

GIS-Based Mapping of Multicultural Urban Heritage in Kediri City: Javanese, Colonial, Chinese Layers

Fernanda Ayuning Putri^{1*}, Agung Murti Nugroho², Yuyun Qomariyah³

^{1,3} Centre for Environmental Studies, University of Brawijaya, Jl. MT Haryono No. 167 Malang 65145, Indonesia

² Department of Architecture, University of Brawijaya, Jl. MT Haryono No. 167 Malang 65145, Indonesia

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*Correspondence Email:

fernanda.putri@ub.ac.id

Abstract

Urban heritage in Indonesia has been shaped by long-term interactions among multicultural communities, producing tangible and intangible traces within the urban landscape. However, these cultural layers are often documented separately, resulting in a fragmented understanding of multicultural urban identity. This study aims to identify, classify, and map the multicultural urban heritage of Kediri City through Javanese, Colonial, and Chinese cultural layers using Geographic Information System (GIS) approach. A descriptive-spatial method was employed through field surveys, heritage asset inventory, historical documentation, and GIS-based spatial analysis. The findings indicate that Kediri's historic urban landscape was formed through the spatial overlap and interaction of Javanese archeological and religious heritage sites, Colonial-era buildings, and Chinese commercial and cultural areas. GIS visualization reveals the distribution patterns, concentration, and spatial relationships among heritage assets, demonstrating how different cultural layers have contributed to the formation of the city's present urban structure. This GIS-based mapping provides an integrated framework for understanding Kediri's multicultural identity and historical development while offering practical support for heritage conservation, cultural tourism planning, and sustainable urban management.

1. Introduction

Urban heritage is the product of interactions within vernacular spaces, shaped through cultural, social, economic, and spatial processes that collectively form the identity of a city [1], [2]. This understanding reflects the dynamic relationship between place and placelessness in contemporary urban environment, where local identity may either be strengthened or weakened by broader process of urban transformation [3], [4]. Rather than being limited to individual buildings or monuments, urban heritage can be understood as a dynamic cultural landscape in both tangible and intangible values [5] evolve through continuous interaction between dwellers and built environment [6]. Contemporary heritage discourse therefore recognizes historic urban areas as complex socio-spatial systems, where urban morphology, cultural practices, historical memory, and environmental conditions collectively to place identity and urban resilience.

The increasing pressure of urbanization [7], infrastructure development [8], and land use transformation [9] have significantly altered the spatial integrity of historic cities worldwide. These changes often fragment historical landscape and weaken the relationships among cultural assets that synergistically define urban identity. Consequently, heritage conservation has shifted from monument-oriented preservation toward integrated landscape-based approaches that acknowledge the patterns of social use, cultural meaning, ecological context, and spatial dimensions [10], [11]. The UNESCO Recommendation on Historic Urban Landscape (HUL) reflects this paradigm by advocating the integration of cultural heritage into sustainable urban development through multidisciplinary planning and spatial management [12].

Within this context, Geographic Information Systems (GIS) have emerged as an effective platform for integrating historical, cultural, and environmental information into spatial decision making [6], [13]. Recent studies have demonstrated the potential of GIS can reveal patterns of heritage concentration [14], historical continuity [15], and urban vulnerability [16] that are often difficult to identify through conventional descriptive inventories. However, most existing studies have paid limited attention to the spatial relationships among heritage assets originating from different cultural traditions, leaving the historical interaction of multicultural urban landscapes insufficiently understood. Multicultural cities present unique challenges for heritage mapping because their urban landscapes are shaped by successive cultural influences that coexist within the same spatial framework. In many Indonesian cities, indigenous settlements [17], [18], colonial urban planning [19], [20], and ethnic Chinese communities [21], [22] have produced complex historical landscapes characterized by multiple architectural traditions, settlement patterns, commercial districts, religious sites, and public spaces. Understanding the spatial relationships among these cultural layers is essential for identifying heritage significance beyond individual buildings, because urban heritage is produced, experienced, and transmitted across generations.

Kediri city provides an appropriate case for investigating multicultural urban heritage. Its historical development reflects the interaction of three major cultural layers: the indigenous Javanese civilization rooted in the Kingdom of Kadiri (*Kerajaan Kadiri*) [23], [24]; the Dutch colonial urban layer [25], [26]; and Chinese commercial and settlement layer [27], [28]. Although these historical layers remain evident in the contemporary urban landscape, they are generally documented separately, limiting comprehensive understanding of their spatial relationships and cumulative contribution to the city's cultural identity. Addressing this gap requires a spatially integrated approach capable of revealing the distribution, interaction, and continuity of multicultural heritage within the urban environment. Therefore, this study develops a GIS-based framework for mapping the multicultural urban heritage of Central Business District (CBD) in Kediri city as representative sample of the city's historic core. The framework integrates Javanese, Colonial, and Chinese heritage layers within a single spatial database in order to reveal how these cultural traditions are distributed, connected, overlapped, and embedded in the contemporary urban landscape. Specifically, this study aims to inventory and georeference multicultural heritage assets, classify them into Javanese, Colonial, and Chinese cultural layers, analyze their spatial distribution and relationships using GIS, and interpret potential historical corridors. By integrating heritage documentation with spatial analysis, this study provides a framework for understanding Kediri's multicultural urban heritage and supporting context-sensitive conservation strategies.

2. Research Methods

2.1 Area of Study

This study is located in main urban corridors of Kediri City, East Java, Indonesia, where historical commercial activities and multicultural heritage assets are concentrated. Geographically, this study extends from 7°48'44.89" S to 7°49'15.44" S and 112°00'26.32" E to 112°00'59.09" E. The research boundary is limited by the Brantas River on the western side and the railway corridor on the eastern side, with Kediri Station serving as an important urban landmark within Kediri City. This area forms part of the Central Business District (CBD) designed in the Kediri City Spatial Detail Plan (*Rencana Detail Tata Ruang*, RDTR) 2021-2041 [29]. The study area was selected because it represents the highest concentration of multicultural urban living heritage in Kediri City, where successive phases of urban development have produced a distinctive cultural landscape.



Fig. 1 Study area and representative heritage landmark in Kediri City

The heritage assets are organized into three principal historical layers: Javanese, Colonial, and Chinese. The Javanese layer is characterized by cultural and religious heritage associated with the Setono Gedong site that reflecting the historical identity during Kediri Kingdom period. The Colonial layer is represented by administrative and transportation buildings, including Bank Indonesia building and Kediri Station that illustrate the city's colonial urban development. The Chinese layer is concentrated around the Tjoe Hwie Kiong Temple that representing the long-standing contribution of Chinese community to Kediri's economic and social development. These three heritage layers remain embedded within an active commercial district where many historic building continue to function through conservation and revitalization, creating a living multicultural heritage landscape rather than a static historic district. This unique coexistence of cultural layers, historic continuity, and contemporary urban functions provides a appropriate spatial context for developing the Kediri city.

2.2 Methodology

This study employed a descriptive spatial research approach integrating Geographic Information Systems (GIS), historical investigation, architectural documentation, and spatial analysis to map the multicultural urban heritage of Kediri City. The methodology was designed to examine how Javanese, Colonial, and Chinese cultural layers are spatially represented within Kediri's historic urban landscape. Previous studies have demonstrated the effectiveness of GIS based cultural heritage inventories and spatial analysis [6], [13], [15], [16]. The methodology consisted of four sequential research phases: (1) heritage inventory and georeferenced field documentation, (2) cultural layer classification, (3) GIS geodatabase development and spatial analysis, and (4) conservation interpretation and planning recommendations.

In the first phase, multicultural heritage assets were inventoried through systematic field surveys within study area. The inventory included historic buildings, Chinese shophouses, religious sites, traditional settlements, commercial corridors, public spaces, and other elements that shape the historic urban landscape. Field surveys were complemented by archival studies, historical maps, local government documents, and literature to verify the historical significance of each asset. Each heritage asset was documented through GPS coordinate recording and photographic documentation, while architectural characteristics, physical condition, building materials, current function, and urban context were systematically recorded. In the second phases, the documented heritage assets were classified into three main cultural layers: Javanese, Colonial, and Chinese. The classification was based on historical evidence, architectural interpretation, historical chronology, architectural typology, functional characteristics, and spatial context.

In the third phase, all spatial and attribute data obtained from the inventory and classification stages were integrated into GIS geodatabase. Each asset was represented as georeferenced spatial feature linked to attributes such as object identity, geographic coordinates, historical period, cultural layer, architectural

typology, current function, physical condition conservation status, and cultural significance. The geodatabase then served as the basis for spatial analysis. Heritage distribution was visualized through point and polygon mapping, while Kernel Density Estimation (KDE) was used to identify concentrations of heritage assets.

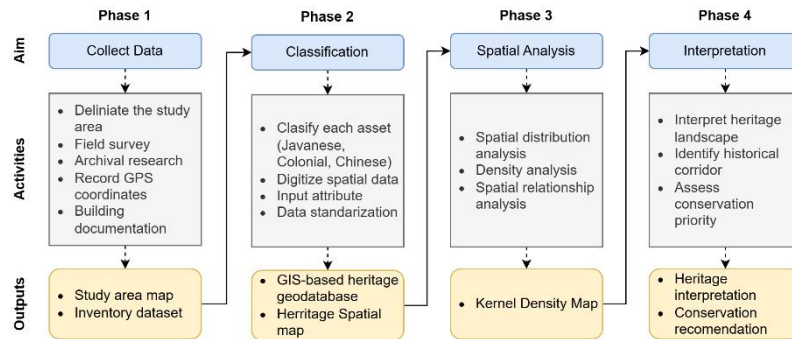


Fig. 2 Research Methodology Framework

In the fourth phase, the spatial analysis results were interpreted to identify heritage clusters, historical corridors, priority conservation zones. The interpretation considered heritage concentration, cultural significance, spatial integrity, and interactions among cultural layers. The findings provide a scientific basis for conservation planning, cultural landscape interpretation, and sustainable management of Kediri's historic core.

3. Result and Discussion

3.1 Heritage Inventory Dataset

A comprehensive heritage inventory was developed to document tangible cultural assets situated within a historically layered urban environment. The research area is characterized by coexistence of cultures that have evolved over centuries and are embedded in its built environment, allowing the long history of the place to be experienced through its surviving architectural heritage. Several urban facilities that remain to operate today, including commercial, religious, and transportation continue to accommodate contemporary activities while preserving traces of the city's past. Its urban morphology reflects interaction between Javanese traditions, Dutch colonial's rigid spatial planning, and Chinese mercantile culture producing heterogeneous heritage landscape rather than a single period historical district.

A total of 31 heritage objects were identified within the predefined study area through field observation, architectural screening, and spatial documentation. The selection of objects was based on the presence of recognizable architectural elements, historical associations, and cultural characteristics related to Javanese, Colonial, and Chinese traditions. Each inventoried object was recorded using a structured attribute framework to ensure consistency across the dataset. Each heritage assets were coded using unique Heritage ID to facilitate another data, such as Indonesian name, object name, heritage type, address, latitude, longitude, historical period, original function, original function category, current function, current function category, cultural layer, architectural style, building material, physical condition, photo identification, and field observation notes (see Appendix A). These attributes were designed to support descriptive documentation and analytical interpretation, particularly in relation to spatial distribution, cultural layering, architectural morphology, material characteristics, and functional transformation.

The recorded objects were classified into eight heritage-type categories (Table 1). The heritage type classification was developed by linking each recorded object to its historical role within the urban development of Kediri City. Setono Gedong Site and Selomangleng Cave Relief represent the earliest archaeological evidence of Kediri's historical development, reflecting the city's deeper historical layers. Setono Gedong Site is associated with the legacy of the Daha or Kadiri Kingdom period and later Islamic narratives, as indicated by the presence of ancient brick remains, sacred graves, and layered religious

meanings within the site. Selomangleng Cave Relief, by contrast, represents a rock-cut archaeological landscape associated with the Kadiri period, where carved chambers, reliefs, and mythological narratives related to Dewi Kilisuci preserve the symbolic and ritual dimension of early Kediri history.

Table 1. Heritage Type Indicators

No.	Heritage Type	Building Count	Definition
1.	Archaeological Site	2	Sites containing archaeological remains or evidence of past civilizations with historical, cultural, or scientific significance [30].
2.	Heritage Gateway	4	Historic gateways or entrance structures marking important urban districts, settlements, religious complexes, or cultural boundaries [2].
3.	Traditional Craft Heritage	1	Heritage associated with traditional craftsmanship and intangible cultural production preserved in physical places [31].
4.	Historic Building	9	Buildings possessing historical, architectural, or cultural significance regardless of their present function [6].
5.	Religious Site	1	Buildings or places primarily intended for religious worship or religious cultural activities [24].
6.	Commercial Building	9	Historic buildings originally developed for commercial, trading, hospitality, or business activities [28].
7.	Public Building	4	Buildings constructed for government, administrative, military, healthcare, or public service functions [5].
8.	Transportation Heritage	1	Historic transportation infrastructure supporting urban mobility and possessing heritage significance [23].

The commercial-building category consists of Tjiang Optical Store, Surabaya Store, Soto Podjok Restaurant, Dhaha Chemical Laundry, Sumber Kertas, Miraco Photo Studio, Sari Agung Restaurant, D-Unicone and Tweety Store, and Former Colonial-era Chevrolet Dealership. These objects demonstrate how Kediri's historical corridors were shaped not only by monumental architecture, but also by everyday commercial practices. Tjiang Optical Store, for example, is recognised as one of the long-standing Chinese-owned optical businesses in Jalan Dhoho as commercial area in Kediri City and has been described as part of the cultural identity of Chinatown corridor. Surabaya Store is associated with the former Soerabaia shop and the wider memory of Tan Khoen Swie's cultural and publishing activities in Kediri. Soto Podjok Restaurant, established in 1926, represents culinary continuity and the persistence of local commercial memory within the urban corridor. Other commercial objects, including the laundry, paper, photography, restaurant, retail, and former automobile dealership buildings, were included in this category because they indicate the diversification of urban commerce, service activities, and adaptive reuse along Kediri's historic streetscape.



Fig. 3 Study Area, Distribution of Heritage Assets, and Cultural Layer

The historic building category comprises Bank Indonesia building, the former house of the Chinese Captain, Santa Maria Catholic Junior High School, Brawijaya Military Headquarters, Hotel Merdeka, House East of Hotel Merdeka, Jaya Cinema, Row of Chinese-style Buildings, and Garuda Cinema. These objects were grouped as historic buildings because their significance lies in their architectural form, institutional memory, and association with different phases of Kediri's urban modernization. Bank Indonesia building and Brawijaya Military Headquarters reflect institutional and administrative layers of the city. The former house of the Chinese Captain and the row of Chinese style buildings represent deep-rooted social and architectural presence of the Chinese community within Kediri's commercial core area. Santa Maria Catholic Junior High School indicates the role of educational and religious institutions in shaping multicultural urban life. Hotel Merdeka, located in the central business area, represents the continuity of hospitality infrastructure from the colonial and post-colonial periods. Meanwhile, Jaya Cinema and Garuda Cinema record the emergence of modern leisure culture and collective urban entertainment in Kediri.

The public-building category comprises Kediri Station Clinic, Pakelan Administrative Office, Koramil 0809/01 Office, and Gie Kie Kong Soe Funeral House. These objects represent collective urban functions related to health services, local administration, military presence, and community-based ritual organization. Their inclusion indicates that Kediri's heritage landscape is not limited to monumental or commercial structures, but also includes buildings that sustain everyday civic and communal life. The remaining categories consist of Tjoe Hwie Kiong Chinese Temple as a religious site, Bandar Ikat Weaving Batik as traditional craft heritage, and Kediri Railway Station as transportation heritage. Together, these objects represent three distinct heritage dimensions: Chinese religious-cultural continuity, inherited textile craftsmanship, and railway-based urban connectivity. This object-based classification shows that Kediri's heritage landscape is shaped by the interaction of sacred spaces, craft traditions, public institutions, commercial activities, and transportation infrastructure.

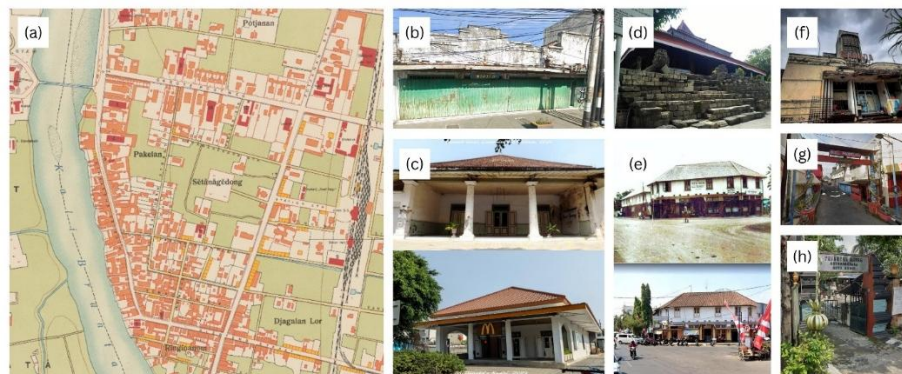


Fig. 4 (a) Historical Map of Kediri [32] and Field Documentation of Representative Heritage Assets (b) Miraco Photo Studio, (c) Former House of the Chinese Captain, (d) Setono Gedong Site, (e) Tjiang Optical Store, (f) Garuda Cinema, (g) Pakelan Urban Village Gateway, (h) North Gate of Astono Gedong Cemetery

Historical urban morphology of Kediri in 1913 (Fig. 4a) published in Batavia by Topographische Inrichting and preserved in the Leiden University Libraries Digital Collections [32], shows that the urban structure of Kediri had already been organised around several spatial elements such as the railway corridor on the eastern side, and a dense network of streets and settlements between Brantas River and railway corridor. The map also indicates the early presence of neighbourhoods such as Pakelan, Setanagedong, Jagalan Lor, and Ringinanom, suggesting that the contemporary heritage corridor was rooted in a history. The present map (Fig. 1 and Fig. 3) demonstrates that these spatial patterns remain legible, although they have been transformed by denser urban development and modern road networks. Heritage assets associated with Chinese, colonial, and Javanese cultural layers are distributed along and around the same historical corridors, particularly near commercial streets, cemetery complexes, religious sites, and transportation nodes. The persistence of street alignments, neighborhood names, and strategic landmarks indicates a strong continuity between Kediri's early twentieth-century morphology and its current multicultural heritage structure.

Overall, the inventory produced a GIS-based heritage database comprising 31 georeferenced heritage assets distributed across urban corridor of Kediri. The database combines spatial coordinates with descriptive and analytical attributes, including heritage type, historical period, cultural layer, architectural style, material composition, original and current functions, physical condition, photographic documentation, and field observation notes. This structure allows the recorded objects to be examined not only as individual heritage assets, but also as components of a wider urban heritage system.

In the terms of heritage type distribution, commercial buildings and historic buildings form the largest groups in the dataset (table 1). Their concentration indicates the importance of retail, service activities, food businesses, photography, laundry services, paper trading, and automotive commerce in shaping the everyday economic life of the city. The distribution of heritage types reveals a clear spatial pattern within the study area (Fig. 3). Commercial buildings and historic buildings form the dominant heritage types and are mainly concentrated along the principal urban corridors, particularly Jalan Dhoho, Jalan Brawijaya, Jalan Basuki Rahmat, and the area surrounding the central business district. This pattern indicates that Kediri's heritage landscape was strongly shaped by commercial activities, colonial urban administration, and the growth of urban services. The placement of Setono Gedong Site can be interpreted in relation to the historical role of the Brantas River as a major structuring element in cultural landscape. Its location near the river suggests that the site was positioned within a strategic riverine environment, where access to water, mobility routes, fertile land, and settlement development were closely interconnected. In pre-modern Javanese urban contexts, river proximity often supported the formation of political, ritual, and residential landscapes because rivers functioned simultaneously as ecological resources, transportation corridors, territorial markers, and symbolic elements. Setono Gedong Site therefore reflects not only an archaeological remnant of early Kediri, but also a spatial logic in which sacred and political memory was embedded within the river-oriented morphology of the city.

Fig. 5 (a) Historical Period and Heritage Types and (b) Transformation of Heritage Building Functions

practices of the present (Table 2). The Islamic Mataram Period is represented by the North and East Gates of Astono Gedong Cemetery. These gateways indicate the transformation of earlier sacred landscapes into Islamic funerary spaces. Meanwhile, the Qing Chinese–Dutch Colonial Period, represented by Tjoe Hwie Kiong Chinese Temple, marks the institutional presence of the Chinese community in Kediri. The temple reflects not only religious activity, but also the consolidation of Chinese social identity, community organization, and cultural continuity within the urban environment. In the colonial period, Chinese communities in urban Java commonly occupied a strategic position in trade, retail, service activities, and commodity distribution. In Kediri, this role was spatially expressed through the concentration of Chinese-related commercial and community buildings along the city’s main trading corridors. The presence of shops, Chinese-style buildings, the Former House of the Chinese Captain, and Gie Kie Kong Soe Funeral House indicates that Chinese urban life was not limited to economic activity, but also included residential, social, ritual, and communal institutions. This pattern suggests that Chinese heritage in Kediri emerged from the close relationship between mercantile networks, colonial urban structure, and community-based cultural practices.

Table 2. Historical Period Classification

Historical Period	Heritage assets	Approximate Years
Kediri Kingdom Period	Setono Gedong Site, Selomangleng Cave Relief	1042–1222 CE
Islamic Mataram Period	North Gate of Astono Gedong Cemetery, East Gate of Astono Gedong Cemetery	17th–18th Century
Qing Chinese–Dutch Colonial Period	Tjoe Hwie Kiong Chinese Temple	18th–19th Century
Dutch Colonial Period	Tjiang Optical Store, Surabaya Store, Dhaha Chemical Laundry, Sumber Kertas, Miraco Photo Studio, D-Unicone and Tweety Store, Former Colonial-era Chevrolet Dealership, Ringinanom Heritage Gateway, Pakelan Urban Village Gateway, Bank Indonesia Building, Former House of the Chinese Captain, Santa Maria Catholic Junior High School, Brawijaya Military Headquarters, Hotel Merdeka, House East of Hotel Merdeka, Row of Chinese-style Buildings, Kediri Station Clinic, Pakelan Urban Village Office, Gie Kie Kong Soe Funeral House, Kediri Railway Station	ca. 1800–1942
Early Independence Period	Soto Podjok Restaurant, Sari Agung Restaurant, Koramil 0809/01 Office, Jaya Cinema, Garuda Cinema	1945–1965
Traditional Cultural Heritage (Living Heritage)	Bandar Ikat Weaving Batik	Continuing from pre-colonial to present

The architectural-style distribution demonstrates that the heritage landscape of Kediri is dominated by colonial-era and hybrid urban styles rather than by a single architectural tradition (see Appendix A). Art Deco forms the largest stylistic group, appearing in seven objects, particularly commercial, restaurant, and cinema buildings. The prominence of Art Deco in Kediri can be understood in relation to the city’s transformation during the late colonial period and early independence transition. Art Deco was closely associated with urban modernity, commercial progress, and new forms of public consumption (Fig. 4b, 4f). The relatively simple geometric forms, streamlined façades, plastered masonry, reinforced concrete elements, and decorative frontage of Art Deco also made it adaptable to compact urban plots and shopfront typologies. Thus, the spread of Art Deco in Kediri reflects not only stylistic influence from colonial architectural trends, but also the socio-economic modernization of the city’s commercial and entertainment landscape.

The material composition of the recorded objects shows a strong reliance on masonry-based construction. Brick masonry and plaster are the most dominant materials, appearing in almost all inventoried objects,

indicating their importance as the primary structural and finishing system in Kediri's historic buildings. Clay roof tiles and timber elements also occur frequently, reflecting the persistence of tropical building traditions and local construction practices, especially in Javanese, colonial, and Peranakan buildings. Reinforced concrete, metal, and glass are more commonly associated with commercial, institutional, Art Deco, and modern colonial buildings, suggesting a gradual shift toward modern construction technologies during the late colonial and early independence periods. Ceramic ornaments, painted surfaces, carved timber, and temple-related decorative materials appear in specific Chinese, Javanese, and communal buildings, while stone masonry is mainly associated with the archaeological layer of Setono Gedong Site. Overall, the material distribution reveals a transition from traditional and masonry-based construction toward hybrid colonial modern building systems, while still retaining local tropical materials and ornamental traditions.

The transformation from original function to current function reveals the degree of continuity, adaptation, and decline among the inventoried heritage assets (Fig 5b). As shown in the Sankey diagram, several buildings retain their original functional category, particularly commercial, religious, transportation, governmental, military, financial, educational, hospitality, and industrial functions. This continuity indicates that some heritage assets remain embedded in the everyday urban system of Kediri, rather than being preserved only as static historical objects. A second pattern is functional adaptation, in which heritage assets are reused for different but still compatible urban purposes. Some former residential, commercial, entertainment, or institutional buildings have shifted into mixed-use, tourism, community, healthcare, or other service-oriented functions. This pattern suggests that adaptive reuse has become an important mechanism for keeping heritage assets economically and socially relevant.

A third pattern is functional vulnerability, indicated by assets that have become vacant or abandoned. This condition is particularly significant because it shows that not all heritage assets have successfully maintained either their original function or a viable new use. Vacant or abandoned buildings represent a critical conservation concern, as the loss of function often accelerates physical deterioration, weakens public visibility, and reduces the social value of heritage assets. Therefore, functional transformation should be read not only as evidence of urban change, but also as an indicator of conservation urgency.

3.3 Spatial Analysis

The Kernel Density Estimation (KDE) result reveals four main heritage concentration zones within the study area (Fig 7). The first and strongest cluster appears in the south-western part of the CBD, close to the Brantas River. This cluster is dominated by Chinese heritage assets, including Chinese-style buildings, community-related facilities, and commercial objects. Its location near the river suggests that the early formation of Chinese commercial and social life in Kediri was closely connected to river-oriented mobility, trading access, and the historical settlement structure along the western edge of the urban core. The Brantas River therefore functioned not only as a natural boundary, but also as a spatial generator for trade, settlement, and multicultural interaction. The second major cluster appears in the north-western part of the CBD, where colonial and Chinese-related heritage assets overlap. This area indicates a mixed commercial-residential heritage pattern, shaped by the interaction between colonial urban development and Chinese mercantile networks. The concentration of shops, service buildings, and Chinese-related urban forms suggests that this part of the city developed as an active trading corridor. Its proximity to both the Brantas River and the main street network strengthened its role as a commercial interface between local settlement areas and wider urban circulation.

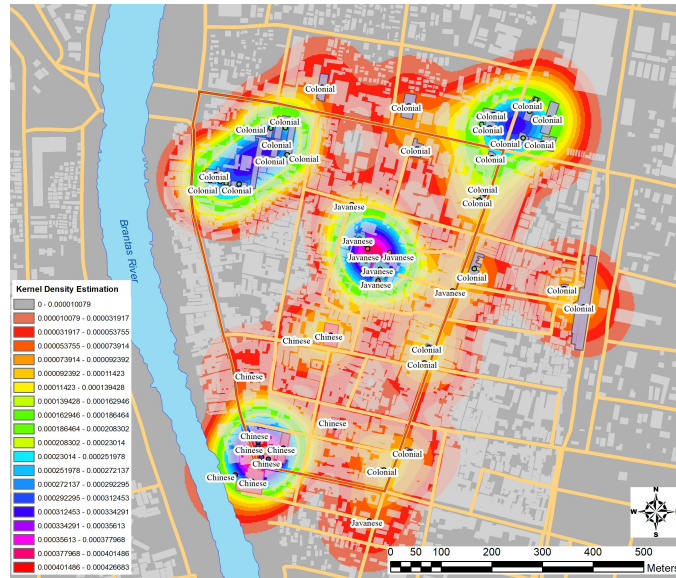


Fig. 7 Kernel Density Analysis

The third cluster is located in the central part of the study area, around the Setono Gedong area. This cluster is mainly associated with Javanese heritage and represents the sacred-archaeological layer of Kediri. The fourth cluster appears in the north-eastern part of the CBD and is dominated by colonial heritage assets. This area is closely related to institutional, commercial, educational, and service functions developed during the Dutch colonial period. Its location along major roads and near the eastern railway corridor indicates that colonial heritage in Kediri followed a different spatial logic from the river-oriented Chinese cluster and the sacred Javanese cluster. Colonial assets were more strongly associated with formal road networks, administrative order, public institutions, and modern urban services. A lower-density but strategically important pattern is visible along the eastern side of the study area, near Kediri Railway Station. Although this zone does not form the highest KDE concentration, it plays an important role in connecting the heritage landscape to regional mobility and economic circulation. The railway corridor helped structure the location of public facilities, commercial activities, and colonial-era infrastructure. This confirms that Kediri's heritage distribution was shaped by both river-based and railway-based urban systems.

3.4 Heritage Interpretation

The interpretation of Kediri's heritage landscape was developed by combining physical condition, functional continuity, historical significance, and spatial concentration (see Appendix A). The results indicate that conservation priority should not be determined only by the age or architectural style of individual objects, but also by their current vulnerability and their role within the broader historical corridor. Objects in excellent and good condition demonstrate strong potential for continued use, interpretation, and heritage tourism, while objects in poor and critical condition require more urgent intervention. This distinction is important because the dataset shows that physical deterioration is closely related to functional decline, particularly among abandoned or underused commercial and entertainment buildings.

Based on the physical-condition assessment, the highest conservation priority should be given to assets classified as poor and critical, especially Surabaya Store, Dhaha Chemical Laundry Building, Sumber Kertas Building, Miraco Photo Studio, Jaya Cinema, and Garuda Cinema. These objects are significant because they represent Kediri's colonial commercial corridor and early modern urban culture, yet they are currently among the most vulnerable assets in the inventory. The critical condition of Jaya Cinema and Garuda Cinema is particularly important, as both buildings record the history of public entertainment and urban leisure in Kediri during the late colonial and early independence periods. Their abandoned status indicates not only architectural deterioration, but also the loss of active social function. Therefore, conservation measures for

these buildings should prioritize emergency documentation, façade stabilization, structural assessment, ownership clarification, and adaptive planning.

The historical corridor of Kediri can be interpreted as a connected urban sequence linking the Brantas River, Chinese commercial areas, sacred-archaeological sites, colonial institutional buildings, and Kediri Railway Station. This corridor is not a single linear route, but a multi-nodal heritage structure shaped by riverine settlement, trade, religious activity, colonial administration, and transportation infrastructure. Setono Gedong Site is significant because it anchors the study area within the deeper historical memory of the Kediri Kingdom. The Chinese commercial-community zone around the western and south-western parts of the CBD is also highly significant because it contains commercial buildings, Chinese-style buildings, and Tjoe Hwie Kiong Chinese Temple. This zone demonstrates the integration of economic, residential, religious, and communal life within the Chinese urban heritage layer. The colonial institutional-commercial corridor around Jalan Dhoho, Jalan Brawijaya, and Jalan Basuki Rahmat is another significant zone because it contains commercial, financial, educational, hospitality, and civic buildings that shaped Kediri's modern urban identity.

In terms of development potential, the most promising areas are those where heritage concentration, accessibility, and functional overlap. The commercial corridor along Jalan Dhoho and its surrounding streets has strong potential to be developed as an urban heritage walk, because it contains a high concentration of colonial, Chinese, Art Deco, and commercial heritage assets. The Setono Gedong area can be developed as a sacred-archaeological interpretation zone that connects archaeological memory, riverine history, and Javanese cultural identity. The area around Kediri Railway Station has potential as a transportation heritage node, linking railway history with colonial public facilities and commercial activities. Meanwhile, abandoned cinemas and deteriorated commercial buildings can become priority sites for adaptive reuse, for example as cultural venues, creative hubs, community galleries, heritage cafés, or urban memory centers.

4. Conclusions

This study confirms that the multicultural urban heritage of Kediri City is formed through the interaction of historical layering, spatial concentration, architectural hybridity, functional continuity, and conservation vulnerability. The GIS-based inventory identified 31 heritage assets within the central urban corridor, consisting of archaeological sites, heritage gateways, traditional craft heritage, historic buildings, religious sites, commercial buildings, public buildings, and transportation heritage. These assets demonstrate that Kediri's heritage landscape is not limited to monumental or officially recognized historic buildings, but also includes commercial streetscapes, sacred spaces, community facilities, railway infrastructure, and living craft traditions that remain embedded in everyday urban life. More importantly, the findings reposition the study area as a connected heritage system in which river-based spatial formation, trade activity, community institutions, colonial infrastructure, and post-colonial adaptation collectively structure the contemporary urban core.

Architectural and material evidence also confirms the hybrid character of Kediri's heritage landscape. Art Deco, Chinese Eclectic or Peranakan, Nieuwe Indische, Javanese, and other hybrid styles demonstrate the coexistence of local, Chinese, and colonial-modern design traditions. The dominance of masonry, plastered façades, clay roof tiles, timber, reinforced concrete, metal, and glass reflects a transition from traditional construction systems to colonial-modern technologies. The physical-condition assessment shows that most assets remain in excellent or good condition; however, poor, critical, vacant, and abandoned buildings, particularly former commercial and entertainment buildings, require urgent conservation attention. The main contribution of this study lies in demonstrating how an integrated spatial inventory can connect heritage type, historical period, cultural layer, architectural style, material composition, function, physical condition, and distribution pattern into a single analytical framework. This approach provides an evidence-based basis for identifying heritage significance, determining conservation priorities, planning historical corridors, supporting adaptive reuse, and strengthening urban heritage management in Kediri City.

Several limitations should be acknowledged. The inventory was limited to a defined central corridor and did not include wider urban or peri-urban heritage areas. Some assets also require further verification through archival research, oral history, ownership investigation, and detailed building-condition assessment. Future studies should expand the spatial scope of the inventory, examine community perceptions of heritage value, assess legal and policy instruments for conservation, and compare Kediri with other medium-sized heritage cities in Indonesia. Such research would strengthen the understanding of how multicultural heritage landscapes can be conserved and managed within rapidly changing urban environments.

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