



Territoriality Formation Through Space Utilization in Silver Craftsmen's Houses in Celuk Village, Gianyar

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Abstract

Celuk Village is known as a center of silver craftsmanship in Bali. The craftsmen's houses function not only as residential spaces, but also as spaces for the production and marketing of silver craft products. This condition influences the spatial utilization pattern and the formation of territoriality within traditional Balinese houses. This study aims to analyze the relationship between space utilization and the formation of territoriality in silver craftsmen's houses in Celuk Village, Gianyar. The study employed a descriptive qualitative approach through field observations, interviews, and spatial analysis of space utilization patterns in silver craftsmen's houses. The results show that space utilization has adapted through the transformation of bale dauh and bale delod into production and marketing spaces, as well as the addition of production spaces in the back area (teba). These changes form a territorial structure comprising primary, secondary, and public territories, based on accessibility, spatial control, and activity functions within the house. The relationship between space utilization and territoriality reflects an adaptive process of spatial negotiation between economic needs and the preservation of local cultural values within the structure of traditional Balinese houses.

Keywords: Residential House, Space Utilization, Silver Craft Industry, Territoriality

Pembentukan Teritorialitas Melalui Pemanfaatan Ruang di Rumah-Rumah Pengrajin Perak di Desa Celuk, Gianyar

Abstrak

Desa Celuk dikenal sebagai pusat kerajinan perak di Bali. Rumah tinggal perajin tidak hanya berfungsi sebagai hunian, tetapi juga sebagai ruang produksi dan pemasaran produk kerajinan perak. Kondisi tersebut memengaruhi pola pemanfaatan ruang dan pembentukan teritorialitas dalam hunian tradisional Bali. Penelitian ini bertujuan untuk menganalisis hubungan antara pemanfaatan ruang dan pembentukan teritorialitas pada rumah tinggal perajin perak di Desa Celuk. Penelitian ini menggunakan pendekatan kualitatif deskriptif melalui observasi lapangan, wawancara, dan analisis spasial terhadap pola pemanfaatan ruang rumah tinggal para perajin perak. Hasil penelitian menunjukkan bahwa pemanfaatan ruang mengalami adaptasi melalui perubahan fungsi bale dauh dan bale delod menjadi ruang produksi dan pemasaran, serta penambahan ruang produksi di area belakang (teba). Perubahan tersebut membentuk struktur teritorial berupa teritori primer, teritori sekunder, dan teritori publik, berdasarkan tingkat aksesibilitas, kontrol ruang, serta fungsi aktivitas di hunian. Hubungan antara pemanfaatan ruang dan teritorialitas menunjukkan adanya proses negosiasi ruang yang adaptif antara kebutuhan ekonomi dan pelestarian nilai budaya lokal dalam struktur hunian tradisional di Bali.

Kata-kunci: industri kerajinan perak, pemanfaatan ruang, rumah tinggal, teritorialitas

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Introduction



Figure 1a Location Map of Sukawati District

Figure 1b Settlement Map of Celuk Village

Source: earth.google.com, processed by author

Celuk Village, located in Sukawati District, Gianyar Regency (Figure 1), is known as a center for silver craftsmanship in Bali. It has developed since the early 20th century and experienced rapid growth during the tourism era of the 1970s, thereby improving the community's standard of living [1]. The silver craft industry, which has developed through generations, has shaped the area's identity as both a center of industry and a cultural tourism destination [2]. This condition indicates that the craftsmen's houses function not only as housing but also as spaces for the production and marketing of silver crafts.

Architecturally, houses in Celuk Village follow the principles of Traditional Balinese Architecture, characterized by a *natah* (central courtyard) pattern and a compound of multiple masses of *natah* (*massa majemuk natah*) [3]. Based on the Detailed Spatial Planning (RDTR) of Sukawati District, this area is designated as a center for arts and crafts activities, developing as a tourist destination [4]. The development of the craft industry within housing has driven changes in spatial layout and space utilization to accommodate production needs and the community's economic activities [5]. This adaptation is manifested through changes in room functions, additions of spaces, and the reorganization of spaces within the housing [6].

In traditional Balinese settlements, the residential house is not only a place to live but also a space for social, cultural, and economic activities. The spatial pattern of the dwelling is shaped by cultural values such as *Tatwa*, *Susila*, and *Upacara* (philosophy, ethics, and ceremony), as well as the *Tri Hita Karana* (three causes of well-being) concept, which influences the relationships and divisions of space within the housing [7][8]. The development of industrial activities within the house leads to adaptations in space utilization,

affecting the relationships between spaces and the zoning divisions within the housing [9].

Space utilization is a form of space use influenced by users' activities, functions, and behaviors [10]. Space utilization is also adaptive since occupants can adjust spatial functions to their needs [11]. In the silver craftsmen's houses in Celuk Village, space utilization is related not only to residential needs but also to production and marketing requirements, thereby forming territoriality through the regulation of boundaries, zoning, and access control between private, semi-public, and public spaces. Territoriality is a form of spatial appropriation and control related to privacy, ownership, and control over space [12][13].

Various previous studies have discussed changes in space utilization in industry-based housing and spatial adaptation in traditional Balinese settlements, generally focusing on building typology and changes in spatial function [5][6]. On the other hand, studies on territoriality have mostly discussed boundaries, privacy, and spatial control aspects in a general residential context [12][13]. However, studies specifically examining how space utilization in craft industry-based housing shapes territoriality in silver craftsmen's houses within the context of Traditional Balinese Architecture are few.

Based on this condition, this study aims to analyze how space utilization for silver craft industrial activities shapes territoriality in the craftsmen's houses in Celuk Village, Gianyar. This study offers novelty through its examination of the relationship between adaptive space utilization and the formation of territoriality in a local culture-based housing. It is expected to contribute to the development of architectural studies, particularly in understanding the relationship between economic activities and spatial organization in traditional housing.

Method

This study employs a descriptive qualitative approach to analyze how space utilization shapes territoriality in the silver craftsmen's houses in Celuk Village, Gianyar. This approach examines the phenomenon of space utilization and territorial arrangement in a local culture-based housing. The study focuses on silver craftsmen's houses that serve dual functions, as residences and spaces for craft industrial activities.

The cases analyzed are silver craftsmen's houses that still retain the traditional Balinese architectural

pattern, have silver craft production integrated into the housing, and demonstrate adaptation in space utilization. Case selection was carried out purposively, considering the suitability for the research focus.

Data Collection Methods

Data collection was conducted through field observations, in-depth interviews, and documentation. Observations aimed to identify patterns of space utilization, changes in spatial function, and relationships between spaces within the housing. The observation results consisted of visual documentation and schematic drawings showing spatial configurations and activity patterns in the craftsmen's houses.

In-depth interviews were conducted with the houses' occupants who work as silver craftsmen to obtain information on the activities, patterns of space use, and the ways occupants regulate boundaries, access, and spatial control. Informants were selected based on their direct involvement in residential activities and silver craft industrial activities. Documentation served as supporting data, including photographs, floor plans, and field notes to reinforce the results of observations and interviews.

Data Analysis Methods

Data analysis was carried out qualitatively through the stages of data reduction, data presentation, and conclusion drawing. The analysis focused on the relationship between space utilization and the formation of territoriality in the silver craftsmen's houses.

The first stage was the analysis of space utilization to identify the forms of use, changes, and spatial organization in supporting residential activities and craft industrial activities. This analysis referred to spatial elements such as fixed, semi-fixed, and non-fixed elements to understand how space is utilized and adapted based on occupant activities [11][14].

The second stage was the analysis of territoriality, conducted by identifying spatial zoning, boundaries, and mechanisms of control and access within the housing. This analysis referred to the classification of primary, secondary, and public territories to understand the levels of privacy and openness of space [12][15].

The results from these two analytical stages were then connected to understand how space utilization

shapes territoriality in the silver craftsmen's houses in Celuk Village. Thus, territoriality is understood as a spatial arrangement that emerges through the process of adaptive space utilization to accommodate both residential and silver craft industrial activities.

Results and Discussion

The silver craftsmen's house is a housing with a dual function as both a residence and a craft production space. The house accommodates not only domestic activities but also productive economic activities that take place simultaneously. In general, the spatial layout of silver craftsmen's houses in Celuk Village still reflects the concept of traditional Balinese Architecture, which is based on the belief system of Balinese Hindus through the concepts of the microcosm (*Bhuana Alit*) and macrocosm (*Bhuana Agung*). These concepts form the basis for the spatial arrangement of traditional Balinese houses, encompassing the principles of *Tri Hita Karana*, *Tri Angga*, and *Sanga Mandala*.

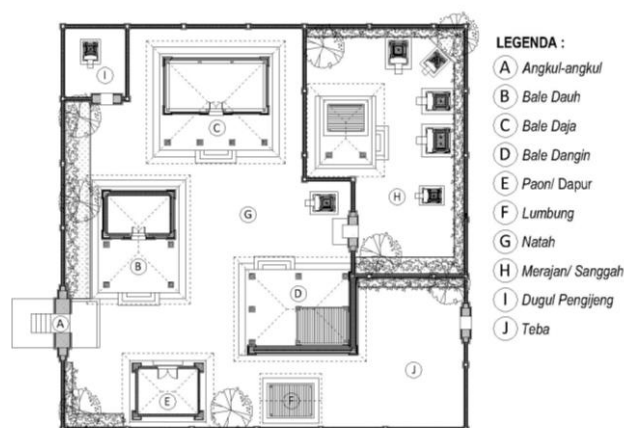


Figure 2. Spatial Layout of a Traditional Balinese House

The spatial layout of a traditional Balinese house consists of several building masses within a single courtyard enclosed by a *penyengker* (boundary wall), with access through a *kori* (gateway). The building masses are placed on the north, south, east, and west sides, oriented towards the *natah* as the central activity space (Figure 2). Each building has a distinct form and function according to the traditional Balinese housing system. Vertically, traditional houses are divided into three parts according to the *Tri Angga* concept, while horizontally, the courtyard layout is divided into nine zones according to the *Sanga Mandala* concept.

This spatial structure serves as a basis for understanding how space is utilized and adapts as silver craft industrial activities develop within the

housing. Spatial division is realized through several buildings with specific functions, such as *bale dauh* (west section of the yard), *bale dangin* (east section of the yard), *bale daja* (north section of the yard), *paon* (kitchen), *jineng* (rice barn), and *sanggah* (family temple). *Bale dauh* is generally used as a space to welcome guests or for semi-public activities; *bale dangin* functions as a place for ceremonial activities; *bale daja* is used as a bedroom or private space for family members; while *merajan/sanggah* occupies the most sacred position in the courtyard as the center of religious activities. This division of spatial functions shows a clear hierarchy and zoning between private, semi-public, and sacred spaces.

The results show that space utilization in silver craftsmen's houses is adaptive to economic needs without eliminating the basic residential functions or the local cultural values inherent in traditional Balinese houses. This adaptation is evident in the use of *bale dauh* or *bale delod* as a silver craft showroom as its position at the front of the courtyard provides direct access to the street, making it easily accessible to visitors. This building also undergoes physical adjustments, such as increased spatial openness, to support display activities and interaction with buyers.

In addition to functioning as a showroom, *bale dauh* or *bale delod* is also used as a space for silver craft production. This utilization occurs through the use of part of the main building for production activities or the addition of a new building mass at the back of the courtyard (*teba*). This additional space serves as a production area and worker facility, but the homeowner still manages it as the main occupant.

On the other hand, not all elements of the house undergo functional changes. Buildings with sacred and primary residential functions, such as *bale daja*, *bale dangin*, and *merajan/sanggah*, tend to retain their functions and positions within the traditional spatial structure. Furthermore, residential spaces that remain private are also maintained in *bale dauh* or *bale delod* that are not used as showrooms. *Natah*, as the open space in the middle of the courtyard, continues to serve as the central orientation and circulation hub connecting all buildings and acting as a transitional space between domestic and economic activities.

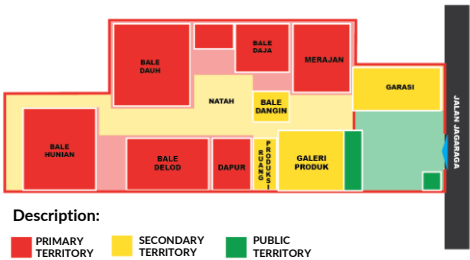
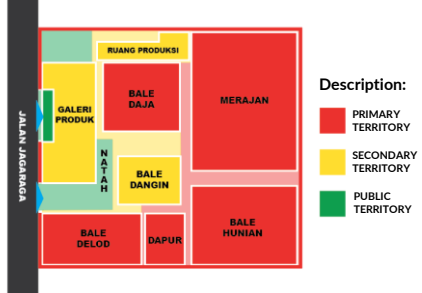
These findings indicate that space utilization in silver craftsmen's houses is influenced not only by functional needs but also by the cultural system

governing spatial relationships. This points out that spatial organization is influenced by users' culture, activities, and lifestyles [14]. Moreover, the spatial flexibility in craftsmen's housing demonstrates the adaptive capacity of residential space, which can change in response to the occupants' needs [11].

The transformation of silver craftsmen's houses in Celuk Village shows that the development of economic activities influences changes in the function and organization of space within traditional Balinese housing [9]. Nevertheless, the main spatial structure and local cultural values are preserved as part of the traditional housing's identity. This adaptive process reflects a space that balances economic needs with the preservation of traditional Balinese spatial structure.

The pattern of space utilization in silver craftsmen's houses reflects spatial adaptation for economic needs within the housing without abandoning ceremonial and local cultural functions in the traditional housing of Celuk Village (Table 1). This pattern of space utilization forms the basis for identifying the formation of territoriality in silver craftsmen's houses in Celuk Village.

Table 1. Patterns of Space Utilization in Silver Craftsmen's Houses

Housing Pattern	Space Utilization
Pattern 1  Description: PRIMARY TERRITORY SECONDARY TERRITORY PUBLIC TERRITORY	Houses located on the west side of the main road have a front yard that serves as a reception area for tourists or customers. The spatial pattern still retains the traditional layout, with the addition of space at the back of the courtyard, utilizing <i>teba</i> as a production space and facility for workers. Utilizing the layout of <i>bale delod</i> as a silver craft showroom allows tourists and shop customers to access it.
Pattern 2  Description: PRIMARY TERRITORY SECONDARY TERRITORY PUBLIC TERRITORY	Houses located on the north side of the main road have a showroom directly connected to the main road. The spatial pattern follows the traditional layout, with the addition of a production space utilizing vacant land on the east side of the courtyard. Utilizing the layout of <i>bale delod</i> as a showroom, it has a direct connection to the <i>natah</i>, allowing tourists or customers to access the residential area.
Pattern 3  Description: PRIMARY TERRITORY SECONDARY TERRITORY PUBLIC TERRITORY	Houses located on the east side of the main road have a showroom directly connected to the main road. The spatial pattern follows the traditional layout, with the addition of a production space utilizing vacant land on the north side of the courtyard. Utilizing the layout of <i>bale dauh</i> as a showroom, it has a direct connection to the <i>natah</i>, allowing tourists or customers to access the residential area.
Pattern 4  Description: PRIMARY TERRITORY SECONDARY TERRITORY PUBLIC TERRITORY	Houses located on the south side of the main road have a front yard that serves as a reception area for tourists or customers. The spatial pattern still retains the traditional layout, with the addition of space at the back of the courtyard, utilizing <i>teba</i> as a production space and facility for workers. Utilizing the layout of <i>bale dauh</i> as a silver craft showroom, it allows tourists and shop customers to access it.

Primary Territory

The Primary territory in the silver craftsmen's houses in Celuk Village refers to spaces used exclusively by the occupants, offering a high degree of control and privacy in daily activities. The space included in this category is *Bale Daja*, located in the northern part of the courtyard and oriented towards the *natah*. This space functions as a resting place for parents and a storage area for valuables.



Figure 3. *Bale Daja* as Primary Territory

Physically, *bale daja* possesses fixed spatial elements that reinforce control and privacy, characterized by a higher elevation compared to surrounding buildings (Figure 3). Additionally, openings in this space are minimal and typically closed to limit visibility and outside access. Access to this space is highly restricted, intended only for occupants or those with special permission, demonstrating strong spatial control as part of the primary territory.

Besides *bale daja*, *merajan/sanggah* is also included in the primary territory category. *Merajan/sanggah* is located on the east of *bale daja* and functions as the family temple for religious activities in Hinduism, possessing a high level of sacredness. This space can only be accessed by the owner, family members, or specific parties with an interest in ceremonial activities. This access restriction shows that sacred spaces maintain strict spatial control even as economic activities develop within the housing.



Figure 4. *Bale Dauh* and *Bale Delod* as Primary Territory

Bale dauh or *bale delod* is also included in the primary territory, which is utilized as occupants' resting spaces (Figure 4). The use of these spaces aligns with the need for showroom space within the housing. If *bale dauh* is used as a showroom, the residential function is taken over *bale delod*, and vice versa. In some cases, additional living spaces are also created at the back of the courtyard to maintain the occupants' privacy from silver craft industrial activities.

This condition indicates that silver craft industrial activities do not completely alter the main territorial structure of traditional Balinese houses. Spaces with private and sacred functions maintain high levels of control and privacy as a form of protection for cultural and spiritual functions. This finding shows that primary territory has the strongest level of ownership and spatial control compared to other territorial categories [15]. Moreover, regulating access and the degree of interaction within a space are part of the privacy control mechanism [12].

Secondary Territory

Secondary territory comprises semi-private spaces used jointly by occupants, workers, and certain outsiders such as relatives, guests, or customers in the silver craftsmen's houses in Celuk Village. These spaces have a more open level of access compared to primary territory but remain under the control of the occupants through the regulation of boundaries, activities, and timing of use.



Figure 5. *Bale Dangin* as Secondary Territory

Bale dangin in the traditional Balinese house pattern is included in the secondary territory since it functions as a place for ceremonial activities and for receiving certain guests. Architecturally, *bale dangin* is a space without permanent partitions, allowing access for limited groups (Figure 5). Nevertheless, spatial control is maintained through semi-fixed elements such as floor-level differences and through the regulation of activities within the space.



Figure 6. Bale Delod as Secondary Territory

In addition to *bale dangin*, spaces functioning as showrooms are also included in the secondary territory, i.e., *bale dauh* or *bale delod* located at the front of the courtyard with direct street access (Figure 6). These spaces have a higher degree of openness to support economic activities and interaction with visitors but remain controlled through boundary elements and direct supervision by occupants or workers.



Figure 7. Production Space as Secondary Territory

The production or workspace is also categorized as secondary territory because it is used by workers under the homeowner's supervision. This space may be integrated with the showroom or exist as a separate building in the courtyard area (*teba*), adjusted to land conditions (Figure 7). These spaces can be accessed via *natah*, allowing visitors to observe production activities within certain limits.

Spatial adaptation in the secondary territory shows a negotiation between economic activities and residential needs within a single spatial structure. Spaces that were previously private were repurposed to increase accessibility for supporting production activities and interaction with customers. This condition indicates that the secondary territory becomes the most adaptive space concerning functional changes in the craftsmen's house.

These findings indicate a changing relationship between private, semi-public, and public spaces in response to the development of economic activities within the dwelling. This shows the flexibility of residential space, which can change according to the users' needs [11]. Activity patterns and community

culture influence spatial organization and the relationships between spaces in traditional housings [14].

This condition also indicates that semi-public spaces in industry-based housing undergo functional changes and spatial reorganization to support the community's economic activities [6].

Public Territory

Public territory in the silver craftsmen's houses in Celuk Village refers to open-access spaces that serve as the initial reception area. This space is located on the outermost part of the courtyard and is directly related to the street, thus becoming the first interaction area accessible to anyone, such as tourists, customers, or the general public, with a low level of privacy.



Figure 8. Front Yard as Public Territory

Although open, spatial control remains with the homeowner through a fence with a gateway that opens during the shop's operating hours (Figure 8). This condition creates an inclusive space that nonetheless retains a symbolic boundary between the residential area and public area.

Physically, public territory is dominated by non-fixed elements, allowing flexibility in space utilization without rigid barriers. This condition supports visitor movement and social activities taking place in the area, while also reinforcing its role as a transitional space towards the secondary territory.



Figure 9. Showroom Front Terrace as Public Territory

In addition to the outer courtyard space, public territory can also expand into the front terrace of the showroom as a transitional space between the showroom and the exterior (Figure 9). In its development, access to the showroom is equipped with a glass door as a physical boundary that still provides a sense of openness. This condition creates an illusory boundary between the public territory and the secondary territory.

This expansion shows that public space is not limited to the outer courtyard area but also extends into the building's terrace area through a mechanism of controlled spatial openness. This condition indicates that economic activities drive the expansion of public space within the housing without entirely eliminating the occupant's control over spatial access.

These findings indicate that public territory in silver craftsmen's houses is flexible and dynamic, reflecting the development of economic activities within the housing. This condition illustrates the relationship between social interaction, distance, and spatial openness in the built environment [12]. Furthermore, changes in spatial organization are influenced by activity patterns and social interactions within the community, allowing space to develop adaptively according to the users' needs [14].

Formation of Territoriality in Silver Craftsmen's Houses

Silver craftsmen in Celuk Village demonstrate adaptive strategies in managing residential space through flexible spatial division between the housing and silver craft activities. This pattern of space utilization forms a territoriality pattern that develops based on the level of accessibility, spatial function, and occupant control over activities taking place within the housing.

Changes in space utilization are evident in the use of *bale dauh* and *bale delod*, which have been transformed into showrooms and production spaces directly connected to public access. Furthermore, the *natah* acts as a transitional space connecting domestic activities, production, and reception of visitors within a single residential structure. This condition shows that economic activities drive the expansion of semi-public and public spaces into the traditional Balinese residential area.



Figure 10. Zoning Diagram of Silver Craftsmen's Houses

This zoning diagram shows the territorial hierarchy in the silver craftsmen's houses in Celuk Village, consisting of public territory at the front, secondary territory in the showroom and production areas, and primary and sacred territory in the residential area of the craftsmen's house (Figure 10). This division shows spatial regulation based on the level of privacy, accessibility, and activity functions within the housing.



Figure 11. Merajan/Sanggah (Family Temple)

Private territory in sacred spaces represents the highest spiritual value and is directly related to the religious activities of Balinese Hindus (Figure 11). These spaces have clear boundaries, both physical and symbolic, with a level of restriction that allows access only to the homeowner, family members, or specific parties with an interest in ceremonial activities. In the context of territoriality, sacred spaces show the characteristics of primary territory with a high degree of spatial control.

This condition shows that changes in space utilization in silver craftsmen's houses do not completely alter the traditional Balinese spatial structure. Private and sacred spaces are retained as the core of the housing, while functional changes occur more in spaces with higher accessibility levels. This indicates a process of spatial negotiation between economic needs and residential functions with local cultural values.

The formation of territoriality in the silver craftsmen's houses in Celuk Village shows that economic activities not only influence changes in spatial function but also affect the relationships between spaces, the level of privacy, and control within the housing. These

findings provide an understanding that aligns with the theory of territoriality as a mechanism of spatial control based on the level of ownership and accessibility for its users [15]. Furthermore, changes in social interaction patterns will influence the regulation of access, openness, and spatial boundaries within the housing [12].

On the other hand, the spatial flexibility occurring in the silver craftsmen's houses in Celuk Village shows that traditional Balinese dwellings can adapt to the development of economic activities without losing their cultural identity. This condition underscores that residential spatial flexibility and spatial organization are influenced by users' activities, culture, and lifestyles [11][14].

The development of economic activities within traditional Balinese housing influences spatial reorganization without eliminating the cultural structure and identity of traditional space [5]. Thus, the formation of territoriality in the silver craftsmen's houses in Celuk Village shows that space utilization in housing with industrial activities not only results in changes in spatial function but also forms a layered and adaptive territoriality structure. This condition reflects a balance between economic needs and the preservation of local cultural values in traditional Balinese settlements.

Conclusion

Silver craftsmen's houses in Celuk Village undergo adaptation in space utilization to accommodate economic activities without eliminating the traditional Balinese spatial structure. Changes in space utilization occur in *bale dauh* and *bale delod*, which are used as showrooms and silver craft production spaces, as well as the addition of space in the rear courtyard area (*teba*). Meanwhile, private and sacred spaces, such as *bale daja* and *merajan/sanggah*, retain their functions, positions, and levels of privacy within the traditional Balinese residential structure.

This pattern of space utilization forms a territorial structure comprising primary, secondary, and public territories based on the level of accessibility, spatial control, and activity functions within the housing. Primary territory is manifested in residential and sacred spaces with a high degree of control, while secondary territory develops in showrooms and production spaces used jointly by occupants, workers, and customers. Public territory develops in the

outermost courtyard area and in transitional spaces, with a high degree of openness to visitors.

The results show that the relationship between space utilization and territoriality reflects a dynamic process of spatial negotiation between economic needs and local cultural values. Economic activities drive functional changes and the expansion of semi-public and public spaces into the housing, yet occupants maintain control over space. This condition shows that silver craftsmen's houses in Celuk Village possess a flexible and adaptive spatial pattern in the process of economic activity development.

Theoretically, this study demonstrates that space utilization in traditional housing not only results in changes in terms of spatial function but also shapes a territoriality structure that develops based on activity patterns, culture, and social relationships of the occupants. These findings illustrate that traditional Balinese houses can adapt to the development of economic activities without losing their cultural identity or the main structure of the traditional settlement.

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