Urban Tightness and heritage: Spatial Optimization in Saigon's *hems*

Inuri Maheshika[1]*
RMIT University, Colombo, Sri Lanka

Abstract

Ho Chi Minh City in Vietnam stands out as one of the most densely populated cities in Asia with 4,481 inhabitants per square kilometer. Its high population density is a significant characteristic of the city, contributing to its vibrant urban life and dynamic architecture. The spatial tightness of this city has shaped unique ways of living, characterized by both enriching encounters and challenges stemming from the densely populated environment. This research focuses on exploring the spatial dynamics within the Vietnamese hẻm, which are densely populated and culturally rich narrow alleys or lanes often nestled between buildings in the city. Ho Chi Minh City is an urban network of hẻms, forming the backbone of the urban landscape. These hẻms are vital to the city's identity, hosting approximately 85% of its population. Drawing upon site visits, interviews, and architectural analysis of District 4 in Ho Chi Minh City, the research sheds light on the adaptability and resourcefulness inherent in how its inhabitants have addressed the spatial constraints posed by high population density. By delving into these super-dense urban spaces, the study aims to glean insights into designing for resilience in densely populated urban environments. This research contributes to a deeper understanding of how to create inclusive, resilient, and sustainable urban environments amidst the challenges of rapid urbanization prevalent in many Asian countries, while also enhancing our understanding of preserving heritage.

Keywords: Urban density, spatial adaptation, cultural preservation, resilient design, Ho Chi Minh City

1.0 Introduction

1.1 Overview of Ho Chi Minh City

Ho Chi Minh City (Saigon), Vietnam's largest city, is notable for its high population density, with approximately 4,481 inhabitants per square kilometer (Statista Research Department, 2023). Covering 2,061 square kilometers, the city is divided into 24 districts, each reflecting its rapid urbanization and economic expansion. The city's growth, driven by natural population increase and rural-to-urban migration, presents challenges to infrastructure, housing, and public services. Ho Chi Minh City, with an estimated population exceeding 9 million (World Population Review, 2024), exhibits significant density variations across its districts, influencing its urban fabric and development needs.

[1]*Corresponding Author: Inuri Maheshika; E-mail- inurimaheshika_@outlook.com

1.2 Hẻms of Ho Chi Minh City

Fig. 1: Map of District 4 reveals a pattern resembling blood capillaries, showcasing the intricate network of hẻms
Source: Google maps, edited by author

In response to the city's density, Ho Chi Minh City has developed a distinctive architectural feature known as "hẻm," which translates to "alley" in Vietnamese. These narrow alleys, akin to blood capillaries (Figure 1), weave through the urban landscape, separating building blocks and defining the city's unique character. Most *hẻms* are too small to be captured on Google Maps, with widths typically ranging from two to four meters, though some can be as narrow as one meter. These *hẻms* crisscross densely built neighborhoods, providing essential access routes and contributing to the city's intricate and vibrant urban fabric. More than just passageways, the *hẻms* are vibrant communal spaces where daily life thrives; sandwiched by residences, small shops, eateries, and social areas on either side. The existence and function of the *hẻms* showcase the adaptability of the city's inhabitants, who maximize limited space and foster a strong sense of community despite spatial constraints (Harms, 2016).

2.0 Significance and Objectives of the Study

This study aims to explore the spatial dynamics within these *hẻms*, particularly in District 4, to understand how the city's residents have adapted to the spatial constraints imposed by such dense urban living. The primary research questions guiding this study are: How have residents of District 4 adapted their living spaces to cope with spatial constraints? What strategies have emerged for maintaining cultural heritage amidst rapid urbanization? By analyzing these super-dense environments, the research provides insights into designing resilient, sustainable, and culturally inclusive urban spaces. This study contributes to the broader discourse on urban density and heritage preservation, offering valuable lessons for other rapidly urbanizing cities across Asia.

3.0 Literature Review

Research highlights the resilience and adaptability of *hẻms* in managing rapid urbanization (Labbé, 2014; Gubry et al., 2010). These alleyways are not only critical for affordable housing and community cohesion (Kim, 2015; Harms, 2016) but also exemplify how informal urban spaces can effectively integrate with formal planning frameworks. The social significance of *hẻms* underscores the importance of preserving these spaces to maintain urban livability and cultural continuity amidst rapid development (Harms, 2011). This study aims to bridge the gap between spatial optimization and heritage preservation, offering lessons for creating resilient, culturally rich urban environments and addressing the challenges faced by similar informal settlements in other densely populated cities.

4.0 Research Methodology

District 4, bounded by the Saigon and Ben Nghe Rivers and the Te Canal, was chosen for its dense population and unique *hẻms*. Over three months, a multifaceted methodology was employed, including field surveys, observations, drawings, photographs, and interviews. These methods documented the physical attributes, spatial arrangements, and social dynamics of the *hẻms*. Observations at various times captured pedestrian movement, social interactions, and communal space usage, while interviews provided insights into community cohesion, informal economic activities, and residents' perceptions.

However, the study's focus on District 4 and reliance on qualitative methods over a three-month period may not fully represent other urban environments or long-term trends, suggesting the need for broader district coverage and quantitative methods in future research.

5.0 Analysis

5.1 Hẻm: Physical Characteristics and Socio-cultural Functions

Fig. 2: Hem in District 4, Ho Chi Minh City

Fig. 3: *Hem* during market hours in District 4 showcasing vehicular and pedestrian movement

Source: Author

Hẻms foster a strong sense of community with their compact layout, maximizing land use efficiency and promoting pedestrian-friendly environments (Labbé, 2014). They accommodate a mix of residential, commercial, and communal activities, encouraging innovative use of space (Harms, 2016). Despite challenges like overcrowding and safety concerns, *hẻms* are vital for social interaction, economic activities, and community support (Harms, 2016).

5.2 Overview of District 4

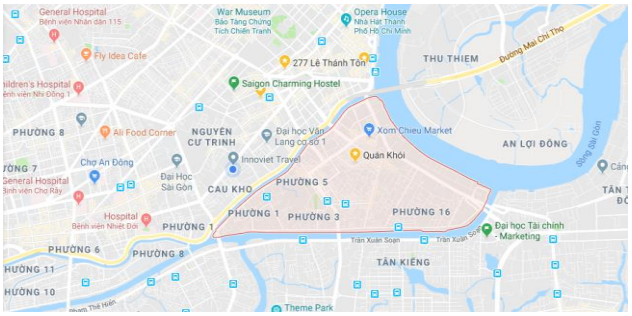

Fig. 4: District 4, Ho Chi Minh City

Source: Google maps

District 4, the smallest urban area in Ho Chi Minh City, spans 4 square kilometers with a population density of 41,891 inhabitants per square kilometer (Statista Research Department, 2023). It is bounded by the Saigon and Ben Nghe Rivers and the Te Canal, offering affordable living options with lower rents and close proximity to primary districts (Harms, 2016). The district's high concentration of *hẻms* makes it a focal point for studying spatial and social dynamics (Labbé, 2014).

5.3 Spatial optimization strategies of *hems*

1. Building up

Fig.5: Residences in District 4, Ho Chi Minh City
Source: Author

Buildings in *hẻms* often expand vertically due to limited horizontal space. This vertical expansion includes adding floors or converting rooftops into gardens, communal areas, or small businesses, thus maximizing land use while preserving the alleyway's intimate scale and character. Unlike many Asian countries that demolish older buildings for new structures, Vietnam maintains its urban character by building upwards, integrating traditional architectural elements into modern landscapes, and preserving historical continuity and local identity. This vertical growth balances density and cultural preservation, serving as a model for other Asian cities facing similar challenges.

2. Building thin

Fig. 6: 3'6" wide residence in District 4, Ho Chi Minh City
Source: Author

Buildings in *hẻms* also feature narrow widths to optimize land use. Front elevations can be as narrow as 3 feet, allowing for efficient land resource utilization in densely populated areas. This compact design helps maintain the character and scale of the narrow alleyways, integral to the community's social and cultural fabric. This narrow building approach contrasts with broader Asian architectural practices, showcasing a unique adaptation to urban density that preserves community identity while efficiently using limited space.

3. Fluidity of space and programs

Vietnam's urban environment is adaptable due to its high density, requiring residents to transform and blur the boundaries between living spaces, shops, and services. In *hẻms*, spaces transition throughout the day to serve various functions—living rooms become restaurants or stores, laneways transform into markets, and homes reclaim their spaces by nightfall, turning living rooms into garages, as illustrated in Figure 7.

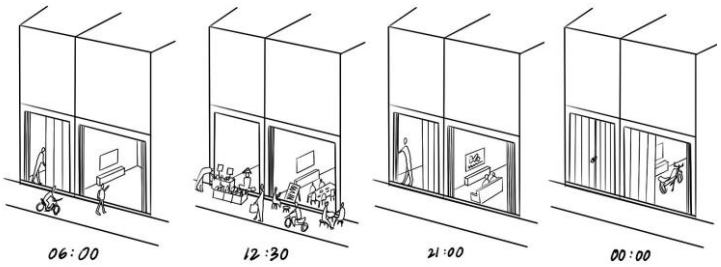

Fig. 7: Drawing of a typical residence at various times of the day
Source: Author

This dynamic transformation fosters an adaptable urban lifestyle, where spaces serve multiple functions. Raised sleeping lofts, multifunctional floors, and adaptable interiors minimize the need for large, permanent structures, contributing to sustainable urban living and maintaining cultural heritage.

Fig. 8: A residence that has converted the living area into a seating area of a restaurant
Source: Author

4. Adaptive Reuse

Adaptive reuse is prevalent in *hẻms*, where buildings are repurposed to meet changing needs. The Café Apartment Building at No. 42 Nguyen Hue Street exemplifies this, transforming from dormitories to a cultural hub with cafes and shops. This approach balances modern functionality with cultural heritage preservation, preventing the demolition of historically significant buildings. Adaptive reuse serves as a sustainable development strategy that maintains historical continuity while accommodating contemporary urban demands.

Fig. 9: Cafe apartment building in Ho Chi Minh City
Source: https://localvietnam.com/blog/cafe-apartment-building/

5. Urban Accretion

Urban accretion in Ho Chi Minh City involves incremental development, where different eras and architectural styles overlap, enriching the urban experience. Informal additions to old buildings create skyward extensions, reflecting community-driven development that preserves cultural traditions and community identity. This organic growth process allows for the natural layering of historical and contemporary elements, showcasing the community's adaptive capacity and creating a rich, layered urban landscape that reflects both past and present.

6. Reclamation of Public Space

Fig. 10: A residence turns into a restaurant using the street space to set up cookware
Fig. 11: Growing plants and herbs in the public streets for personal use
Source: Author

Public spaces in *hẻms* are vibrant, multifunctional areas. Small businesses, social gatherings, and personal activities extend into public spaces, reflecting traditional Vietnamese communal living practices. This utilization maintains public spaces as hubs of community interaction and cultural exchange, preserving traditional lifestyles amidst urban growth. The active use of public space fosters a sense of community and continuity, essential for vibrant urban living in dense areas.

7. Impermanence

Fig. 16: Movable food cart

Fig 17: Woman carrying a don ganh selling drinks

Source: Author, https://www.hungryonion.org/t/hue-vietnam-banh-mi-the-quintessential-vietnamese-sandwich/20856

Impermanence is evident in the flexible operations of small businesses using mobile platforms like carts, bicycles, and the traditional *don ganh* system, where goods are carried with a bamboo yoke balanced on the shoulders. This adaptability allows traditional economic practices to continue in a modern context, ensuring businesses thrive despite rapid urbanization. The impermanence of these operations reflects the fluid nature of urban life in *hẻms,* where flexibility is key to economic survival and cultural persistence.

8. Improvisations

Fig. 18: Makeshift rack for drying clothes

Source: Author

Residents' improvisational spirit is reflected in their adaptable use of space, maintaining daily routines even during rain. Community involvement in modifying living spaces fosters a sense of ownership and cultural continuity, ensuring urban environments evolve in culturally relevant ways. These improvisations highlight the community's resourcefulness in adapting to urban challenges, reinforcing the importance of local agency in urban development.

9. Preservation

Fig. 19: Residences using traditional Vietnamese grills for fencing
Fig. 20: A 4 storied wall made of traditional Vietnamese grills to allow light and ventilation in while maintaining privacy
Source: Author

Vietnam's urban development integrates traditional architectural elements into modern landscapes, enhancing the aesthetic and functional aspects of the built environment. This approach maintains historical continuity and community identity, promoting sustainable urban development by leveraging cultural assets. The preservation of traditional elements within modern development is crucial for maintaining the cultural fabric of urban areas, offering a balanced approach to modernization.

6.0 Findings:

6.1 Principles for Designing Inclusive and Sustainable Urban Environments

The study of Ho Chi Minh City's *hẻms* in District 4 reveals several key principles that can guide the design of inclusive and sustainable urban environments. Vertical space optimization, achieved by building upwards, maximizes land use while preserving the intimate scale and character of neighborhoods. Architectural flexibility, with modular interiors and versatile layouts, allows spaces to adapt to changing needs throughout the day. Adaptive reuse of existing structures balances the preservation of historical context with modern functionality. Community participation in design processes fosters social cohesion and ensures solutions that are contextually appropriate. The integration of traditional design elements maintains cultural continuity and enhances urban aesthetics. Finally, reclaiming public spaces for diverse activities supports urban vibrancy and community interaction. These principles highlight the adaptability and resourcefulness inherent in dense urban environments, offering valuable insights for sustainable development.

6.2 Applications to Other Densely Populated Urban Areas in Asia

Urban areas across Asia, including Colombo, face challenges similar to those in Ho Chi Minh City, such as high population density and limited land resources. Adopting the strategies found in the *hẻms* of District 4 can provide significant benefits. Vertical expansion, as seen in the *hẻms*, offers a solution to prevent horizontal sprawl while preserving the character of neighborhoods, which is crucial for maintaining the cultural identity of these cities. Incorporating traditional design elements alongside modern needs ensures that cultural heritage is not lost in the process of urban development.

Moreover, the creation of multi-functional spaces can accommodate the dynamic lifestyles of urban residents, while adaptive reuse of existing structures promotes sustainable growth without the need for extensive new construction. Reclaiming public spaces for communal and commercial activities can enhance urban vibrancy, fostering stronger community ties. Applying these strategies to other densely populated urban areas in Asia is essential for creating resilient, inclusive, and culturally rich environments that can withstand the pressures of rapid urbanization. This approach not only addresses immediate spatial challenges but also ensures long-term sustainability and cultural preservation in rapidly growing cities.

8.0 Conclusions

This research underscores the critical role that the *hẻms* of Ho Chi Minh City play in addressing the challenges of rapid urbanization. The study reveals several key strategies—vertical space optimization, architectural flexibility, adaptive reuse, community participation, and the reclamation of public spaces—that are instrumental in creating sustainable and resilient urban environments. These strategies not only optimize limited land resources but also preserve the cultural identity and heritage that define the city's character.

The insights drawn from the *hẻms* of District 4 have broader implications for urban planning in other densely populated Asian cities, such as Colombo. As these cities grapple with similar challenges of high population density and limited land, the principles derived from Ho Chi Minh City's *hẻms* offer a blueprint for sustainable urban development. Integrating these strategies into urban planning frameworks can help cities maintain their cultural heritage while accommodating modern needs, ultimately fostering more livable, resilient, and culturally rich urban environments.

References

Drummond, L. B. W. (2000). Street scenes: Practices of public and private space in urban Vietnam. *Urban Studies, 37*(12), 2377–2391.

Gubry, P., Castiglioni, F., Fontaine, J.-M., & Nguyen, T. T. (Eds.). (2010). *The Vietnamese city in transition.* Institute of Southeast Asian Studies.

Harms, E. (2011). *Saigon's edge: On the margins of Ho Chi Minh City.* University of Minnesota Press.

Harms, E. (2016). *Luxury and rubble: Civility and dispossession in the new Saigon.* University of California Press.

Kim, A. M. (2015). *Sidewalk city: Remapping public space in Ho Chi Minh City.* University of Chicago Press.

Labbé, D. (2014). *Land politics and livelihoods on the margins of Hanoi, 1920–2010.* UBC Press.

Lim, W. S. W. (2009). *Asian alterity: With special reference to architecture and urbanism through the lens of cultural studies.* World Scientific Publishing Company.

Lim, W. S. W. (2012). *Incomplete urbanism: A critical urban strategy for emerging economies.* World Scientific Publishing Company.

Pham, T. H., & Douglass, M. (2000). Vietnam's doi moi and the remaking of urban space: Institutional and spatial trends in Hanoi and Ho Chi Minh City. In *Comparative urban and community research* (pp. 57–88). JAI Press.

Statista Research Department. (2023, November 8). Major urban cities' population density in Vietnam 2022. *Statista.* https://www.statista.com/statistics/1099107/vietnam-population-density-of-major-cities/

World Population Review. (2024). Ho Chi Minh City population 2024. *World Population Review.* https://worldpopulationreview.com/world-cities/ho-chi-minh-city-population