

Tradition and Modernity: The Adaptation of Outdoor Spaces in Traditional Balinese Dwelling

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ABSTRACT

This study investigates the dialectical relation between tradition and current everyday domestic practices in traditional Balinese dwellings that manifest through the spatial adaptation of their outdoor spaces. Traditional Balinese dwellings consist of a compound collection of partly open pavilions surrounded by open spaces, following the symbolic classification of Balinese cosmology, *Sanga Mandala*. Dwelling adaptation becomes necessary to enable the support of the changing household needs throughout time, aiming to capture a process that emerges in the current traditional dwellings bounded by a particular cultural order. This study focuses on the spatial adaptation strategies of the outdoor spaces as a response to their changing livelihood. Observation and documentation were done at a Balinese traditional dwelling in Batuan Village, Gianyar, identifying the changes in dwelling arrangement through spatial practices happening in the local families. The study maps the traces of objects and transient areas in the central and in-between spaces around the pavilions. The study highlights conditions that drive the critical dialogue between tradition and current everyday practice, such as the growth of family members, the differing livelihoods across generations, and the need to balance between everyday occupation and ritual events. This dialogue has led to permanent, temporary, and incremental adaptation strategies of the outdoor spaces, creating layers of spatial ordering that demonstrate how architecture adapts and evolves instead of being frozen in time. Such findings contribute to the discussion of adaptation in the traditional domestic context that is informed by an in-depth connection with its locality.

Keywords: adaptation strategy, outdoor space, spatial arrangement, Balinese traditional dwelling, everyday practice

INTRODUCTION

This study explores spatial adaptation strategies informed by the connection with the dialogue between tradition and everyday practice, focusing on the utilization of outdoor spaces in traditional Balinese dwellings. Adaptability and flexibility are essential for a responsive dwelling design toward unpredictable societal changes (Schneider & Till, 2005). Adaptability supports the dwellers in various cycles of their livelihood, bridging between the availability of space and its expected function and expanding the usability of a dwelling (Schmidt III & Austin, 2016). This study argues that literature on adaptation strategies focuses on design approaches, such as open plans or movable elements, that tend to be disconnected from the localities of their context (van Ellen et al., 2021). This study problematizes and questions how adaptation in the vernacular context, particularly its outdoor spaces, may expand such limitations, connecting the strategy of adaptation with the local cultural and environmental contexts where its domestic lives are rooted.

The notion of outdoor spaces has been widely discussed in architectural literature, with various meanings and significance (Santos-Garcia & Braga, 2025; Suryantini et al., 2021; Suryantini & Atmodiwigyo, 2024). Outdoor spaces refer to the open areas between buildings and spaces or connections between them (Smithson & Smithson, 2017). The space is produced due to spatial ordering that creates a demarcation between spaces, inside and outside, public and private, and so on (Lawrence, 1984). In domestic and urban literatures, the spaces have many roles, be it to provide privacy by generating more distance between spaces, or instead to support communal activities (Santos-Garcia & Braga, 2025; Tan, 2011; Tzortzi & Saxena, 2024).

This study focuses on exploring outdoor spaces in traditional Balinese dwellings. Traditional Balinese dwellings consist of pavilions that shape a compound, creating "open-air living" (Aranha, 1991, p. 46). The overall layout of the dwelling is based on the relative geographical position of the dwelling with mountain-sea orientation, creating separate *utama*, *madya*, and *nista* zones (Aranha, 1991; Paramita et al., 2024). Discussion of Balinese dwellings emphasizes the strict layout of each living space within the dwelling

(Paramita et al., 2024). This study is interested in exploring how the adaptation of Balinese dwellings may occupy and transform space in between the pavilions, moving amidst such a strict relation of space and reflecting the dialogue between tradition and everyday practice of its inhabitants.

This paper starts by theoretically outlining the idea of spatial adaptation and vernacular building and how in-between spaces can be positioned within such discourse. The study then discusses the context of the study in Batuan village, Gianyar, Bali, and the research methodologies. Subsequently, the study outlines the analysis of adaptation practice and the related spatialities of in-between space in Bali, followed by a conclusion about the possibilities of in-between space as locality-driven domestic adaptation strategies.

LITERATURE REVIEW

Domestic Adaptation and Contextual Localities

Adaptive architecture enables extended use of space by its users, reducing disruption and cost of alteration and expanding the use of the building in the long run (Schmidt III & Austin, 2016). In the context of domestic architecture, an adaptive dwelling must respond to the various needs of dwellers, which may transform along with changes in society and the environment (Schneider & Till, 2005). Despite such importance, there is a limitation on how adaptive dwelling can be applied strategically within a particular context of society. The current discussion of architecture tends to promote rigidity of use and function instead of encouraging responsiveness towards change (Brand, 1995; Schneider & Till, 2005). In return, there is an increase in obsolete and abandoned buildings over time, creating a negative impact on the broader society (Li et al., 2023). There is a need to address more strategic and sensible ways of adaptation that allow more connection with the surrounding context of society (Tsoumpri, 2023).

This paper argues that a locality-driven spatial adaptation is necessary, and explores how traditional dwelling in the current society has transformed and developed. It becomes critical to unpack such a form of adaptation, particularly in a context bound with a long-lasting cultural order. Discussion of traditional dwelling has yet to specifically address how such a dwelling has evolved over time and instead tends to focus on the narrative of cultural values that generate such a form of dwelling (Naing & Hadi, 2020; Suhada & Lukito, 2022). Some literature also examines the various processes and performances of the vernacular dwelling, annotating the transformation of structure, form, and materialities of vernacular dwellings (Faisal & Wihardiyanto, 2020; Gunawan, 2019). However, it is argued that there is a need to position such transformation about the everyday practice of the community in relation to context. Without such discussion, the dwelling seems to be frozen in time instead of evolving with the changes in its society.

Adaptation to the dwelling that values locality allows inhabitants to negotiate and alter how specific spaces are inhabited about the changes in the social system and the dynamics of the environment. Various backgrounds underline such changes. Adaptation may apply to social systems in the vernacular context when there is a gradual decline in specific practices and traditions, creating different ways of using the space for different functions (Tan, 2011; Zhao & Greenop, 2019). Another change concerning the dynamics of the environment, dwellers may adapt the shape and materiality of their dwelling in response to seasons and geographical locations (Kronenburg, 2002; Suryantini et al., 2023b). Some adaptations may also occur after particular disasters and other natural forces (Tang, 2014). Other adaptations may happen due to a broader change, such as growing urbanization around the area and changing the network and pathways that influence the orientation of the dwelling (Ardhyanto & Dewancker, 2019; Suryantini et al., 2024).

Locally driven adaptation can be seen in the way dwellers develop their everyday practice of adapting that still preserves their tradition but also responds to social and environmental forces. Such adaptation may also exist through flexible uses of space as part of the soft systems

of adaptation (Schneider & Till, 2005). These adaptations reflect the dialectic between the tradition and everyday practices of dwellers, which potentially becomes a more intimate and responsive discussion of spatial adaptation in comparison to applying standalone strategies of adapting space for various domestic functions (Ali Sargazi & Tahbaz, 2022). The following section discusses the presence of outdoor space and how it enables or supports spatial adaptation, primarily in the vernacular context.

Possibilities of Outdoor Spaces as a Means of Domestic Adaptation

This study highlights the dwelling arrangement in the Global South to expand the views on the interrelated positioning of the indoor and outdoor spaces within the dwelling or domestic setting. In the tropical context, the indoor space is created not as a tight concealment but rather as a permeating sheltered space so that continuous airflow can be maintained (Leu & Boonyaputtipong, 2023), making the outside an extension of the inside (Suryantini et al., 2024; Suryantini et al., 2023a). Such interrelation blurs the definitive demarcation between outdoor and indoor spaces as often discussed in the context of the Global North.

The outdoor spaces can be physically determined based on their relative position within the space, be it areas in the front or back of certain spaces, between two different spaces, and areas underneath or on the top of spaces (Aboualy et al., 2023). The connection between the outdoor spaces and the domestic space is often discussed through the notion of transition, threshold, or liminal spaces, all generate the process of both making and experiencing space, creating a condition for dialogue between spaces with more strict territorial claims (Ng & Lim, 2018; Tzortzi & Saxena, 2024). Occupying the outdoor space often happens for the needs of temporal uses, projecting events that may exist outside the normal rhythms of life (Andres & Kraftl, 2021). The outdoor spaces exist as the in-between and transitory space within the domestic territory, which is often invisible and fragmented, used "in between the fixed spaces of society" (Luz, 2006, pp. 148–149). Their occupation takes place

through the character of threshold and relation, where thresholds reflect how in-between spaces bridge opposing realms; whilst relation reflects how in-between spaces are relational to their surrounding environment and defined by them (Santos-Garcia & Braga, 2025).

Without specific and strict utilization of the temporal and spatial use of outdoor spaces, they bring the potential to be used for adaptive strategies of dwellers. Luz (2006) identifies how outdoor spaces exist as neglected spaces, spaces of uncertainty, and spaces of the periphery. The neglected space demonstrates spaces with a lack of care, perhaps due to its dated presence that is then subject to abandonment (Li et al., 2023). The space with uncertainty, on the other hand, reflects areas that are unclear on how they can be used and who can use them (Santos-Garcia & Braga, 2025). Peripheral spaces demonstrate areas on the threshold, which become in-between spaces due to the connection with spaces around them (Luz, 2006).

Adapting the outdoor area may utilize certain means of altering the space to project different qualities. The first objective is to produce a reinterpretation of space, to enable the uses and reuses of the space for various potential uses, or, instead, misappropriation, which highlights what can be the space that was not initially thought of, intended, or even allowed (Luz, 2006). The misappropriation of space produces qualities of uncertainty, where the space has a rather elastic meaning and ambiguous quality (Hertzberger, 2013) and thus generates space that is open for a multiplicity of uses at once. The other important objective of outdoor space adaptation is to focus on its peripheral connection, which is how the outdoor space is connected to the inside and vice versa.

The exploration of traditional dwelling demonstrates particular importance as the space in such a dwelling is tightly connected with particular values of the society, arranged based on specific reference points informed by cultural values regarding certain belief systems (Oliver, 1997; Paramita et al., 2024). These belief systems determine which space can be used and by whom within the dwelling. Different from modern development, the position and utilization of domestic outdoor spaces, such as in courtyards or other open spaces in vernacular

settings, is often still subject to particular rules of society (Al-Mohannadi et al., 2023). Investigation of domestic outdoor space in traditional dwellings creates a potential dialogue between tradition and modernity, between the society's culture and current needs. It suggests a potential maneuver of adaptation based on a specific change in society or the environment.

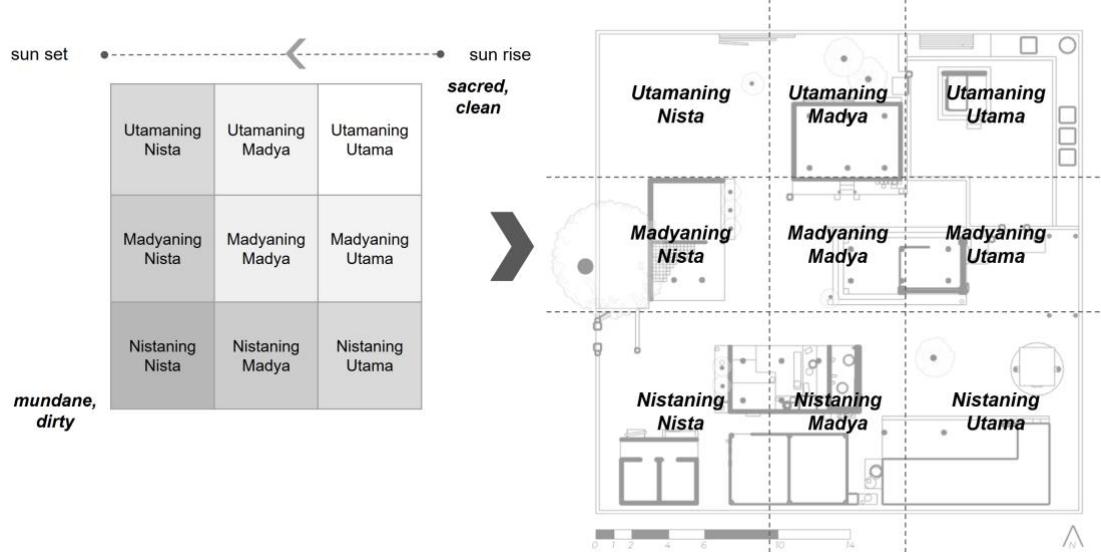
Positioning Outdoor Spaces in the Context of Traditional Balinese Dwelling

There are two main types of Balinese dwellings—the Aga Balinese Dwelling and the Majapahit Balinese Dwelling. This study employs an example of the Majapahit Balinese dwelling type, as the dwelling is a compound-based type with a well-defined open space, creating an open-air living. The study identifies the outdoor spaces in the Majapahit Balinese dwelling type in Batuan Village to reveal the various possibilities of adaptations, categorizing them based on their spatial and temporal arrangement. The investigation started by understanding the underlying concept of a traditional Balinese house and its arrangements that follow particular cultural values. Each pavilion has a rectangular-based plan and serves a specific function. Aside from the *bale mete*—a fully enclosed pavilion used for the family to sleep—each pavilion performs a fluid inside-outside connectivity, allowing the activity to occur continuously inside and outside.

The traditional Balinese dwelling follows the order of the *Sanga Mandala*, a nine (*sanga*) divisions of space that represents a symbolic classification in Balinese cosmology (See Figure 1). The divisions derive from the crossing between the axis of the earth (*kaja-kelod*) and the religious axis (*kangin-kauh*). The arrangements of the highest *kaja* (the mountain in the north) to the lowest *kelod* (the sea in the south) and the arrangements of *kangin* (east) and *kauh* (the west) cross with each other and create the nine divisions with *madya* as the mid-ground. The divisions of space cover the arrangement from the sacred to the mundane, from the clean to the dirty. The inhabitants believe they should obey the order to avoid misfortune or disaster that can happen to their family or descendants.

Figure 1

Sanga Mandala, the Nine Divisions, is the Basis of the Spatial Arrangement of the Balinese Traditional Dwelling



The Balinese dwelling becomes the microcosm, a part of the larger cosmos, celebrating their dwelling as their inside relative to the macro world. The dwelling is defined by the perimeter wall as the boundaries of their living arrangement against the outside, filled with pavilions and structures, like the shrine. Each pavilion that serves a particular function related to their domestic or religious belief is positioned according to the classification of the *Sanga Mandala*, implying the degree of sacredness or the mundaneness of each pavilion. The dwelling can be considered complete if it consists of space for the shrine or praying (*sanggah* or *pamerajan*), space for sleeping or resting (*bale daja* or *bale meten*), space for traditional ceremony as well as working and gathering (*bale dangin*), a granary (*jineng*), and space for cooking or kitchen (*pawon*).

The dwelling's most crucial and sacred area is the division of *utamaning utama*, where the shrine or *sanggah* is placed. The *sanggah*, or an open-air family shrine, is a sacred area dedicated to serving the god, which lies in the direction of the mountain in the north and sunrise (Gelebet et al., 1981). It consists of several shrine structures placed within a courtyard or *natah sanggah*, and usually separated by a low fence from the rest of the dwelling area. The family regularly conducts rituals and ceremonies following the Balinese calendar in this area.

The central area of the house, the *madyaning madya*, is where the sacred and the mundane, the sky and the ground, meet. It takes the form of a courtyard, an outdoor space. This central courtyard, or *natah bale*, is the centre of the dwelling as all of the pavilions surround it. It is the main circulation space that connects all the areas in the dwelling, maintained to be empty, ensuring that the sun shines over it (Gelebet et al., 1981; Suarya, 2003). The *natah* is used for activities related to the rituals and ceremonies, including working and gathering to prepare them. All preparations which usually involve family and neighbours are conducted in the *sanggah*, and this *natah*, showing its social role (Yudantini, 2012). The *natah* is usually open but can be sheltered with a temporal structure for ceremonial purposes, particularly during the rainy season. Aside from rituals and ceremonials, *natah* is also used to receive guests temporarily and to dry rice.

Diagonally, in the contrasting position of the *utamaning utama*, is the *nistaning nista*. It is the area for the kitchen or *pawon* and is categorized as mundane, dirty, and low. In this area, there is also *natah pawon*, a small front yard in front of the kitchen. If a toilet and other mundane activities considered "dirty", like a chicken coop or pig pen, are to be built in the dwelling, they should also be located in this *nista* area. This area is usually considered the back of the house.

and appropriated for less critical utilization, such as storing ceremonial properties and unused domestic objects.

Everyday activities in the dwelling are located in the areas that correspond to their meaning. For example, the resting or sleeping area or *bale meten* for the parent or the head of the family and the not-yet-married girls is in the *utamaning madya*. It has a relatively significant position in the house, adjacent to the *sanggah*, as it serves the head of the family. Additional pavilions like *bale dauh*, a space for receiving guests, socialising, and organising activities, or space for boys or male bachelors to sleep, can be positioned in the *madyaning nista*.

The presence of a courtyard or *natah* and the spaces between the pavilions in the dwelling play a crucial role in constructing the dwelling's characteristic. Each area in the dwelling has an outdoor space and is always separated from the other. This principle suggests that the outdoor space of the dwelling also serves as an inside condition for the inhabitants. The *natah bale*, as the main outdoor space in the dwelling, plays a central role, as it is where the tradition and the everyday meet. Aside from cultural and ritual

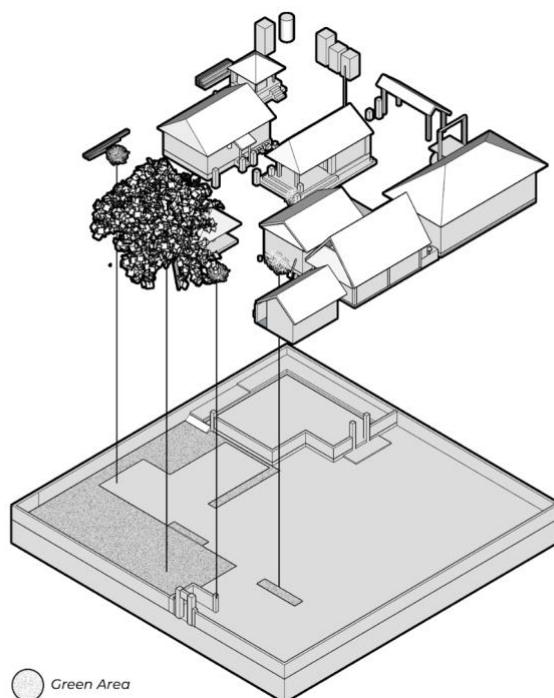
ceremonies at particular times, *natah* performs as a preparation space for festive ceremonies and the main circulation that connects all pavilions in the dwelling. There is also *natah penunggung karang*, an open area for a small shrine in the *utamaning nista* area dedicated to the spirit that guards the dwelling or *penunggun karang*.

METHODOLOGY

A qualitative method was required to investigate the dialogue between tradition and the everyday practice of dwellers that generates adaptation of domestic outdoor spaces in traditional dwellings. The selection of this particular old Balinese dwelling as a case study is of importance as the Majapahit dwelling type consists of compound housing with open space type units, organized based on a particular hierarchy and traditional values of the society. The study was conducted in one of the oldest traditional dwellings in Batuan Village, Gianyar, Bali, that is able to maintain its main pavilions in their original state—the *bale dangin*, *bale dauh*, *bale meten*, and *pawon* (See Figure 2).

Figure 2

The Spatial Arrangement of the Studied Dwelling as one of the Oldest Traditional Dwellings in Batuan Village, Gianyar, Bali



As the study undertook, this old traditional dwelling is inhabited by multigenerational families. Over time, there have been changes in the number of families. The dwelling is currently inhabited by nine people or five families of siblings from the same parent and their descendants. Such dynamics in the dwelling demonstrate various adaptations towards their outdoor spaces to emerge, revealing the hierarchy and various occupations inside the house based on family relations.

The data was collected through field observation, digital recording, measurement, and documentation of various architectural elements, objects, and domestic activities taking place in the traditional dwelling. Such data collections aim to identify the various appropriations of outdoor spaces in both dwellings through traces of objects and materials found in the dwelling and its configuration (See Figure 3). The study also conducted a mapping process of the spatial configuration and the architectural elements within the outdoor area.

Interviews with the four inhabitants were also conducted to gain information regarding the dialogue between tradition and everyday domestic practices of the dwelling that inform the changes and adaptation strategies. The data was then analyzed using the qualitative method, identifying necessary conditions that drive the dialogue between tradition and the everyday practice of the dwellers. Identification of the

shifting functions and hierarchy is done based on the existence of a threshold and the internal and external relations of the domestic function and the house condition. Such mapping of elements demonstrates the traces of objects and transient areas, reflecting the adaptation strategies that celebrate local culture and the surrounding context.

Mapping the Dialogues Between Traditional and Everyday Practices of the Balinese Dwelling

Adaptation within the observed dwelling can be identified through the comparison between the older documentation and the current one. According to Geertz (2004), in the early eighteenth century, the settlement in Batuan Village was divided into clusters, and the houses of the Batuan gentry started to live in the central ward, the Batuan Gede, at the time. Referring to the information, the old Batuan dwelling in this study is located in the immediate southwest cluster of the Batuan Gede, which at the time was inhabited by several commoner households that were formerly retainers of the royal houses, presumably also about the same time. Similar information is also given through the memory

Figure 3

The Outdoor Spaces in the Observed Old Batuan Dwelling



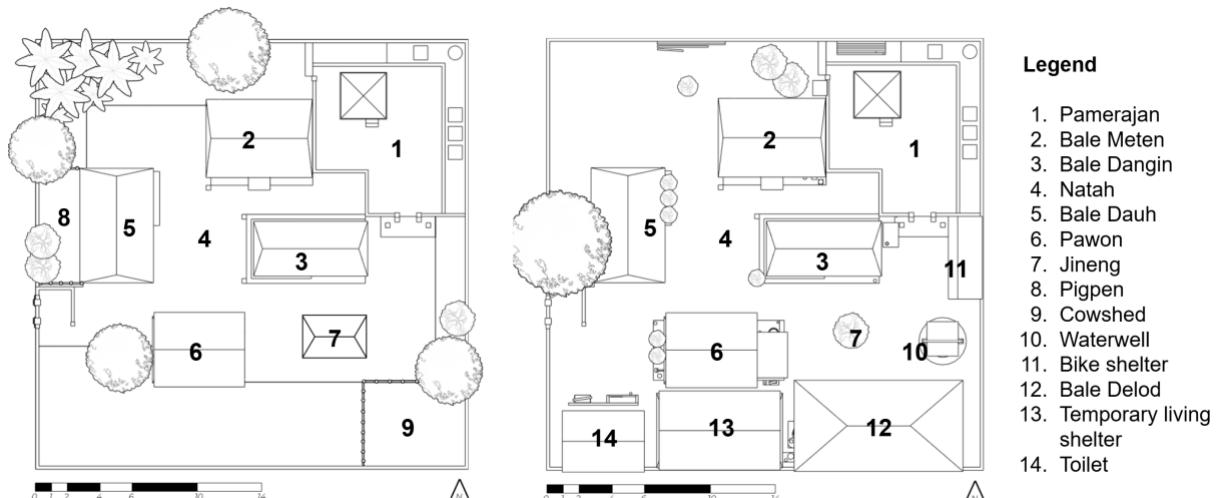
recall of one of the inhabitants, inferring that the old Batuan dwelling has lasted for more than three centuries. Based on the architectural documentation of an old Batuan traditional dwelling by Gelebet and team, the record shows that the dwelling was inhabited by I Ketut Suteng and his family in 1981 (Gelebet et al., 1981).

The dwelling consisted of five pavilions—*bale meten*, *bale dauh*, *bale dangin*, *pawon*, and *jineng*, aside from the *sanggah* and the *natah bale* (See Figure 4). The initial house owner is a family with seven children, and the current dwellers are three of the remaining children and their families. Throughout the years, the parents, as well as one child, died. Three of the children married and moved out of the dwelling, and the

other three remain to live there. Before reaching the current state of the pavilion, *bale delod* was originally only a small pavilion intended only to cater to the additional sleeping space for the children of the family. At the time, although the interviewed dwellers had only a vague memory of *jineng*'s existence, the documentation clearly showed that *jineng* was also initially part of the dwelling. Forty years later, additional pavilions were built and added as part of the dwelling (See Figure 5). The **additional pavilions** are the *bale delod* (*delod* means 'in the South', so *bale delod* means a pavilion in the South) (7), two units of toilets (10), a temporary shelter for living and cooking (9), and a shelter for motorcycle parking (4).

Figure 4

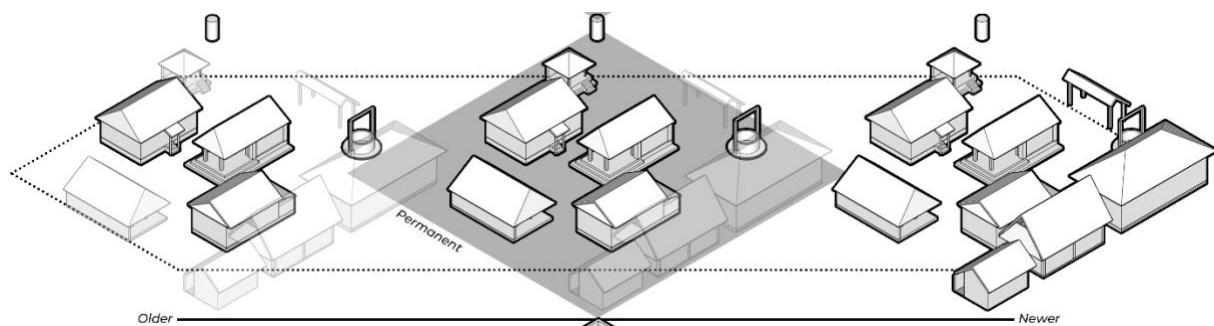
The Initial Plan of the Traditional dwelling in Batuan in 1981 (left) and the current arrangement of the dwelling (right)



Note. Adapted from *Arsitektur tradisional daerah Bali* [Traditional architecture in Bali], p. 71 by Gelebet, I. N., Meganada, I. N., Negara, I. M. Y., Suwirya, I. M., & Surata, I. N., 1981. Departemen Pendidikan dan Kebudayaan [Department of Education and Culture].

Figure 5

The Addition of New Pavilions or Structures Within the Compound Throughout the Years



The family explained that even after all these years, the older pavilions have been preserved in their original state and have yet to undergo renovation since the beginning, except for replacing damaged thatched roof material. The pavilions are constructed from earth-based materials, wooden structures, and thatched roofs, installed using traditional techniques. The internal arrangements of the pavilions have also remained the same, except for some additional curtains or vertical bamboo partitions in the *bale dangin* and *bale dauh* for providing a sense of privacy, as the pavilions are also used for sleeping. Only the *bale delod* was built using more modern materials and construction methods.

This study identified three conditions that arguably reflect the dialogue between tradition and everyday domestic practice of the dwellers and drive evident adaptations of the outdoor space in the dwelling. The first condition is the **increasing number of family members**, which reflects the everyday domestic practice and the social relations dynamic of its dwellers (Wahid et al., 2021). As an extended family, they are rooted in the same parents. Traditionally, a male descendant and his family should take care of and be responsible for the house, while other members of the family may leave to grow their families. However, with family incidents, from the death of family members to movements of some other members outside Bali, the remaining descendants have compromised to share the house as long as they want or need to live there and arrange their sleeping space accordingly.

Currently, the dwelling accommodates two unmarried brothers (the second and fourth sons of the original owner), their young brother (the fifth child) and his wife, an adult son, and a grandchild. In addition, there are also four other grandchildren from the first deceased brother of the family. The second and fourth brothers each live in the *bale dauh* and *bale meten*; meanwhile, their younger brother lives in a temporary living shelter behind the *pawon* with his wife. The other members of the families live in the additional pavilion next to the *pawon* or *bale delod*.

The second condition concerns the **differences in livelihoods between generations**, depicting the idea of the living conditions expected by the older and the younger family members that may change throughout the years. The 1981 dwelling

documentation demonstrates how there was *jineng* existed in the dwelling. However, since they no longer practice farming, the *jineng*, pig pen, and cowshed became obsolete and unused, leaving the space unoccupied. Currently, the *jineng* and cow shed have already been replaced with the new pavilion, the *bale delod*, to cater to the need for more space due to the growing number of families.

The additional brick pavilion resonates better with the idea of a more modern living, uttered by younger generations who live in the dwelling. When the fifth child moved back into the dwelling with his wife and other family members from the first and the third child, the *bale delod* was enlarged. It is enlarged and constructed as a modern house with plastered bricks and roof tiles, taking a slightly different form from the original pavilions. As additional members of the family joined to live in the dwelling, the fifth child and his wife constructed a temporary living shelter for them behind the *pawon*, giving them more space for their everyday activities. The water well that was made in the 1990s was already covered, as the inhabitants started to use machines to draw water from the well instead of drawing it manually using buckets. Furthermore, a pair of toilets and shelter for motorcycle parking were also built, making the dwelling more inhabitable for the younger generations of the family who prefer a more modern lifestyle.

Such horizontal adaptations in this old Batuan dwelling are preferable rather than going vertical, as they need to maintain the height of the building according to their traditional ordinances, aside from their financial situations. In Balinese tradition, such changes require compliance with the customs through discussion with a wise person or someone who is expertly knowledgeable about the customs and traditions of Balinese beliefs. If changes in the dwelling, such as repositioning, enlargement, or additional structures, are needed, the family would discuss them with a knowledgeable person appointed by the community. The person will then decide when and how the construction should occur to avoid misfortune for the family. However, there is no need to discuss changes if the alterations are minor and temporary, such as fixing damaged parts, replacing building materials, adding temporary shelter, or adding reinforcement to existing construction. Due to the financial

situation, apart from the construction of new pavilions, no significant changes occurred in the last decades, and thus, no significant rituals related to buildings took place.

Aside from the growing number of the family and the differences in livelihoods between generations, the third condition highlights **the need for the family to balance everyday occupation and the ritual events in the dwelling**, particularly concerning the *natah bale*. Existing literature about the outdoor space of Balinese dwellings has mainly focused on the *natah bale*, the courtyard within the central area of the house that is used to perform cultural and ritual ceremonies (Yudantini, 2012), implying it is the only outdoor space concerned. The *natah bale*, as the internal courtyards of the house, are transformed into space for ceremonies and rituals that involve many people at particular times, ranging from three to eleven days, aside from the preparation. In this condition, the *natah bale* is activated to support the events. Such changes also become part of the inhabitants' everyday life. Even though such changes do not transform the outdoor spaces permanently, the ritual events are repetitive and predetermined, unlikely to be neglected.

Based on the observation and the interviews, the study identifies different kinds of outdoor space in the periphery of the dwelling that support and are also connected to the *natah bale*, existing between the pavilions and the perimeter wall, which may seem mundane and trivial. They are the outdoor spaces that are often neglected, lack care, and are peripheral to the pavilions. This paper extends the discussion of outdoor space in the Balinese dwelling by exploring such areas and their potential for accommodating domestic changes and adaptation. The conditions discussed in this section generate different scopes and scales of adaptation in the dwelling. The spatial and temporal strategies of such adaptation are discussed in the following section.

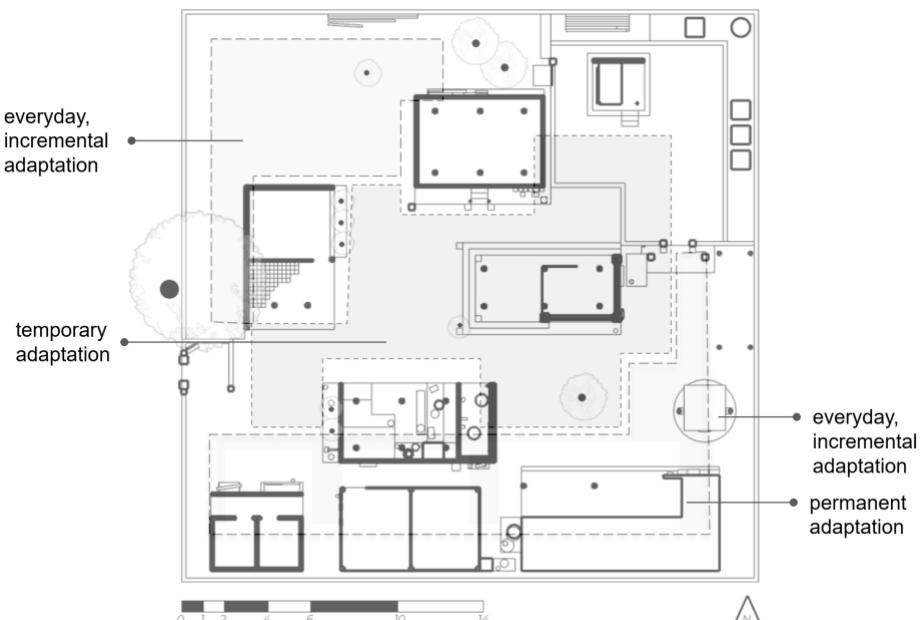
The Spatial-Temporal Strategies of Outdoor Space Adaptation

The literature section has identified objectives of outdoor space appropriation that create reinterpretation, ambiguity, and the creation of the inside-outside connection. The previous section highlights conditions that reflect a dialogue between tradition and the everyday practice of the family. After identifying the conditions that drive the changes, it can be seen that spatial-temporal strategies are employed in adapting the overall compound, affecting the outdoor space differently. Some of the domestic adaptation generates a permanent reduction of outdoor space, while the other adds multifunctionality to the outdoor space. The study further divides these adaptation strategies into (1) permanent adaptations, (2) temporary adaptations, and (3) incremental adaptations (See Figure 6).

The **permanent adaptation strategy** takes place in appropriating existing outdoor space to create additional pavilions, thus reducing the outdoor space area, particularly when a pavilion is built and/or enlarged, usually responding to the need for additional space with the growing number of the family. Due to the limited area of the dwelling, whilst having to conform to the cultural order of the dwelling, the inhabitants utilized the empty area in the dwelling that was left unoccupied to develop the new pavilion. This adaptation considers that no additional pavilion can be built in the *utama* or *madya* area, as these areas are considered sacred and only intended for specific activities. An exception is allowed if the intention is to enlarge the existing pavilion. It can also be seen that the new structures are built in the *utamaning nista*, *madyaning nista*, and the *nistaning nista* areas, suggesting that additional buildings or structures, like the water well, can be built in the *nista* area or the back of the house.

Figure 6

Spatial Adaptation Strategy of the Outdoor Spaces of Batuan Dwelling



The additions are allowed as long as the changes are not against the customs, keeping the *natahs* undisturbed. A relatively slow pace of adaptation occurred as the adaptation was only triggered by the need for more space due to the growing number of the family and differences in livelihoods that took more than three decades. Such changes also take more time since they depend on the financial and practical ability of the family or assistance from the community to develop and build the space properly. For example, the living shelter that employs the *nistaning nista* area, at the back part of the *pawon*, has been a relatively permanent arrangement even after several years of occupation despite being created from a relatively temporary structure in comparison to the *bale delod* located next to it (See Figure 6). The creation of an additional pavilion reflects an adaptation of outdoor spaces that takes place slowly throughout the years and exists permanently.

The other adaptation strategies, which consist of **temporary and incremental adaptations**, generate multifunctionality of the outdoor spaces by enabling various uses with additional layers of activities. This adaptation responds to the conditions of the need to balance between the

ritualistic needs and the practical needs of outdoor spaces within the dwelling. The temporary adaptation reflects more on the traditional role of the *natah bale*, whilst the more incremental adaptation is related to the everyday life practice of its inhabitants.

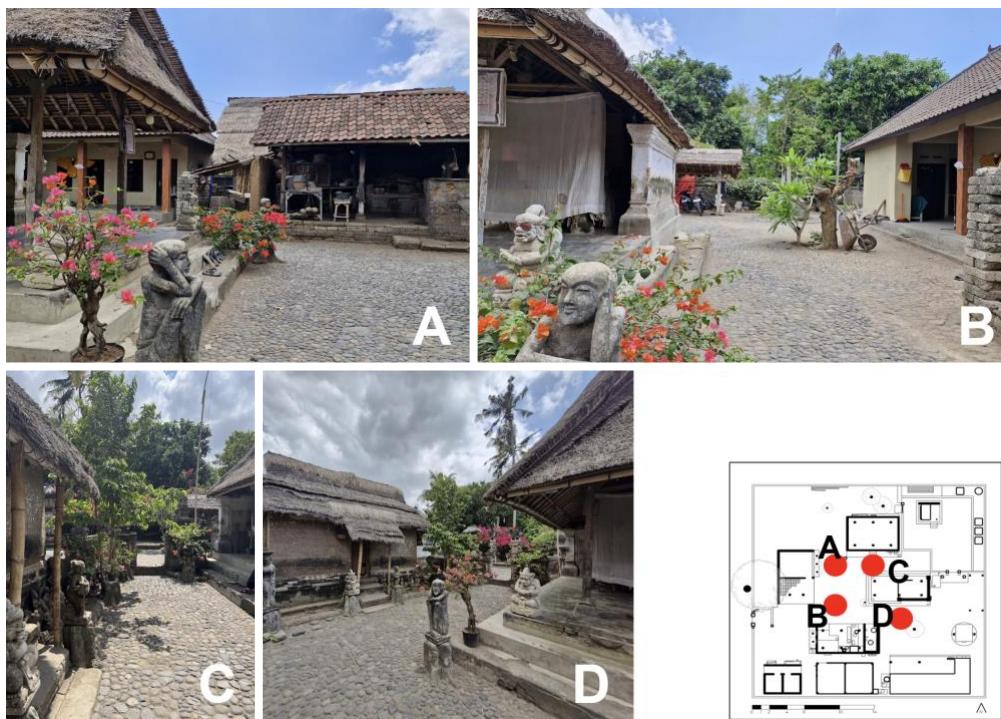
Every day, the *natah bale* is usually empty and only filled with sculptures and decorative plants, acting as a void that balances the whole dwelling (See Figure 8). This void space is always important for the dwelling and has been kept empty even before the new pavilions were added. Many preparation activities and rituals that are usually conducted together by many people take place in the area. During the current ceremonies and rituals, the *natah bale* is even covered by a temporary shelter for the people who gather to prepare for the events and also participate in the events. The *natah bale* is adorned with offerings and objects for rituals and traditional decorations during the events. Such decorative objects in *natah bale* and the adornment during the events should be in accordance with the ceremonial and rituals, placed adjacent to the pavilion so they do not disturb the emptiness and also circulation. After the events, the *natah bale* is cleaned and emptied for everyday activities.

Figure 7

The Additional Pavilions in the Dwelling to Cater to a Growing Number of Inhabitants: Modernised Bale Delod (left) and Temporary Living Shelter (right)

**Figure 8**

The Natah Bale of the Dwelling, an Area Usually Used for Ritual Events

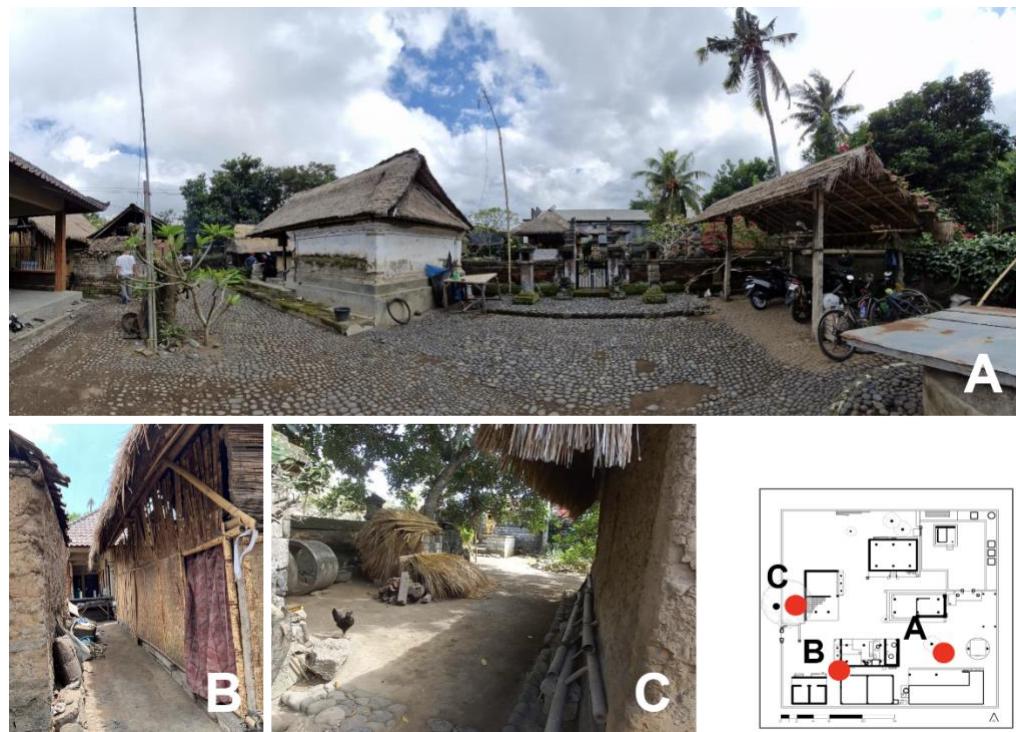


Although this spatial strategy seems fast-paced, this kind of adaptation has long been a family tradition. After use, the ritual properties and tools of the ceremonies are stored away in *bale dangin*, hidden behind the wall, stashed away in the storage space, or at the perimeter of other pavilions. Such a strategy is to ensure not only the visual emptiness of the *natah bale*, but also to create occupation of the outdoor spaces in the

periphery of the pavilions. Every object that remains in the *natah bale* is intentionally arranged as part of the outdoor space (See Figure 8). Incremental adaptation takes place without strict rules of utilization to the other outdoor spaces beyond the *natah bale* (See Figure 9). It is used for other *natahs* aside from circulation space, the spaces in between the pavilions, and spaces at the perimeter fence.

Figure 9

The Empty Natah Area (A), in Contrast With the Peripheral Outdoor Space That is Used to Store a Collection of Stuff (B and C)



In regard to the previous discussion of the ambiguous and peripheral quality of the outdoor space, in the incremental adaptation, the inhabitants utilize the outdoor spaces that have an uncertain rule of use and need to be addressed by the main central space. The way the inhabitants use the circulation space and the building perimeter to temporarily store everyday tools and objects (See Figure 9, left photo) shows how the adaptation takes place. For example, the space between the *pawon* and the *bale delod*, or the *pawon* with the temporary living shelter, is used to place building materials and working tools currently being worked on.

Another example is the utilization of the perimeter space behind the *bale dauh* for temporarily stacking the building materials before they are used to replace the damaged ones. This strategy generates the circulation space, particularly the ones at the periphery of the dwelling, to be used as the transitory space due to its transient use. Such transient appropriation

of space reflects multiple changes that occur frequently in such a continuous circulation space, a somewhat unplanned and unpredictable spatial appropriation that appears only when needed.

The incremental adaptation of outdoor areas thrives in the peripheral, in-between, hidden from the main entrance, covered, and partially sheltered qualities of space. For example, an outdoor kitchen is added in between the *bale delod* and a temporary living shelter is arranged in a partially covered in-between space for the everyday needs of the younger fifth brother and his family (See Figure 10 and Figure 11). Since the space allows, such an arrangement is considered more practical and appropriate for them to cook there rather than in the old *pawon*, the older brother usually occupies. Occupation of the initial *pawon* by the older brother is part of the tradition, whilst such an outdoor kitchen reflects the everyday maneuvers of the younger brother in response to the traditional allocation of space.

Figure 10

Incremental and Transient Appropriation of Outdoor Space in Batuan Dwelling



Figure 11

The Incremental and Peripheral Appropriation of Outdoor Spaces for a Kitchen for Different Families in Batuan Dwelling



The incremental strategy suggests a makeshift utilization of outdoor space that is to be transformed into quasi-temporary yet everyday multifunctional spaces. It implies flexibility as a crucial characteristic of the dwelling adaptation by employing available vertical and horizontal surfaces of the ground spaces in between pavilions and at the perimeter of each pavilion, allowing the inhabitants to maneuver within the spatial limitation. The spaces in between and adjacent to the dwelling become a means to store objects and various materials, and a meaningful space for accommodating different events of their everyday life.

The permanent, temporary, and incremental adaptation strategy of Batuan dwelling constructs layers of the spatiotemporal ordering of the domestic space (See Figure 12), involving, i.e., addition, reduction, and enlargement. This study expands the discussion on the adaptive spatial layers, focusing not on the elements and performance of each layer (Brand, 1995; Karimah & Paramita, 2020), but on the multiplicity of roles each layer may play, informed by the dialogue between tradition and everyday practice of the dwellers. This multiplicity of roles generates a scenario of connection between activities, activated by body movements (Yatmo et al., 2017). These findings based on this old

Batuan traditional dwelling become relevant as similar phenomena occur in many traditional Balinese dwellings in Batuan Village and also in villages that encounter modernity and tourism, such as Panglipuran Village (Suartika, 2018) and

Tenganan Village (Setiadi & Gharata, 2022). Table 1 summarizes the strategies comprising the permanence, temporal, and incremental forms of adaptation.

Figure 12

Layers of Spatial Ordering in the Old Batuan Dwelling are Driven by the Dialogue of Tradition and Everyday Practice

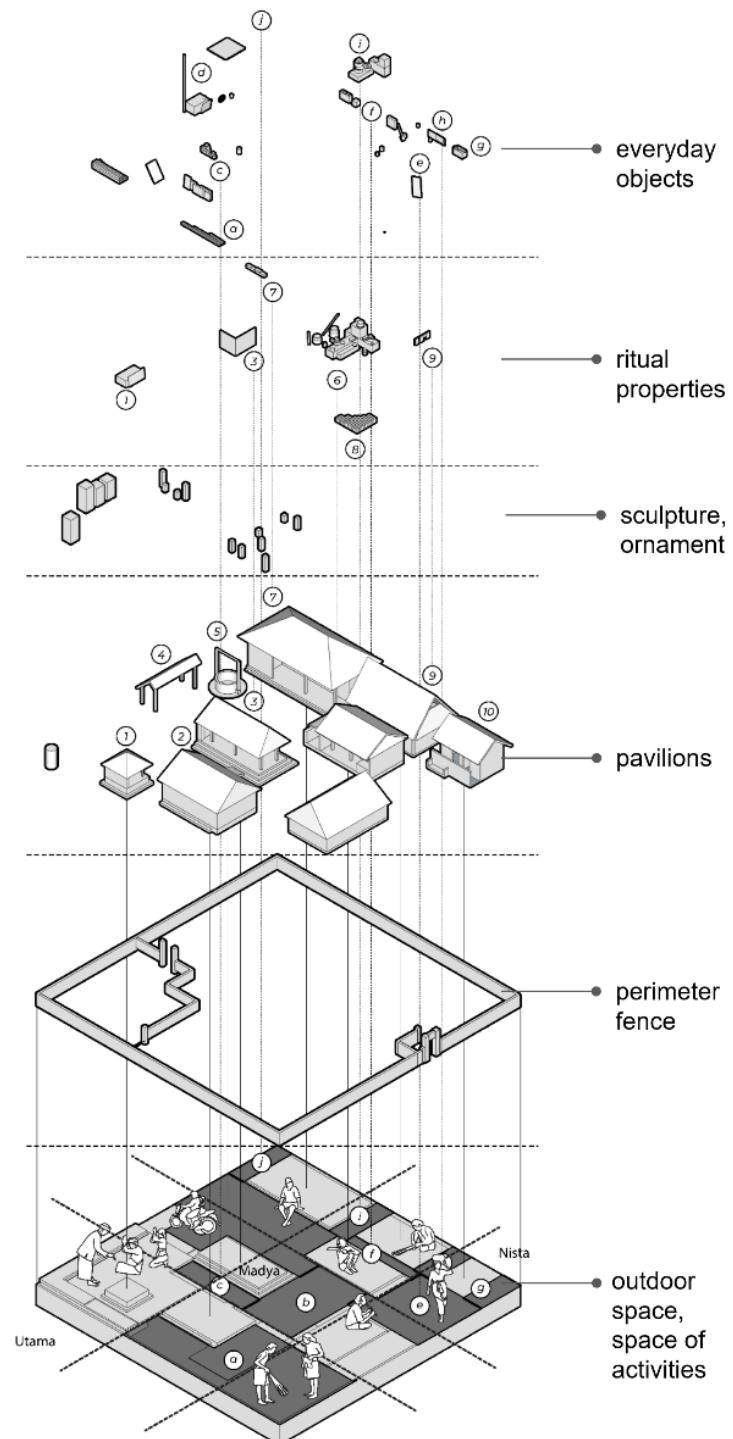


Table 1*The Open Space Adaptation Strategy in the Old Batuan House*

Change of Conditions		Form of adaptation	Adaptation strategy		
			Permanent	Temporary	Incremental
The changing number of inhabitants: increasing family members	More space for basic domestic everyday practice	Adding (larger) pavilions for the new sleeping spaces (<i>bale delod</i>)	●		
		Adding pavilions in (temporary shelter for living and cooking), and a temporary drying space		●	
The changing way of life	Changing occupation in the family generation	Removing of the <i>jineng</i> , pig pen, and cowshed	●		
	Modern lifestyle	Adding shelter for motorcycle parking, toilets	●		
	Modern brick construction technique	Enlarging <i>bale delod</i> , <i>pamerajan</i>	●		
	Different sense of privacy	Adding curtain or vertical bamboo partition in the <i>bale dangin</i> and <i>bale dauh</i>			●
Balancing everyday occupation and the ritual events in the dwelling	Space for ceremonies and rituals	Adding a temporary shelter in the <i>natah bale</i> for ceremonial and ritual purposes		●	
		Adorning the surroundings of pavilions in <i>natah bale</i> with stone figurative decoration and plants related to ritual or beliefs	●		
	Space for domestic practice	Adding temporary drying space in the perimeter or quasi-hidden area			●
		Adding temporary space for storing the construction materials and domestic working tools			●

CONCLUSION

Reinterpreting Architectural Adaptation Within a Traditional Context

The findings of this study demonstrate the extensive meaning of the adaptability of a traditional dwelling through the utilization of its outdoor space. The inquiry into the changes and adaptation within the old traditional Balinese dwelling outdoor space in Batuan Village shows that the adaptation strategies are explicitly intertwined with the local context, particularly the culture and traditions. The spatial-temporal adaptation strategies of the outdoor space in the dwelling become a dialogue between the strict divisions of *Sanga Mandala* and the changing conditions of the inhabitants within spatial limitations. A strong belief in spatial order and a deep understanding of the order allows changes and adaptation to occur to some extent.

However, such adaptation reflects the interchangeable order of spatial divisions and the importance of maintaining each division and its meaning. In this case, keeping the hierarchy of sacredness, mundane, and both realms unchanged becomes a necessity for such dwelling.

The study expands the current understanding of adaptive architecture by showing how a traditional dwelling and its constituents change and adapt over time rather than being preserved and frozen in a particular time. Having a changing number of inhabitants and lifestyle, as well as financial situation, and the need to balance tradition and everyday needs, the spatial adaptations occur within the allowable area—the periphery—with limited and less permanent changes. The understanding highlights the crucial meaning of outdoor space as a reserved space for future changes, aside from being the stage for culture and tradition, or only the dwelling's circulation. The possibilities of transforming the *natah bale* as an empty space, as a space for ceremonial and cultural events, and as a space for domestic activities at different times highlight the flexible and multifunctional characteristics of the outdoor space. Such an adaptation differs from the utilization of unoccupied areas in the dwelling for additional

pavilions and structures, suggesting a more permanent and specific adaptation of space. It also implies that the adaptation of the outdoor space deals with another layer of spatial ordering that involves the relation of the front and the back of the house, as well as the central and the peripheral.

This study adds new insight into the idea of constructing the idea of a dwelling as an adaptable arrangement that should not be limited to the indoor condition but also the outdoor, as well as its inside-outside dynamics. The study raises further questions about such discussions taking place in different cultural and social contexts, particularly in traditional contexts as living heritage. It might be crucial to rethink the idea of traditional dwelling as a living heritage and to what extent the negotiation between the old and the new, the tradition and modern functionalities, can be part of the adaptation.

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