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Connecting Multicultural Landscapes and Public Open Spaces: A Case Study of the Kudi Chin Community, Bangkok, Thailand

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Abstract

Kudi Chin is a historic riverside community in Bangkok, Thailand, where Buddhist, Islamic, Christian, and Chinese cultural traditions coexist within a shared urban landscape. Its network of religious places, open spaces, circulation routes, and waterways reflects a long history of cultural coexistence. This study explores the spatial characteristics and degrees of publicness of cultural open spaces in Kudi Chin, their relationships with circulation routes and surrounding waterways, and their potential to contribute to a connected multicultural landscape while maintaining the distinctive identity of individual places. A qualitative case study approach was adopted, focusing on four cultural sites: Wat Kanlayanamit, Kudi Khaw Mosque, Santa Cruz Church, and Kian Un Keng Shrine. Site observations conducted in January 2026 examined three dimensions: spatial configuration, quality, and degree of publicness; connections, networks, circulation, and spatial relationships; and the temporal dimension of cultural use and activities. The findings show that the four cultural open spaces have distinct spatial configurations, degrees of openness and enclosure, and relationships with surrounding residential, community, and religious spaces. Streets, alleys, pedestrian routes, and public spaces connect these cultural places as part of a fine-grained spatial network, although pedestrian conditions and connections with the Chao Phraya River and Bangkok Yai Canal remain limited. High embankments and restricted access weaken visual and physical relationships between communities and waterways. Recurring cultural and religious activities further activate these spaces at different times of the year, may reinforcing their cultural significance. The study suggests that strengthening Kudi Chin as a multicultural landscape should build upon existing cultural places and spatial networks while improving pedestrian connections and relationships with waterways. This provides a landscape-architecture perspective on multicultural landscapes that emphasises the spatial relationships among culturally diverse places within a shared historic urban environment.

Keywords: Multicultural Landscape, Cultural Landscape, Public Open Space, Landscape Connectivity, Bangkok

1. Introduction

1.1 Multicultural Landscape and Public Open Space

A cultural landscape is shaped by the interaction of people, culture, history, and the physical environment (Sauer, 1925; UNESCO, 2019). A multicultural landscape therefore refers to a landscape where the values, practices, and identities of multiple cultural communities coexist and are expressed through shared and interconnected spaces (Vertovec, 2007; Rishbeth et al., 2018).

The scholar describes how inclusive public landscapes should recognise the diverse ways in which ethnic and cultural groups interpret open space. The studies highlight the importance of cultural representation and symbolic meaning, sensitivity to different landscapes, and providing and managing spaces that can accommodate diverse patterns of function. Consequently, multiculturalism is not simply about placing cultural symbols in space; they are about whether existing landscapes are recognisable, meaningful, usable, accessible, and welcoming to different cultural groups (Rishbeth, 2001, 2004). Moreover, the cultural diversity in urban landscapes is expressed through everyday patterns of interaction. The synthesis of ethnographic studies shows that ethnically diverse communities engage with public spaces in varied ways, highlighting the need for urban design to recognise diverse social practices rather than assume homogeneous patterns of use (Rishbeth et al., 2018). Another study examines how the socio-spatial qualities of public open spaces can support intercultural encounters. Their study of parks, squares, and streets in ethnically diverse areas identifies qualities such as visibility, opportunities for lingering, playfulness, and threshold spaces as relevant to everyday conviviality and encounters between people with different backgrounds (Ganji & Rishbeth, 2020).

Public space is part of a connected pattern of paths, activity nodes, promenades, and small public squares rather than as isolated elements. Their discussion of small public squares highlights the importance of locating such spaces along frequently used paths and relating them to surrounding activity areas. This suggests that the value of small open spaces can derive from their connections with movement routes and other public spaces (Alexander et al., 1977). Ordinary public spaces can support social interaction, community relations, and well-being (Cattell et al., 2008). Moreover, the physical quality of outdoor space affects the opportunities for optional and social use (Gehl, 2011). This spatial pattern corresponds to the human-scale qualities of urban space (Sim, 2019).

Public space is not simply a physical setting but is shaped by the cultural practices, histories, meanings, and social relationships associated with it. The physical form of public space can embody social and cultural relations, while its meanings may also be contested and differently understood by different groups (Low, 2000). Consequently, urban design should be understood through multiple interrelated dimensions, including morphological, perceptual, social, visual, functional, and temporal qualities. This perspective emphasises that the character and performance of public space are shaped not by individual physical elements alone, but by their relationships within the wider urban environment (Carmona et al., 2010).

There is also literature that provides a basis for examining the different degrees of publicness and spatial boundaries in open spaces. The scholar emphasises territorial definition, accessibility, control, and responsibility in shaping how people understand and use different spaces. Defensible space distinguishes varying degrees of territoriality, from more public to more private spaces, through spatial boundaries and levels of control (Newman, 1972). Contemporary urban environments increasingly contain hybrid spaces in which conventional distinctions between public and private become blurred, resulting in spaces with varying degrees of access and control (Nissen, 2008). Similarly, publicness is understood as a continuum rather than a fixed public–private divide, with accessibility, ownership, and control shaping the degree of publicness (Dovey & Pafka, 2020).

Taken together, this literature highlights that the potential of open spaces to support multicultural landscapes depends on their spatial configuration, connectivity, accessibility, publicness, and physical qualities, as well as how these qualities accommodate diverse cultural practices and everyday interactions.

1.2 The Multicultural Context in Kudi Chin, Bangkok

Bangkok is a culturally diverse historic city shaped by migration, settlement, trade, and exchange among different cultural and religious communities. These relationships have been closely associated with the Chao Phraya River and canal system, which historically structured settlement, movement, livelihood, and everyday life. Bangkok's historical identity as a water-based city was shaped by waterways that structured settlement, movement, and cultural life. However, urbanisation has weakened these relationships, contributing to the neglect of waterways as cultural landscapes (Shinawatra, 2012). The literature highlights the need to reconnect Bangkok's heritage landscape by addressing the declining relationship between urban development, communities, and waterways. The scholar shows how modernisation and road-based development have marginalised canal-side settlements and weakened waterways' historical role in Bangkok's urban life (Unakul, 2012). These studies provide a useful basis for understanding the relationship between cultural communities, open spaces, and waterways in Kudi Chin.

Kudi Chin provides a distinctive context for examining relationships within its multicultural landscape. Located on the western bank of the Chao Phraya River in Thonburi, the community developed during the formation of Thonburi as the capital in the late eighteenth century and has retained a distinctive multicultural character through the coexistence of Buddhist, Christian, Muslim, and Chinese traditions (Hararak, 2001). Recent literature studies this community, investigating its cultural value for tourism. Scholars examine the development of creative community tourism based on Kudi Chin's identity, highlighting how the community's cultural identity is expressed through local traditions, cultural activities, and architecture (Singkhajorn et al., 2024). It shows that Kudi Chin's cultural identity is closely tied to everyday community practices and its distinctive local character. Another study further explored community-based cultural gastronomy tourism in Kudi Chin, focusing on local food and the cultural knowledge associated with its preparation and consumption. Scholars show how gastronomy can express and sustain community identity, linking cultural practices to the place and social life of Kudi Chin (Sripipatporngul & Peeraphatchara, 2024).

Less attention has been given to how the physical configuration and connectivity of existing open spaces can collectively support a multicultural landscape. From a landscape-architecture perspective, this study therefore examines how cultural open spaces, pedestrian connections, traditional activities, and relationships with waterways contribute to the expression and continuity of multicultural landscapes.

2. Objective

2.1 To explore the spatial characteristics, degrees of publicness, circulation routes and surrounding waterways in the Kudi Chin Area.

2.2 To explore how Kudi Chin's cultural open spaces could contribute to a connected multicultural landscape while maintaining the distinctive identity of individual places.

3. Research Methodology

3.1 Case Study Approach

This study adopts a qualitative case study approach (Yin, 2014) to examine Kudi Chin as a multicultural landscape in which diverse cultural and religious traditions coexist within a shared urban environment. A case study approach enables an in-depth examination of the spatial relationships between cultural and religious places, open spaces, and the surrounding settlement within their specific historical and urban context. In this study, Kudi Chin provides the overall study context, while selected religious and cultural sites serve as cases through which the physical characteristics and spatial relationships of the multicultural landscape are examined.

Six religious places were identified within the Kudi Chin area (Figure 1): three Buddhist temples, Wat Kanlayanamit, Wat Prayurawongsawas Worawihan, and Wat Buppharam Worawihan, one mosque, one church, and one Chinese shrine. Four sites were purposively selected for detailed spatial analysis: Wat Kanlayanamit, Kudi Khaw Mosque, Santa Cruz Church, and Kian Un Keng Shrine. Among the three Buddhist temples, Wat Kanlayanamit was selected as the Buddhist case based on its direct relationship with the river and its closer proximity to the open spaces of the surrounding religious places (Figure 1). The selection aimed to include different cultural and religious identities represented within the Kudi Chin landscape, while also identifying sites with distinct spatial relationships to surrounding open spaces, streets, waterways, and neighbourhoods.

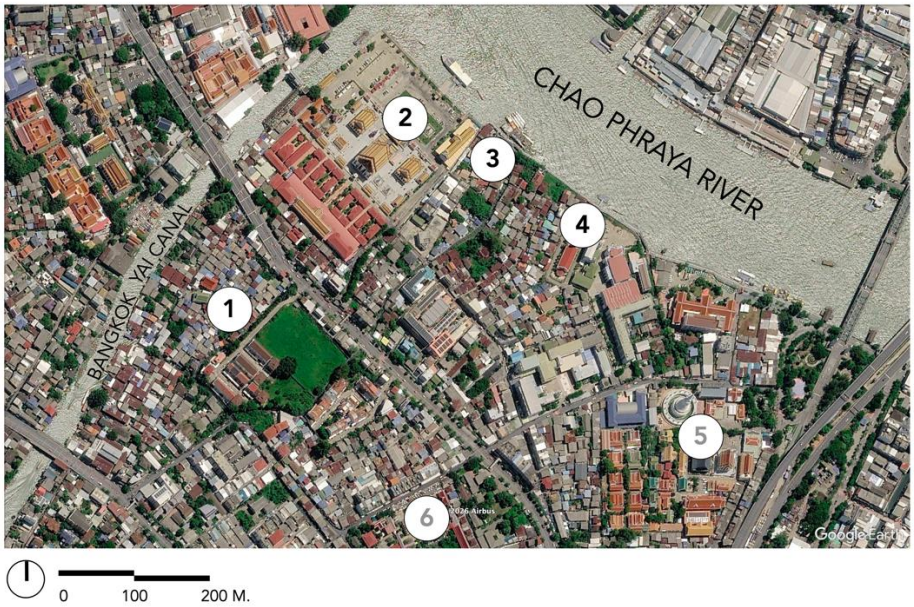

Figure 1 The religious places in the Kudi Chin community. (1) Bang Luang or Kudi Kaow Mosque, (2) Kanlayanamit Temple, (3) Kian Un Keng Shrine, (4) Santa Cruz Church, (5) Prayurawongsawas Worawihan Temple, and (6) Buppharam Worawihan Temple.

Adapted from Google Maps (2026).

3.2 Literature Review and Developing Analytical Dimension

Literature on multicultural landscapes, cultural diversity, and open public spaces was analysed to establish the analytical framework. Three analytical dimensions were developed from the literature to examine the multicultural landscape of Kudi Chin (Table 1). First, spatial configuration, quality, and degree of publicness consider the physical characteristics, accessibility, territorial boundaries, and varying degrees of publicness of open spaces. In Kudi Chin, this dimension examines existing cultural and community spaces across public, semi-public, and semi-private settings. Second, connections, networks, circulation, and spatial relationships consider how individual spaces relate to one another and to the wider movement and landscape system. In Kudi Chin, this includes the connections among streets, alleys, pedestrian routes, cultural spaces, and the surrounding waterways. Third, the temporal dimension of cultural use and activities considers how the significance and use of open spaces may change through recurring cultural practices and events. In Kudi Chin, this dimension focuses on the recurring and annual patterns of cultural and religious activities associated with existing spaces.

Table 1 The analytical dimension developed from the literature.

Key literature	Key concepts
1. Spatial configuration, quality, and degree of publicness	
Carmona et al. (2010)	Urban design involves interconnected morphological, perceptual, social, visual, functional, and temporal qualities.
Gehl (2011)	The physical quality of outdoor environments affects opportunities for optional and social use.
Low (2000)	Public spaces are shaped by cultural practices, histories, meanings, and social relations.
Newman (1972)	Territorial definition, accessibility, control, and responsibility produce different degrees of territoriality.
Nissen (2008)	Public and private distinctions can become blurred through hybrid spaces with different degrees of access and control.
Dovey & Pafka (2020)	Publicness is a continuum influenced by accessibility, ownership, and control.
2. Connecting, circulation, and surrounding relationships	
Alexander et al. (1977)	Paths, promenades, activity nodes, and small public spaces form interconnected spatial patterns.
Ganji & Rishbeth (2020)	Visibility, thresholds, lingering opportunities, and other socio-spatial qualities can support intercultural encounters.
Carmona et al. (2010)	The quality of public space depends on relationships among spatial elements and their wider urban context.
Rishbeth (2001)	Landscapes can hold different meanings and be interpreted differently across cultural groups.
3. Cultural activities linking to temporal dimension	
Rishbeth et al. (2018)	Public spaces take on different meanings and functions for diverse communities and across different periods, reflecting the changing cultural relationships between communities and their surrounding landscapes.
Cattell et al. (2008)	Public spaces accommodate diverse forms of social interaction and community activity, which may occur at different times and involve different social groups.
Gehl (2011), Sim (2019)	Variations in environmental conditions and time influence when, how, and for what purposes outdoor spaces are used.
Low (2000)	The meanings and functions of spaces emerge from practices, memories, and social relationships, and change as patterns of cultural use evolve.

3.3 Site Observation

Site observations were conducted in January 2026 across the four selected study sites in Kudi Chin: Kudi Khaw Mosque, Kanlayanamit Temple, Kian Un Keng Shrine, and Santa Cruz Church. The observations focused on the spatial configuration and physical characteristics of existing open spaces, their connections and circulation routes, degrees of publicness, and relationships with surrounding cultural, residential, and water-related spaces. The observations also documented spatial conditions associated with recurring cultural and religious activities to understand the temporal dimension of the landscape. Photographs, field notes, and spatial measurements were used to record the existing conditions of each site. Because the study focuses on the spatial characteristics of the study sites, no research involving human participants was conducted.

4. Research Result

The section first illustrates each open space from the four selected study sites in Kudi Chin Area in detail. Later, the analytical explanation is presented in three concentration aspects: (1) Spatial configuration, quality and degree of publicness, (2) Connecting, circulation and surrounding relationships, and (3) Temporal dimension of cultural activities.

4.1 The open space of Kudi Kaow Mosque

The open space of Kudi Khaw or Bang Luang Mosque is located within the Muslim community of Kudi Khaw. The space measures 550 square meters. The surrounding spatial structure comprises a sequence of semi-private, shared public, and public spaces with different scales, degrees of enclosure, and functions (Figure 2).

Figure 2 The open space and degree of publicness of Kudi Kaow Mosque.

- **Shared semi-private spaces:** As the open space situated among the community areas, spaces between residential buildings become shared functions. The space provides access and accommodates back-of-house activities, e.g., washing and motorbike parking. Small-scale goods retail was also observed along residential edges.
- **Shared public spaces:** The spaces extending from the residential frontage toward the mosque form a shared public zone. These areas include food retail, informal sitting, and gathering spaces, as well as areas used for resting and informal social activities.
- **Public spaces:** The mosque precinct comprises two principal open spaces: a small plaza to the north and a larger cemetery area to the south. The northern plaza provides a gathering space associated with mosque activities, including congregational prayer, particularly on Fridays. The southern cemetery contains a larger proportion of landscaped and green space. This area is used for religious and cultural practices during specific periods, including visits to family graves during Eid Day, while also functioning as a quiet open space at other times.
- **Canal Adjacent Areas:** Limited spatial connections were identified between the Bangkok Yai Canal edge and the mosque's open spaces. The canal-side area is occupied by dense residential areas. An existing pier was identified at the canal edge but was not in use.

4.2 The open space of Kanlayanamit Temple

Kanlayanamit Temple is one of three Buddhist temples in the Kudi Chin community. Its open space is located adjacent to the Chao Phraya River and directly connected to the existing pier and riverside promenade, as shown in Figure 3. The temple precinct contains a large open space defined by traditional architectural elements and their surrounding edges. Unlike the other selected sites, no distinct shared semi-private space was identified, as the open space is not directly enclosed by private residential buildings.

Figure 3 The open space and degree of publicness of Kanlayanamit Temple.

- **Shared Public Space:** The shared public space is defined by the edges of the temple buildings and extends toward the riverside. The open space comprises a central plaza, temple-edge spaces, and a riverside promenade, with pavilions and canopy structures forming shaded and semi-enclosed areas along these edges. Bicycle parking is accommodated along the perimeter, while the riverside edge provides direct access to the public pier. The combination of building edges, shaded structures, and circulation routes creates a sequence of interconnected outdoor spaces extending from the temple precinct toward the riverside promenade.
- **Public Space:** The central open space is primarily used as a parking area, with fewer activity spots than the surrounding edge spaces. The spatial use is concentrated along the edges than within the central area.
- **Riverside Space:** Site observation identified a constructed river embankment along the waterfront, with its elevated structure partially obstructing views and visual access to the Chao Phraya River from the adjacent open space. Limited functions were observed within this area. A pavilion is connected to the existing pier; however, at the time of the site observation, the pier was closed for maintenance and was not in use.

4.3 The open space of Kian Un Keng Shrine

The open space of Kian Un Keng Shrine is characterised by a high degree of enclosure, with a 110 square meters court functioning as a spatial threshold between the shrine and the surrounding neighbourhood. Its spatial configuration is defined by residential edges, low fences, the shrine court, and the connecting route toward the riverside promenade (Figure 4).

Figure 4 The open space and degree of publicness of Kian Un Keng Shrine.

- **Shared semi-private space:** The spaces adjacent to the residential buildings are identified as shared semi-private areas. The residential frontages face the open space and are defined by low fences, creating a relatively enclosed spatial edge while maintaining a visual relationship between the residences and the court (Figure 4).
- **Shared public space:** The area between the residential edges and shrine court forms a shared public zone. Low boundaries and open access points maintain a degree of visual and physical permeability between the court, residential areas, and circulation route.
- **Riverside space:** The route connecting the shrine court to the promenade forms a distinct spatial transition from the enclosed shrine setting toward the open riverside landscape. The promenade extends to the Chao Phraya River and provides a continuous visual and physical connection to the waterfront. This spatial sequence—from enclosed court, through the transitional route, to the open riverside—establishes a potential connection between the shrine and the wider cultural landscape network of Kudi Chin.

4.4 The open space of Santa Cruz Church

The open space of Santa Cruz Church combines defined enclosure with an open riverside edge, creating a clear spatial relationship among the church, central plaza, and Chao Phraya River. The spatial structure comprises the church plaza, surrounding residential and institutional edges, connecting pathways, and the riverside promenade (Figure 5).

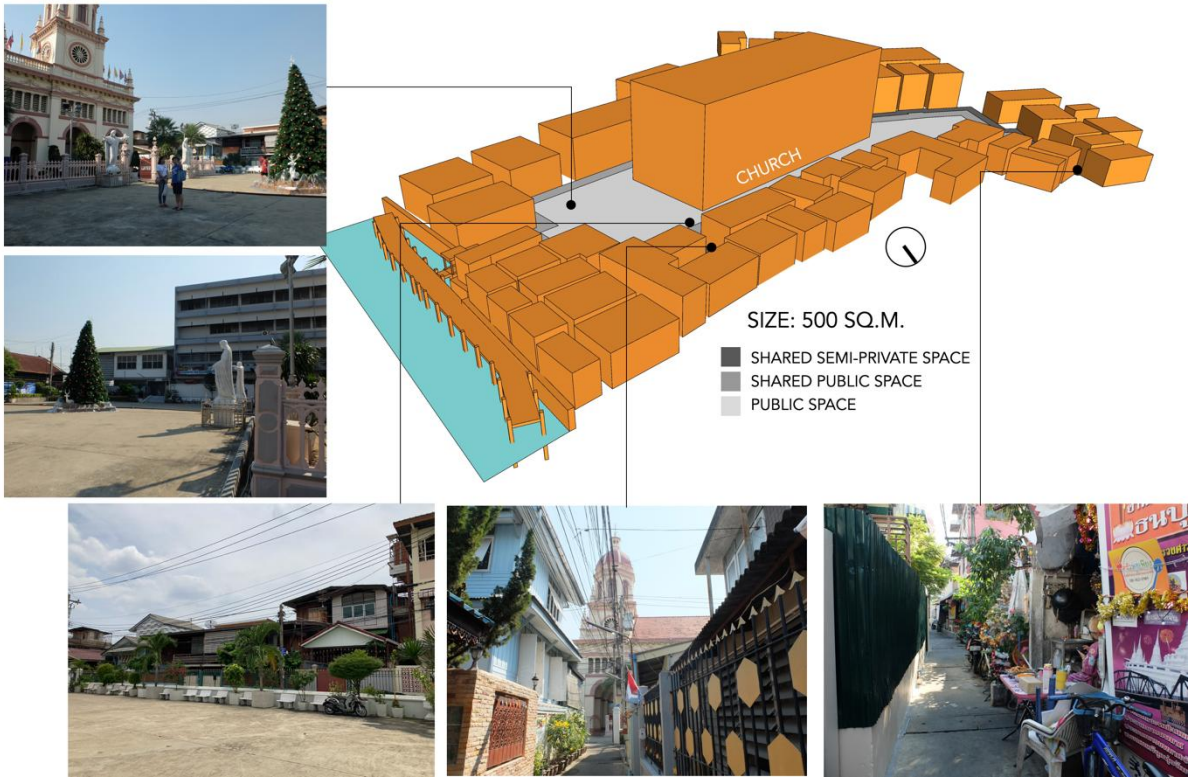

Figure 5 The open space and degree of publicness of Kian Un Keng Shrine.

- **Public space:** The central plaza is located directly in front of Santa Cruz Church and forms the principal public open space within the church precinct. The plaza has a relatively open configuration, with the church forming its southern edge and the riverside forming its northern edge. This arrangement establishes a clear spatial axis of the space.
- **Shared public space:** The plaza is defined by surrounding residential buildings and a school, creating a relatively enclosed spatial setting. Benches and canopy structures are positioned along the plaza edges, forming shaded and semi-enclosed areas within the larger open space.
- **Shared semi-private space:** The residential alleys connect circulation between the plaza and the heritage museum, forming a transitional space within the neighbourhood. Its relationship with adjacent residential areas creates a semi-private spatial character while maintaining connectivity between the church precinct and other cultural destinations.
- **Riverside space:** The riverside promenade provides direct access to the church through a connecting pavilion and establishes an open visual corridor toward the church façade. The promenade functions as both a circulation route and a transitional landscape between the church precinct and the Chao Phraya River.

4.5 Spatial configuration, quality and degree of publicness: Analytical Dimension (1)

Table 2 compares the four study sites according to their cultural and symbolic roles, open-space configurations, and key spatial characteristics**.** The findings show distinct spatial conditions across the sites: Kudi Khaw has a layered sequence of spaces with varied enclosure integrated into the residential fabric; Kanlayanamit is characterised by a larger, strongly defined open space with a direct riverside connection**;** Kian Un Keng forms a small and highly enclosed shrine court with a permeable transition toward the river; while Santa Cruz has a defined central plaza structured by the church, surrounding buildings, and an open riverside edge**.** Overall, these differences indicate that Kudi Chin's cultural open spaces vary in scale, enclosure, and spatial definition.

Table 2 Analysis of the open spaces. (C.) Cultural and symbolic role, (O.) Open-space configuration, (S.) Key spatial characteristics

Study Sites		Spatial Analysis
(1) Kudi Khaw Mosque	C.	Muslim religious and community landmark
	O.	Multiple spaces with different degrees of enclosure, including a small mosque plaza and larger cemetery
	S.	Layered spatial sequence; varied enclosure; strong integration with residential fabric
(2) Kanlayanamit Temple	C.	Buddhist religious landmark
	O.	Large open space defined by temple buildings and an open riverside edge
	S.	Large open space; strong edge definition; shaded/semi-enclosed edges; direct riverside connection
(3) Kian Un Keng Shrine	C.	Chinese religious and historical landmark
	O.	Small, highly enclosed shrine court with low-fence boundaries
	S.	Highly enclosed; small-scale court; strong threshold condition; permeable transition toward river
(4) Santa Cruz Church	C.	Christian religious, historical, and architectural landmark
	O.	Central plaza enclosed by residential and school edges with an open riverside side
	S.	Defined plaza; strong church–plaza–river axis; enclosed sides with open riverside edge

Table 3 illustrates the analysis of publicness across the four study sites, which indicates a gradual transition between semi-private, shared, and public spaces. Semi-private spaces are generally associated with residential edges, low boundaries, and locally oriented uses, while shared or semi-public spaces occur where residential, community, and cultural uses overlap. More publicly accessible spaces are typically located around the main cultural landmarks; however, their openness and functionality vary. Kudi Khaw Mosque shows the clearest gradient across these levels, while Kian Un Keng Shrine has a more compact transition and Santa Cruz Church presents a relatively continuous relationship between residential edges and the church plaza. At Kanlayanamit Temple, the large central open space is formally accessible but occupied by a parking lot. Overall, these patterns demonstrate that Kudi Chin's cultural landscape comprises a range of connected spaces with different degrees of accessibility and publicness, extending beyond formally designated public spaces.

Table 3 The degree of publicness. (L.) Locally shared space, semi-private, (S.) Shared, semi-public space, (P.) Public space

Study Sites		Degree of publicness
Kudi Khaw Mosque (550 m²)	L.	Residential edges with low-scale access; spaces used for washing, motorcycle parking, and small-scale retail.
	S.	Spaces extending from residential frontages toward the mosque; relatively open edges accommodate food retail, informal sitting, resting, and gathering.
	P.	Two principal open spaces: the northern plaza and the southern cemetery/green space, providing the most open communal areas around the mosque.
Kanlayanamit Temple (980 m²)	L.	-
	S.	Central plaza edges, temple promenade, pavilions, and canopy structures; bicycle parking and other uses occur along the edges.
	P.	Large central open area associated with the temple, although its use for parking reduces its effective openness as a public gathering space.
Kian Un Keng Shrine (110 m²)	L.	Residential frontages with low fences and relatively enclosed edges, creating a more locally controlled spatial condition.
	S.	Space between residential edges and the shrine court, characterised by low boundaries and multiple access points.
	P.	Small shrine court forming the principal publicly accessible open space, although its limited size creates a more contained public setting.
Santa Cruz Church (500 m²)	L.	Residential alleys and edges connecting the plaza toward the heritage museum, with a relatively intimate spatial character.
	S.	Plaza edges defined by residences and the school, with benches and canopy structures supporting shared use.
	P.	Central plaza directly in front of the church, functioning as the principal publicly accessible open space.

4.6 Connecting, circulation and surrounding relationships: Analytical Dimension (2)

The existing pedestrian network in Kudi Chin supports spontaneous pedestrian movement between cultural sites and surrounding routes within the historic urban area of Bangkok. The observed routes and walking distances connect the four selected open spaces (Figure 6).

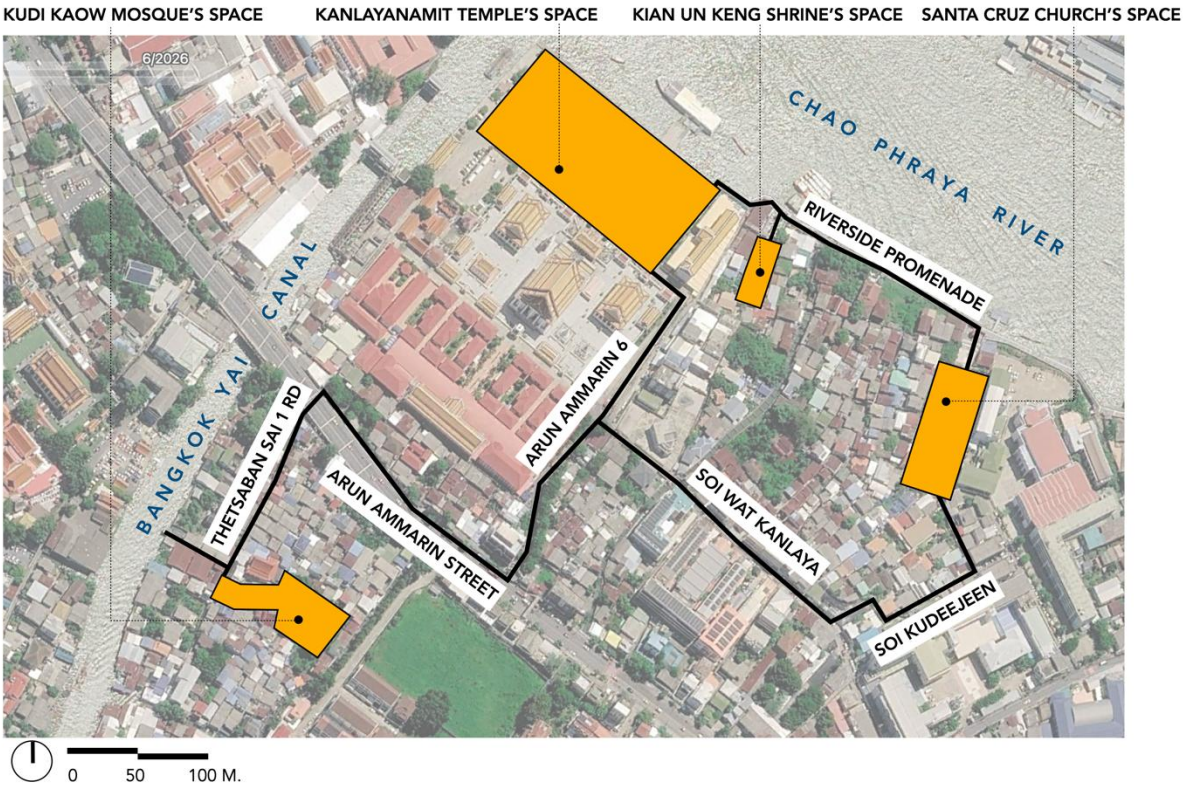

Figure 6 The connections and circulation of the four study sites.
Adapted from Google Maps (2026).

To illustrate, Soi Wat Kanlaya comprises a narrow local street bordered by residential and local commercial areas. Site observations identified informal and temporary uses, including food vendors, movable stalls, motorbike parking, and small-scale commercial activities, creating a locally distinctive streetscape. This spatial condition creates a relatively intimate pedestrian environment (Figure 7-Left). Soi Arun Amarin 6 connects with Arun Amarin Road and contains a planted median separating the vehicle lane. There is a pedestrian pathway on one side, while trees are planted on both sides. The connection between Kanlayanamit Temple and the Kudi Khaw Muslim community mainly needs to pass this path (Figure 7-Right). Along the Chao Phraya Riverside, the promenade provides a continuous pedestrian route connecting Santa Cruz Church, Kian Un Keng Shrine, and Kanlayanamit Temple, although shade is limited in sections (Figure 8-Left).

The analysis in Table 4 further shows that the four study sites have different degrees of relationship with the surrounding waterways. Kudi Khaw Mosque has a relatively weak connection to Bangkok Yai Canal due to its dense residential edge and an unused pier. The Kian Un Keng Shrine and Santa Cruz Church have physical and visual connections with the Chao Phraya River through a riverside promenade, while the residential areas were found with privacy screening or walls (Figure 8-Right). Although the Kanlayanamit Temple comprises the plaza adjacent to the riverside, there remains a high embankment that prevents the visual connection across the section. These differences indicate varying opportunities and limitations on

cultural connectivity: from a potential community-based cultural pocket at Kudi Khaw Mosque to stronger riverside and transitional cultural nodes at the other three sites.

Figure 7 Paths. (Left) Thetsaban Sai 1 Rd. toward Soi Wat Kanlaya, (Right) Soi Arun Amarin 6.

Figure 8 Riverside Promenade. (Left) Lack of shade along the walkway; (Right) privacy screening and walls along the walkway

Table 4 The connection of open spaces

Water-edge relationship	**Landscape potential and connectivities**
▪ Kudi Khaw Mosque	
Limited connection to Bangkok Yai Canal; dense residential edge; existing pier not in use	Potential community-based cultural pocket connecting residential spaces, mosque activities, and local circulation routes;
▪ Kanlayanamit Temple	
Direct connection to Chao Phraya River, promenade, and public pier; elevated embankment partially obstructs river views	Strong riverside cultural pocket with direct physical connection to the promenade and public pier; potential key node in the wider cultural network

Table 4 The connection of open spaces (Cont.)

▪ Kian Un Keng Shrine	
Direct route from shrine court to riverside promenade; continuous visual and physical connection to waterfront	Transitional cultural pocketconnecting the enclosed shrine court to the promenade and riverside; strong potential despite limited open-space size
▪ Santa Cruz Church	
Open northern edge toward Chao Phraya River; promenade and pavilion provide access and visual connection	Strong cultural transition spaceconnecting church, promenade, riverside, and heritage museum route

4.7 Temporal dimension of cultural activities: Analytical Dimension (3)

This temporal dimension in Kudi Chin is analysed through traditional and cultural activities that occur annually. Diverse festivals are associated with Buddhism, Islam, Christianity, Chinese beliefs, and Thai traditions, with activities occurring at different times throughout the year (Table 5). The calendar identifies April as the most concentrated period of multicultural activity, with Songkran, Islamic fasting-period activities, Easter/Pasqua, Tomb Sweeping Day, and Chakri Day occurring within the same month. May also contains several significant activities, including Visakha Bucha, Islamic religious observances, and Coronation Day. Other cultural and religious activities continue throughout the year, including Loi Krathong, the Vegetarian Festival, Christmas, and religious occasions associated with individual communities. In addition to annual festivals, regular weekly practices contribute to the community's temporal rhythm. Christian activities are concentrated around Sunday worship at Santa Cruz Church, while Muslim congregational prayer occurs on Fridays at Kudi Khaw Mosque. These recurring activities create different temporal patterns of use across the cultural landscape and provide opportunities for connections among otherwise distinct cultural spaces. The temporal overlap of activities (Table 5) indicates potential for existing open spaces to accommodate flexible multicultural programmes.

Table 5 Diverse cultural activities of four beliefs and Thai traditions in Kudi Chin by month

Period	Buddhism	Islam	Christianity	Chinese beliefs	Thai traditions
Jan–Mar	●	○	●	●	●
Apr	○	●	●	●	●●
May	●	●	○	○	●
Jun–Aug	●	●	○	○	●
Sep–Oct	○	●	○	●	●
Nov–Dec	●	●	●	○	●

○ 1-2 activities, ● 3-4 activities, ●● 5 activities (see the activity details in Supplementary Material)

5. Discussion and Suggestion

5.1 Spatial Diversity and Publicness in Kudi Chin's Cultural Landscape

The findings demonstrate that cultural open spaces in Kudi Chin are characterised by a gradient of accessibility and territorial definition. The transition from residential edges and locally shared spaces to more publicly accessible cultural spaces reflect a continuum of publicness (Dovey & Pafka, 2020), in which areas are not formally defined, but functions occur spontaneously (Valentine, 2008; Pafka, 2022). This illustrates the open spaces of Kudi Khaw Mosque and Santa Cruz Church, where the residential areas are adjacent to the space. This resonates with the emphasis on territorial definition and the discussion of hybrid spaces in which public and private conditions overlap (Newman, 1972; Nissen, 2008). The findings further support the view that urban space is shaped through the interaction of physical and social dimensions (Carmona et al., 2010), while the spatial qualities and degrees of openness of these shared spaces can accommodate different forms of coexistence within a culturally diverse setting (Wessendorf, 2014).

The spatial qualities of openness and enclosure are evident at Kanlayanamit Temple and Kian Un Keng Shrine, respectively, despite the substantial difference in their spatial scales, ranging from 110 to 1,400 square meters. These differences in spatial openness, enclosure, and size contribute to the distinctive character of each cultural place, while the edges and boundaries of the spaces reveal the strongest relationships with their surrounding functions and uses. Therefore, the multicultural character of Kudi Chin's open space is not expressed only through visible cultural elements, but also through the different degrees of publicity, openness, enclosure, and shared access that structure relationships between residential, community, and religious spaces. This suggests that maintaining cultural diversity in historic neighbourhoods requires attention to the spatial qualities and intermediate spaces that connect informal with more formally public cultural places.

Moreover, the spatial differences across the four cultural places can be explored through the religious and cultural principles underlying their configurations. Thai Buddhist architecture reflects sacred hierarchy and Buddhist cosmology (Iyemori et al., 2011), as evident at Wat Kanlayanamit. The qibla establishes spatial orientation in Islamic architecture (Ghouchani et al., 2019), reflected in the west-oriented axis of Kudi Khaw Mosque, while liturgical orientation shapes the spatial relationships of the Christian Church (Kräuchi, 2021), as seen in Santa Cruz. Chinese spatial traditions similarly reflect particular conceptions of architectural space and the organisation of enclosed environments (Liu, 2015), as evident at Kian Un Keng Shrine. Together, these principles help explain differences in openness, enclosure, orientation, and spatial hierarchy while demonstrating how distinct traditions coexist within Kudi Chin's multicultural landscape.

5.2 Spatial Connectivity and Waterway Relationships

The findings show that the cultural open spaces of Kudi Chin function as a connected system rather than as isolated sites. Streets, alleys, pedestrian routes, and spaces around cultural landmarks establish physical relationships between otherwise small and dispersed open spaces. This aligns with the conceptualisation of urban spaces through interconnected patterns of paths (Alexander et al., 1977) and

with the importance of thresholds, visibility, and other socio-spatial qualities (Ganji & Rishbeth, 2020). Although the findings show the various path characters, the walking spaces still need improvement, as shown by the lack of shading. The connections are particularly significant because cultural identity is distributed across a fine-grained urban fabric rather than concentrated within a single civic space (Carmona et. al., 2010). This extends the understanding of cultural landscape beyond individual heritage sites toward the spatial relationships that connect them.

Meanwhile, the spatial relationship between Kudi Chin Area and its waterways is currently limited, as echoed in Bangkok's literature (Shinawatra, 2012; Unakul, 2012). As seen by the high embankment at Kanlayanamit Temple, which restricts visual and physical access to the Chao Phraya River, the Kudi Khaw Muslim community has limited connection to the Bangkok Yai Canal. Although the riverside promenade, providing for visitors, connects Santa Cruz Church and Kian Un Keng Shrine, high embankments separate adjacent residential areas from the river. These conditions weaken the relationship between waterways and the surrounding landscape. Strengthening visual and physical connections through existing open spaces could therefore create a transition landscape that reconnects cultural places, communities, and waterways, building on existing piers, promenades, and riverside spaces.

5.3 Temporal Dimensions of Cultural Landscape

The findings demonstrate that the cultural significance of Kudi Chin's open spaces is not fixed but is continually reinforced through recurring religious and cultural activities across the year. As this paper recommends, Figure 9 suggests that Buddhist, Christian, Chinese, and Muslim practices are distributed across cultural open spaces, streets, and waterfront areas, including religious gatherings, festivals, food markets, craft activities, and community events. This supports the view that cultural diversity is expressed through varied practices in shared spaces (Vertovec, 2007; Rishbeth et al., 2018) and that the meanings of public spaces are produced through cultural practices, histories, and social relationships (Low, 2000). The periodic activation of spaces transforms otherwise ordinary settings into culturally significant places, demonstrating that multicultural landscapes should be understood not only through the location and connectivity of cultural spaces, but also through their recurring temporal use and community practices.

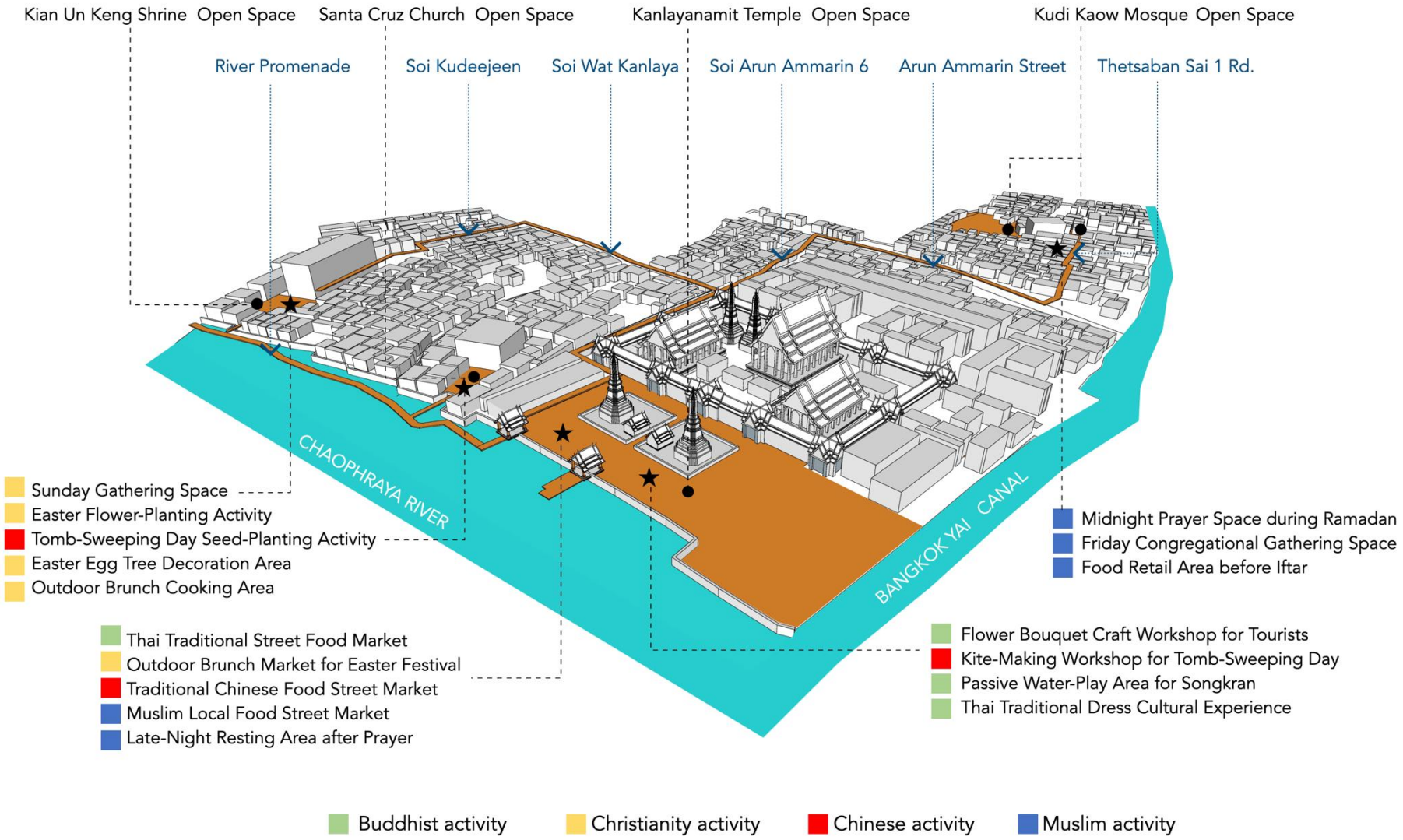

Figure 9 Example programming of multicultural traditional activities along the cultural landscape open-space network.

6. Conclusion

Kudi Chin demonstrates how a multicultural landscape is expressed through the spatial configuration, connections, and temporal use of cultural open spaces. The four identified spaces, Wat Kanlayanamit, Kudi Khaw Mosque, Santa Cruz Church, and Kian Un Keng Shrine, differ in their openness, enclosure, accessibility, and relationships with surrounding residential, community, and religious spaces. Together, these spaces form a fine-grained network connected by streets, alleys, pedestrian routes, and public spaces, although pedestrian conditions and connections to the waterways remain limited in areas. The recurring cultural and religious activities further reinforce the significance of these spaces by activating them at different times of the year. The findings suggest that supporting multicultural landscapes in historic neighbourhoods requires attention not only to individual cultural places, but also to the spatial relationships, degrees of publicness, circulation networks, and temporal patterns that connect them. Landscape interventions should therefore build on existing cultural and spatial structures, while improving pedestrian connections and opportunities to reconnect communities and cultural places with the waterways.

The study has the potential to inform future policymaking and support decision-making processes aimed at strengthening the development and reconnection of multiculturalcommunities in Bangkok and beyond. Further research should explore religious philosophy and cultural principles in relation to spatial configuration in more depth. Relevant policies could also be investigated to support the implementation and long-term management of these interconnected cultural landscapes.

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