-making, rather than passive responses to fixed spatial structure (Kärrholm et al., 2023). Over time, these practices accumulate and contribute to the gradual transformation of urban form and the layering of the built environment. Migrations, therefore, produce more than transitional spaces; they contribute to long-term urban morphologies through adaptive, culturally embedded practices.

These dynamics are visible in Southeast Asia, where rapid population growth and urbanization have reshaped major metropolitan centers such as Jakarta, Manila, Bangkok, Ho Chi Minh City, and Kuala Lumpur. Rural-urban migration spurred by the promise of employment in industrial, service, and informal sectors has transformed cities into magnets for opportunity and engines of demographic change (UN-Habitat, 2020). More than half of the region's 680 million inhabitants now live in cities, a share projected to increase to between 65%-70% by 2050, surpassing global averages (United Nations, Department of Economic and Social Affairs (DESA), 2018). While this growth has driven economic development, with cities accounting for more than 65% of the region's GDP (World Bank, 2015), it has also strained infrastructure, deepened inequality, and underscored the persistent presence of informal settlements within central urban areas (ADB, 2017). Rural-to-urban migration often drives the outward growth of cities and the proliferation of informal settlements when infrastructure and housing supply fail to keep pace with demographic change (Niva et al., 2019). In many developing countries, this process manifests in visible housing deficits such as squatter communities, slum areas, and even street homelessness (McCutcheon, 2019). Migrants depend on informal networks to find temporary shelter or occupy peripheral, neglected, or poorly serviced urban spaces as an entry point into the city (Saunders, 2010). In this context, informal settlements emerge as structural responses rather than incidental outcomes to persistent gaps in affordable housing provision and urban planning systems (Bhan, 2019).

Formed through processes outside formal regulations on land tenure, planning, design, and construction, they are distinct from—but often overlap with squatter settle-

ments (Dovey et al., 2018). Over time, many have evolved from temporary or transitional phases into enduring components of urban landscapes in many cities in the Global South (Bastia, 2015). They also serve as key sites for accommodating migration and natural population growth, providing accessible and affordable housing through incremental, self-organized development (Dovey et al., 2023). Despite being overlooked by the formal gaze, informal settlements play a critical role in supporting the functioning of formal cities (Dovey et al., 2018). Located near jobs and services, they house much of the urban labor force, so their eviction or relocation can disrupt economies and intensify spatial inequality (Dovey et al., 2018). Taken together, these processes illustrate how migration-driven informality becomes embedded in urban form.

2.2 Kampung as an Urban Vernacular Settlement

Within this broader pattern of urbanization and informal settlement growth, Indonesia presents a distinctive context where global dynamics intersect with long-standing socio-cultural conditions. While migration to urban areas is often driven by economic factors, such as employment opportunities, income insecurity in rural areas, and the promise of improved livelihoods, it is also shaped by structural inequalities in access to formal housing and services (Alzamil, 2018). In response, many migrants settle in informal neighborhoods that emerge outside state-regulated planning systems. These settlements are not merely temporary solutions to housing shortages; instead, they function as socially embedded environments that sustain kinship ties and cultural continuity (Hutama, 2018). In the Indonesian context, such neighborhoods take the form of kampungs. Settlements that have historically evolved through spontaneous adaptation, hybrid material practices, and negotiated governance arrangements (Suhartini & Jones, 2019). Kampung exemplifies what can be described as vernacular architecture because it is rooted in collectivity. It comprises “the dwellings and all other buildings of the people”, created in response to environmental conditions, available re-sources, and socio-cultural needs by the local knowledge (Oliver, 1997). As Oliver in Cahyadini (2024) emphasizes, this vernacular architecture adapts to the everyday lives of its inhabitants, reflecting shared traditions and modes of living specific to time and place.

When extended from individual buildings to urban scale, vernacularity describes processes of collective self-organization. These processes are inherently generative, adaptive, and non-linear. Within this frame, kampung can be under-stood as an urban embodiment of vernacular architecture, where communal practices and local agency collectively produce urban form outside formal design systems (Newberry, 2018). Some attempts to “formalize the informal” often fail because they disregard these embedded logics of adaptability and collective authorship (Jones, 2017). Rather than being disordered or chaotic, kampungs embody what Dovey (2025) calls vernacular urbanism: a participatory, self-organized mode of city-making sustained by residents’ agency, kinship networks, and everyday spatial innovation. The notion of informality as a form of urbanity provides a theoretical lens for understanding kampung as a foundational mode of city-making rather than a residual form. His argument implies that the informal is not a deviation from the formal city but its generative origin (Dovey, 2025).

Thus, kampungs represent urban vernacular settlements shaped by socio-cultural perspectives and materialized through morphological responses to dense and constrained urban environments.

2.3 Stories from Surabaya

Building on this conceptual understanding, the vernacular character of the kampung can be further interpreted through two interconnected dimensions: the socio-cultural and the morphological. Kampung's socio-cultural structure is deeply intertwined with histories of migration and mobility that have continuously re-shaped its demographic composition and collective identity (Achmadi, 2022). These social processes, in turn, are inscribed onto the physical environment. The morphological transformation of the kampung reflects the ongoing negotiation between these diverse social groups and the spatial constraints of the city (Dovey, 2020).

Researchers such as Silas (1992) and Shirleyana (2018) show that kampung survive because of their strong social systems. They can absorb newcomers and keep social stability through *gotong royong* (mutual cooperation). Other studies highlight that migration also brings diversity. Dick (2003) described Surabaya as a "city of migrants," where kampungs include Javanese, Madurese, Arab, and Chinese residents living side by side. This mixture of groups and gotong royong creates the socio-cultural dimensions that give direct impacts to the physical dimensions of kampungs.

Silas (1992) provides one of the earliest analyses that link kampung morphology to socio-spatial production. He argues that kampung layouts evolve through continuous negotiation between households, and social relations. Rather than following formal planning principles, these spaces grow incrementally (dwelling extension, alley widening, or some mere informal shop construction responding to practical needs). Some kampungs also demonstrated the ability to preserve their vernacular character amidst changes. Kampung Peneleh and Kampung Lawas Maspati in Surabaya show that state-led improvements often coexist with resident-led modifications (Shirleyana, 2018). Studies in Kampung Kaliasin show that economic migration and social mobility produce flexible and multifunctional building typologies. Migrant workers and small traders modify their houses to serve multiple functions (living, trading, and socializing) by adding extensions, temporary canopies, or open terraces (Nasution, 2018). These incremental modifications correspond to what Dovey (2020) terms vernacular urbanism, where spatial form emerges from daily negotiation between livelihood and limited space. It represents a form of collective spatial intelligence that enables residents to sustain economic activity and social cohesion within a dense urban setting.

Overall, migration is seen in literature as a generative and adaptive process. It builds networks of cooperation and shared identity that allow kampungs to thrive even without formal planning systems. Each wave of newcomers contributes to new uses, construction practices, and spatial logics that integrate into the existing fabric without erasing its core social structure.

3 Methods

This study employs a desk-based research design, focusing on an extensive literature review of secondary sources, such as academic books, journal articles, historical notes, and planning documents. Complementary sources, such as old maps, are also reviewed to trace spatial patterns and contextualize urban transformations over time. Literature review plays a central role in architectural and urban research, as it provides the foundation to contextualize new studies within existing bodies of knowledge, link empirical observations to theory, and identify areas where scholarly gaps remain (Groat & Wang, 2013). By systematically reviewing the literature, the study aims to determine the relevance and significance of the research problem, clarify its scope, and situate it within broader theoretical and historical debates (Creswell & Creswell, 2018; Booth et al., 2016) on migration and urban informality. Beyond summarizing past research, the review functions as an analytical and critical synthesis—connecting different strands of scholarship, identifying conceptual overlaps, and highlighting where new contributions can be made (Walliman, 2011). This methodological approach is particularly suitable for research on historical urban phenomena like kampung formation, offering crucial insights into long-term spatial and social transformations. It also provides a structured foundation for building theoretical framework and research argumentation, eliminating the need for extensive fieldwork. This qualitative literature-based methodology allows for a comprehensive understanding of migration and settlement processes through multiple temporal and thematic lenses, while also identifying conceptual and empirical gaps.

4 Research Context: An Abridged Urban History of Surabaya

Surabaya's urban evolution reflects centuries of layered interactions among multiple communities and successive regimes. Long before colonial rule, the city had already developed as a pesisir trading hub, connecting the Javanese hinterland with maritime routes across the archipelago. The pre-colonial settlement pattern was inherently plural: indigenous Javanese coexisted with Chinese, Arab, Malay, and Indian traders who settled along the banks of the Kali Mas River, forming early socio-economic clusters grounded in commerce, religion, and kinship (Reid, 1988; Reid, 1993; Dick, 2003).

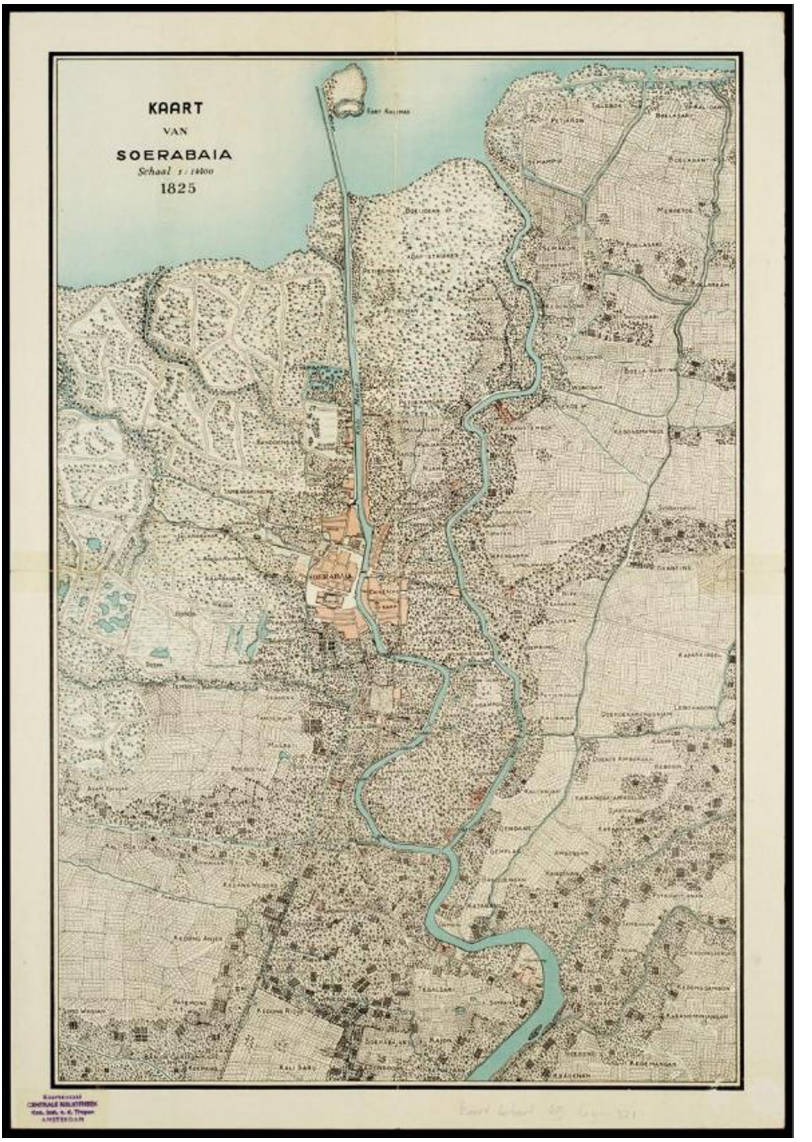

Fig. 1. Map of Surabaya in 1825 (KITLV)

As population and trade expanded, the enclosed plan became inadequate. The fortifications were dismantled in the mid-nineteenth century, triggering southward expansion and large-scale modernization. New infrastructure, such as hospitals, schools, railways, amusement parks, and civic buildings, emerged alongside factories, warehouses, and public amenities (Kwanda, 2011). By the early twentieth century, Surabaya had grown into a colonial metropolis and the second-largest city in the Dutch East Indies,

balancing its port economy with expanding industrial estates in Ngagel and elite residential districts in Darmo (Dick, 2003).

This modernization, however, was deeply uneven. While European zones benefited from formal planning, drainage, and services, indigenous kampungs remained informal and densely populated, often located on low-lying, flood-prone land. The private-estate system (*particuliere landerijen*), dominated by Chinese landlords, further fragmented urban development and restricted municipal control. By 1900, there were forty-four such estates accommodating nearly 50,000 inhabitants (Basundoro, 2017; Dick, 2003) . These structural asymmetries established the foundations for the city's dual morphology, planned versus organic, formal versus informal, that would shape Surabaya's spatial and social geography throughout the twentieth century.

5 Migration Process

The migration process in Surabaya can be categorized by actors, specifically foreigners and indigenous individuals. The foreigners include the Europeans, Arabs, and Chinese. Meanwhile, the indigenous people taken to the observation are the locals of Surabaya and the Madurese. Figure 2 illustrates the migration process that has occurred in Surabaya from the late 1800s to the 1940s.

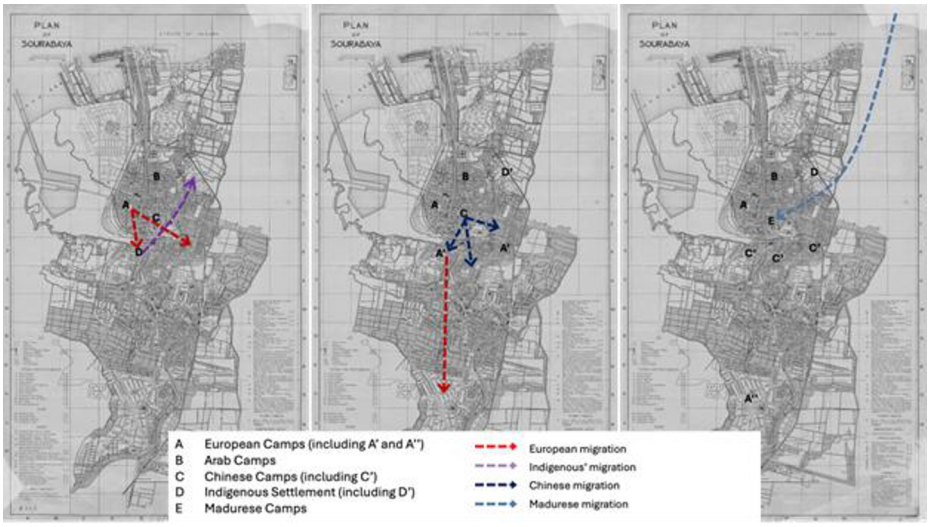

Fig. 2. The migration diagram of Surabaya (late 1800s to 1940s). Base map source: KITLV

5.1 Pre-colonial and Colonial Migration

Migration to Surabaya has always been integral to its urban formation. Before Dutch colonization, Chinese and Arab traders had established permanent enclaves near the river port, supported by Malay and Indian intermediaries (Reid, 1993; Dick, 2003). These communities anchored early commercial districts that sustained cross-regional

maritime networks. Under Dutch rule, spatial segregation became institutionalized. The VOC and later the colonial government assigned each ethnic group to its own kampung under separate leadership (Flieringa, 1930). By the nineteenth century, the city's population composition reflected this plural structure: Europeans clustered near the colonial core, the Chinese east of the Kali Mas, Arabs nearby in Ampel and Nyamplungan, and indigenous residents dispersed through kampungs along the peripheries (Steele, 1980; Basundoro, 2017).

Population growth accelerated dramatically between 1905 and 1940. Steele (1980) records a surge in foreign residents during the 1920s, when Europeans more than doubled in number and the Chinese community grew by 5.8% annually, reaching over 16,000 people in a decade. This influx coincided with Surabaya's economic boom as a port-industrial city, when Tanjung Perak became one of the busiest ports in the Dutch East Indies (Dick, 2003).

Each group occupied distinct yet interdependent areas:

a. Europeans settled south and west of the colonial core, in neighborhoods such as Gubeng, Tegalsari, Sawahan, Ketabang, and Kupang. Darmo was the last area they exclusively developed in the 1920s, characterized by broad boulevards and garden layouts (Steele, 1980; Dick, 2003).
b. Chinese migrants, driven by commercial expansion, concentrated in Bongkaran, Kapasan, Kapasari, and Pabean Cantian. They later expanded into Genteng and Alun-Alun Contong, where, by 1972, they made up 60% of the population in Alun-Alun Contong and 25% of the population in Genteng (Steele, 1980).
c. Arabs maintained their historic presence around Ampel and Nyamplungan, with wealthier families later relocating to *Kampementstraat* (now Jalan K.H. Mas Mansyur) (Steele, 1980).
d. Indigenous Javanese populated numerous kampungs beyond the planned city, including Peneleh, Kranggan, Nyamplungan, Krembangan, Kupang, Kapasan, Wonokromo, and Sukolilo (Basundoro, 2017).

These spatial divisions reflected both economic specialization and colonial hierarchy: trade and administration dominated the European and Chinese sectors, while labor and informal economies sustained the kampungs. The Kampung Verbetering program in 1923, intended to improve indigenous housing, paradoxically reinforced social stratification; upgraded kampungs were often reoccupied by wealthier Indonesians or Chinese, displacing the poor to peripheral lands (Steele, 1980).

5.2 Japanese Occupation, War, and Displacement (1942–1949)

During the Japanese occupation, Surabaya's population exploded from 304,000 in 1940 to 618,000 in 1945 (Steele, 1980). This surge reflected wartime mobilization, as laborers from surrounding regions were recruited for industrial and military work. Housing shortages became acute, forcing local migrants, particularly from Madura and rural East Java, to settle around the old port area and Chinatown, where vacated Chinese houses were repurposed as makeshift dwellings (Basundoro, 2017).

The Battle of Surabaya in 1945 devastated the city, destroying much of its industrial and housing stock. Air and naval bombardments displaced hundreds of thousands; indigenous residents fled, while Europeans, Chinese, and Arabs sought refuge elsewhere. By late 1946, the population had plummeted to 219,000, leaving a largely depopulated landscape (Steele, 1980). However, these disruptions laid the groundwork for a new phase of migration and reconstruction following independence.

5.3 Post-Independence Return and Kampung Expansion (1950s–1960s)

After 1949, Surabaya witnessed dramatic reurbanization. Displaced residents and returning refugees reoccupied abandoned buildings, factories, and estates formerly owned by Europeans. Others built improvised housing on public lands, riverbanks, graveyards, and vacant lots, forming dozens of new kampungs across the city (Basundoro, 2017). The population soared to 928,803 by 1950, reflecting both returnees and new migrants from war-affected areas (Steele, 1980).

The Madurese community emerged as a key migrant group in this era, settling in northern districts such as Semampir, Nyamplungan, Pabean Cantian, Kampung Baru, Srengganan, and Krembangan Utara. These areas were close to the docks and Chinese commercial centers (Steele, 1980). Madurese migrants often built small stalls and huts attached to Chinese shophouses, working as port laborers, hawkers, and small traders. Their pragmatic adaptation generated mixed neighborhoods defined by cohabitation and economic interdependence.

Other indigenous migrants from rural East Java populated Tambaksari, Tegalsari, and Wonokromo, filling the city's periphery with informal housing. These kampungs were not merely dwellings but socio-economic systems, including networks of kinship, mutual labor, and collective adaptation that underpinned Surabaya's post-war recovery and identity.

5.4 Drivers of Migration and Urban Consequences

Based on the migration process that occurred from the late 1800s to the 1940s, several drivers of migration propelled Surabaya's migration history. It includes a confluence of economic, political, and environmental forces. Economic opportunity at the port, in manufacturing, and in trade drew successive waves of Europeans, Chinese, and local laborers (Dick, 2003; Steele, 1980). Political transitions from VOC control to colonial rule, Japanese occupation, independence, and revolution caused cycles of displacement and return (Basundoro, 2017). Environmental and spatial constraints, particularly flooding and limited regulated land, pushed poorer migrants toward marginal, informal settlements (Flieringa, 1930; Basundoro, 2017).

These overlapping drivers made Surabaya a city built not by centralized planning but through migration-led adaptation. Each demographic wave redefined the balance between formal and informal, colonial and indigenous. Economic booms attracted foreign merchants and laborers; wars scattered them; reconstruction phases reabsorbed them into reconfigured urban fabric.

By the late 1960s, Surabaya had re-emerged as a postcolonial metropolis encircled by a vast belt of kampungs: living artifacts of its migration-driven growth. Despite modernization and state-led development, the colonial dualism between planned and self-built environments endured. Migration, rather than design, became the decisive form-giving force shaping the city's morphology and social texture. Today, the kampungs of Surabaya stand as living archives of these population movements, resilient settlements that embody centuries of mobility, economic negotiation, and collective survival within a continually transforming modern city.

6 Typology of Kampungs Based on Migration Activity

Migration has played a fundamental role in shaping the formation and transformation of Surabaya's kampungs. As illustrated in Figure 3, the city's settlement structure emerged from overlapping migrations (foreign immigration, local mobility, and post-war urbanization), each contributing to distinct patterns of spatial and social organization. These processes produced at least three identifiable types of kampungs: migrant kampungs, indigenous kampungs, and instant kampungs.

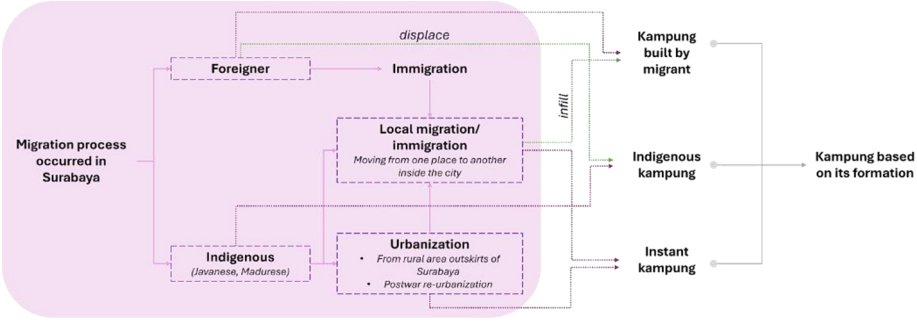

Fig. 3. The mechanism of kampung formation

Distinct migration processes have resulted in identifiable differences among kampung types in terms of origin, morphological characteristics, architectural features, and socio-cultural characteristics, as illustrated in Figure 4.

Type of Kampung	Origin	Morphological Characteristics	Architectural Features	Socio-cultural Characteristics
Migrant Kampung *1st Migration: Nyamplungan, Ampel, European quarter in Rajawali area, Bongkaran, Pabean Cantikan* *2nd Migration (In City Movement): Alun-Alun Contong, Peneleh, Genteng, Kapasan, Darmo*	Early foreign settlements *Established by: Dutch, Chinese, and Arab communities*	a. Foreign immigration b. Trade and settlement	a. Dutch: Indische architectural style with verandas, high ceilings, symmetrical layouts. b. Chinese: compact shophouses near trade centers with symbolic ornaments. c. Arab: courtyard houses, enclosed interiors, narrow alleys structured around religious and family principles.	Cultural hybridity; expansion and displacement over time; layered demographic and architectural imprint
Indigenous Kampung *Origins: Alun-Alun Contong, Peneleh, Pegirian* *In City Movement: Kranggan, Wonokromo* *Expansion: Tambaksari, Tegalsari, Krembangan Utara*	*Formed by: local Javanese and Madurese communities*	a. Local mobility b. Displacement from urban expansion c. Foreign settlement growth	Vernacular materials (bamboo, timber, thatch, clay); upgraded over time through Kampung Verbetering program (drainage, sanitation, basic infrastructure)	Mutual assistance, informality, adaptation to land availability
Instant Kampung *Origins: Banyu Urip, Ketandan, Kebangsren, Jagir*	Post-war urbanization & re-urbanization processes *Established by: Dutch, Chinese, and Arab communities*	a. Sudden population inflows from rural hinterlands b. Displaced urban residents seeking affordable shelter	Mixed or recycled materials; dwellings built on vacant or marginal lands (riverbanks, railway edges, unclaimed plots); incremental improvement as economic stability increases	Formed out of necessity and negotiation within constrained conditions; later integrated through upgrading programs

Fig. 4. Characteristics comparison of kampung types

Migrant kampungs originated from early foreign settlements, such as those established by the Dutch, Chinese, and Arab communities. These groups brought not only different building traditions, but also distinct spatial orders shaped by their social systems and cultural values. The Dutch built residential areas adopting the Indische architectural style—a hybrid adaptation of European forms adjusted to the tropical climate. Buildings featured spacious verandas, high ceilings, and symmetrical layouts, reflecting formal architectural knowledge and colonial urban order. In contrast, Chinese migrants formed compact settlements near trade centers, where shophouses combined residential and commercial functions. Their architectural identity was visible in roof shapes, decorative elements, and symbolic ornaments reflecting cultural beliefs. Arab kampungs, such as Kampung Ampel, were structured around religious and family privacy principles. The organization of narrow alleys, courtyard houses, and enclosed interiors demonstrated the cultural logic of spatial segregation and protection of domestic life. Over time, these settlements became dynamic spaces where expansion and displacement occurred. As foreign communities grew, they sometimes moved outward, displacing earlier inhabitants, while vacated lands were infilled by local residents or new migrants. This process created layered morphologies—where architectural, cultural, and demographic imprints coexist within the same urban fabric. In this sense, migrant kampungs represent the initial stage of Surabaya's urban vernacular formation, characterized by cultural hybridity and adaptive reuse of space through successive waves of occupation.

The indigenous kampungs were formed by local Javanese and Madurese communities, representing the evolution of traditional settlement forms within an urban context. Migration among this group often occurred within the city itself, driven by economic needs and land availability. When displaced by urban expansion or foreign settlement

growth, indigenous residents relocated to peripheral or marginal areas, sometimes occupying unused or privately owned land. Physically, indigenous kampungs were characterized by vernacular materials—bamboo, timber, thatch, and clay—and by their organic spatial structure. Houses were constructed incrementally based on family growth or livelihood needs, resulting in irregular pathways and clustered layouts. Circulation networks typically emerged after buildings were established, demonstrating bottom-up spatial logic. The Dutch government's *Kampung Verbetering* (Kampung Improvement) program in the 1930s introduced basic infrastructure, drainage, and sanitation to several indigenous kampungs, initiating a gradual shift from temporary to more permanent materials (Silas, 1992). However, despite physical upgrading, the core social values of mutual assistance and informality remained central. Indigenous kampungs thus reflect a continuum between rural and urban vernacular forms, where mobility, adaptation, and collective effort define both social and spatial resilience.

The third type, instant kampung, emerged as a direct outcome of post-war urbanization and re-urbanization processes. These settlements formed rapidly to accommodate sudden population inflows from rural hinterlands and displaced urban residents seeking affordable shelter near employment centers. Lacking access to formal housing markets, the migrants built dwellings on vacant or marginal lands such as riverbanks, railway edges, or unclaimed plots, often without formal permission (Davis, 2006). The morphology of instant kampungs is typically dense, fragmented, and resource-based, reflecting the immediacy of survival needs. Houses are often made from mixed or recycled materials and evolve incrementally as residents achieve greater economic stability. Unlike the layered and historically rooted forms of migrant and indigenous kampungs, instant kampungs exhibit temporal instability—their form continuously shifts in response to population turnover and urban redevelopment pressures. Despite this, many have gradually integrated into the city through community initiatives or upgrading programs, transforming from precarious beginnings into stable urban neighborhoods. Instant kampungs illustrate the most contemporary phase of Surabaya's migratory urbanization: they are physical manifestations of rapid demographic change, shaped by mobility, necessity, and negotiation within constrained urban conditions.

The typologies above demonstrate that kampungs are not homogeneous informal settlements, but diverse urban formations shaped by layered migration histories. Each type reflects different relationships between migration, tenure, and morphology. More specifically, as illustrated in Figure 3, the architectural features of each kampung typology reflect differing migration histories and development processes through variations in form, materiality, and spatial organization. Understanding these distinctions provides a framework for analyzing Surabaya's kampungs as living archives of urban mobility and community-based city-making.

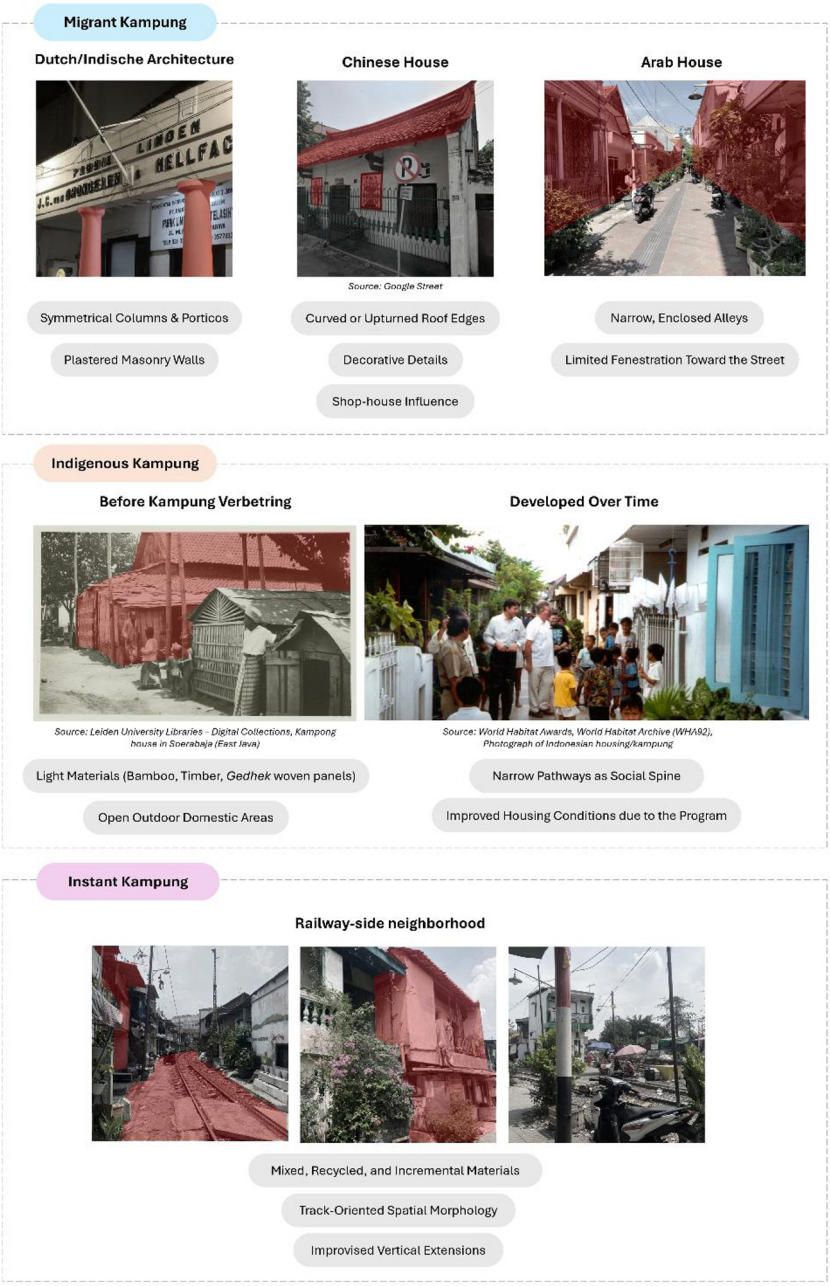

Fig. 5. Architectural features comparison of kampung types

7 Discussion

The historical reconstruction of Surabaya's urban development shows that migration has not been a peripheral phenomenon but a constitutive force in the making of its urban fabric. Across the pre-colonial, colonial, and post-independence periods, population mobility continually generated spatial transformations that redefined the city's morphology, social composition, and economic organization. Migration functioned as both an agent of urban expansion and a mechanism of adaptation, driving the establishment of new neighborhoods and the transformation of existing kampungs.

Three typologies are proposed in this study: migrant kampung, indigenous kampung, and instant kampung. These provide a conceptual framework to read Surabaya's urban landscape as a layered archive of mobility. Each type embodies a distinct temporal and socio-spatial logic. Migrant kampungs evolved from early foreign settlements and reflect colonial pluralism; indigenous kampungs trace the internal mobility of local communities and reveal the adaptive resilience of vernacular urbanism; and instant kampungs mark the post-war surge of rural-urban migration, where necessity and improvisation replaced formal planning. This typology helps clarify that "kampung" is not a fixed spatial form but an evolving process of city-making that absorbs and negotiates continuous migratory flows.

From a theoretical standpoint, the findings affirm Dovey's (2025) notion of vernacular urbanism, where informal settlements embody generative processes of urban production rather than residual informality. Kampungs, in this sense, are spatial testimonies of how migrants exercise agency within structural constraints using limited resources, social networks, and cultural repertoires to create livable environments. This perspective complements global discourses on informality (Roy, 2005; Bhan, 2019), demonstrating that Surabaya's kampungs are neither spontaneous slums nor failed planning outcomes, but socio-spatial institutions rooted in long histories of movement, negotiation, and adaptation.

A tension nonetheless persists between resilience and vulnerability. The same qualities that allow kampungs to survive, such as flexibility, density, and informality, also expose them to eviction, redevelopment, and market pressure. As the city modernizes, kampungs located near transport corridors and central business districts face increasing threats of displacement. However, their persistence reveals a deep structural dependence: they provide affordable housing for the urban labor force, support informal economies, and sustain social cohesion where formal planning falls short (Silas, 1992; Shirleyana, et al., 2018). The dialectic between resilience and vulnerability thus becomes a defining feature of Surabaya's urban evolution.

Comparatively, Surabaya's case resonates with broader Southeast Asian experiences, including Jakarta's kampungs, Manila's barangays, and Bangkok's informal settlements, where migration and informality have long constituted parallel mechanisms of urbanization (ADB, 2017; Dovey, et al., 2020). However, Surabaya's uniqueness lies in the continuity of its migration layers: early foreign settlements coexist with living vernacular kampungs and post-war instant kampungs within the same urban core. This juxtaposition produces an urban palimpsest where centuries of demographic and morphological transitions remain legible within contemporary form.

For contemporary urban planning, these findings suggest that kampung upgrading and housing policies must move beyond the physical improvement paradigm. Instead of treating kampungs as homogeneous targets for infrastructure provision, planners must recognize their historical depth, migratory composition, and socio-spatial diversity. Integrating these perspectives can strengthen policy frameworks for heritage conservation, affordable housing, and inclusive regeneration. Recognizing kampungs as historical products of migration reframes them as spaces of continuity that maintain Surabaya's plural urban identity while accommodating change.

8 Conclusion

This study demonstrates that migration has not been a peripheral phenomenon but a constitutive force in the making of Surabaya's kampungs. The city's mor-phology emerges not from a single plan but from cumulative, overlapping move-ments, from foreign traders and colonial settlers to post-independence returnees and rural migrants, spanning the pre-colonial, colonial, and post-independence periods. These layers of mobility created a hybrid urban fabric in which cultural adaptation and spatial improvisation coexist over time. Migration functioned as both an agent of urban expansion and a mechanism of adaptation, driving the establishment of new kampungs and the transformation of existing ones.

Through the proposed typology of migrant, indigenous, and instant kampungs, the research establishes a clear link between migratory dynamics and settlement morphology. Migrant kampungs evolved from early foreign settlements and display layered morphologies shaped by commercial, religious, and colonial spatial logics. Indigenous kampungs reflect gradual vernacular adaptation through incremental construction and communal negotiation of space. Instant kampungs, formed during periods of rapid post-war migration, exhibit compressed, resource-driven morphologies in response to urgent housing needs. Together, these types reveal that urban informality in Surabaya is not morphologically homogeneous but historically differentiated.

Conceptually, this study extends migration theory into the realm of urban morphology, showing how demographic flows materialized through informal and vernacular logics. In practice, these insights have important implications for urban redevelopment and settlement upgrading. Kampungs with strong morphological coherence and historical depth cannot be effectively addressed through standardized interventions. Redevelopment strategies that fail to engage with existing spatial logics risk undermining the social and functional capacities embedded in kampung form. Instead, morphology-sensitive planning approaches that are attentive to circulation networks, plot patterns, and incremental building practices offer a pathway to improve living conditions while maintaining continuity in urban structure. In some contexts, the recognition of these fine-grained morphologies may incidentally support heritage-related or cultural activities. Still, such outcomes should be understood as secondary effects rather than primary objectives.

Nevertheless, this study is limited by its reliance on historical archives and secondary data, which constrain the precision of demographic analysis and the depth of lived-

experience narratives. Future research could employ spatial modeling and field-based ethnography to capture how migration continues to shape the morphology and social fabric of contemporary kampungs. Comparative studies with other Indonesian or Southeast Asian cities would further refine this understanding and strengthen the theoretical bridge between migration, informality, and urban design. Ultimately, Surabaya exemplifies how cities in the Global South are continually remade by migration, where the everyday practices of newcomers not only sustain urban life but also generate the very spatial intelligence that defines the city itself.

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