Pura as a Fortress in Balinese Religious Traditional Architecture Building

S P Martana

Department of Architecture, Universitas Komputer Indonesia, Indonesia

Email : ketuapt@unikom.ac.id

Abstract. Several researchers believe that Pura - a Hindu temple - in Bali is not just merely a place of worship. In Sanskrit that word means a fortress, while several early investigations show that the pura is sharing several same characteristics with the fortress by design. High fences, small entrance, limited access and also the existence of observation tower was among the characteristics. The aim of this study is to proof that the pura architecture was not something brought from Majapahit, but on the contrary is an architecture built in the land of Bali by the Majapahit priest Danghyang Nirartha, after the fall of Majapahit to be a fortress, to avoid any acts and values came from outside to infiltrate the Hindu culture in Bali. The Architectural survey method was chosen to bring about any knowledge regarding this issue, while as samples 3 pura around Denpasar was chosen to represent the pura of southern part of Bali where the architecture was developed in the past. The result of this paper is a description of how the now place of worship can be developed from some thought as a result of political event in the past and as the conclusion, through the years it became a common pattern within the people of Bali.

1. Introduction
In the year 1478, the kingdom of Demak attacked Majapahit, the great Hindu Kingdom of the past. Majapahit fell, and the influence of Islam then spread throughout the island of Java. To avoid conversion, royal families, art workers, doctors, architects and many more of the remain Hindus were fled to the safer eastern island of Bali. Lontar Markandya Purana, a manuscript written on palm leaves recorded that 2,000 people under the leader Mpu Markandya, a Hindu elder, moved from Java to Bali at the time. In Bali, they opened a forest for their settlement, in the location later known as modern Ubud [1].

The Majapahits got a warm welcome from the Balinese. In 1489, one of the refugee priests, Danghyang Nirartha (later known as Great Priest Wawu Rawuh) was directly installed as palace priest and main counselor by the King Waturenggong, the ruler of Bali [2]. Majapahit artists and architects had found a new field of work to build again Majapahit, a new one. Waturenggong’s ideal was to build a little Majapahit and gradually, Balinese architecture started to find its new form, separated from the developments in Java under Islamic rule. Waturenggong encourages Danghyang Nirartha to build temples around the coasts of Bali. There are at least six of them, still fully function today, as the temple of Tanah Lot and Uluwatu on the south peninsula of Bali.

After the Nirartha era, the temple plan in Bali is divided into three parts in general, namely: jabapura or jaba pisan (outer courtyard), jaba tengah (central courtyard) and jeroan (inner courtyard). In addition there are also temples consisting of two parts, namely jaba pisan (outer courtyard) and jeroan (inner courtyard). The temple courtyard division is based on the conception of the macrocosm
of the triloka. All three represent: bhurloka (earth), bhuvaaloka (sky) and svaaloka (heaven). The division of the temple on 2 parts symbolizes the upper realm (urdhaa) and the lower realm (adhaa), namely aliua and pativi[3]. Access between parts is done through a narrow gate that can only be passed by one or two people at the same time. Behind each gate there is always a wall called aling-aling, to prevent the view inside can be witnessed from the outside. All parts are surrounded by a thick wall called the penyengker[4] (Figure 1).

Figure 1. The division of Pura

Nirartha's followers built many pura in Bali, establishing new standards in Balinese temple design. At this time Pura is known as a place of worship. However, there are allegations that Nirartha did not build a temple with worship as the only purpose. The word Pura is derived from Sanskrit word pur means fortress [5]. Sturdy buildings, thick walls, restricted entry access are characteristic of temples built at that time. Looking at the characteristics of the temple that has been developed since Nirartha's time, it seems that he did develop Pura as a fortress – rather than temple - which visually implies a certain meaning for Balinese people these days. A fortress as a visual reminder for the Balinese and Majapahit to hold on to the Hindu tradition, avoiding rapid converting happened in Java, against their Hindu belief. Since Nirartha's arrival, the meaning of the temple as a “fortress” began to shift to “Hindu holy places”, as noted by Titib [6] and Budaarsa [7].

Fortress is a strong permanent fortification which may include a town [8]. It is mainly a military building made for defense purposes in warfare. The fortress has been built by mankind since thousands of years ago in various forms and eventually developed into a more complex form. Beyond their defensive utility, many fortresses also play important symbolic functions - representing the status and independence of the people they embraced[9]. Characteristics found in all fortresses are:

- Sturdy rectangular to octagonal buildings
- The high wall, reaches 10 meters, with an area of 5,000 m² or more.
- Over 1 meter thick walls for security against outside attacking the enemy.
- At least two floor levels with various special functions according to the height.
- Towering parts for the reconnaissance and observation function.
- A limited access through one gate, in and out

Fortress is not difficult to find in an expansive kingdom like Majapahit. One that still exists today is the Majapahit stone fortress at Bitung near Yogyakarta, founded by Menak Koncar, Duke of Majapahit around the 13th century AD. The name Bitung refers to the local word "Benteng" (fortress).

At the time, the fort was built by residents. The size of the fort depends on the community leader. The measuring used is depa or jengkal – anthropometrical measurement according to the leaders body size- therefore, it is not surprising that some of the fortresses in the archipelago are not the same shape. Mostly the height of the fort passed twice the height of a man, so the enemy did not see any activity inside. Modern fortress began to be built by the people of Indonesia since 1545 under Portuguese influence[10].
2. Methods
The architectural survey was conducted on several pura around Bali. 3 Pura was selected to represent the character of urban, rural and coastal pura, the main characteristics of several temples built by Nirartha and his followers. It is then compared with literatures, such as Wyley [7], Crystal [8] and Kasdar [9].

3. Results and Discussion
3.1. Pura Uluwatu
Uluwatu Temple is located in Pecatu Village, Kuta District, Badung Regency, Bali, about 30 km to the south of Denpasar. Uluwatu Temple, also called Pura Luwur, is one of the six Pura considered to be the spiritual pillar of Bali. Uluwatu Temple was built by Dang Hyang Nirartha in his sacred journey around the island of Bali. In this temple the priest then 'moksa', leaving marcapada (world) to reach to the swargaloka (heaven). Uluwatu Temple occupies land on a cliff jutting into the Indian Ocean with an altitude of about 70 m above sea level. People have to walk up the stone stairs to reach the location. Along the road on the outer edge of the temple, there are hundreds of monkeys hanging around[10].

Things related to the fortress characteristics; the plan, the wall, the tower of this pura as well as the gate and access to it can be seen in Table 1.

Table 1. The Temple Pura Uluwatu

| PLAN |
|---|
| ![Plan Diagram](image_url) |

A rectangular based plan, with additive and subtractive parts adjusted to the narrow elongated land on the cliff.

| WALL |
|---|
| ![Wall Image](image_url) |

High and thick stone wall, for some parts over 1.7 m and 0.7 m.
3.2. Pura Desa Gede Peliatan, Ubud

Pura Desa Gede Peliatan is located in Peliatan, a village famous for its royal families and performing arts, most notably dance and music. Pura Desa Gede Peliatan is a compound of adjoining temples, the Pura Puseh, Pura Desa and Pura Agung. The temples feature incredibly decorated sculptures as well as paintings. Since Nirartha's arrival, Ubud is one of the most advanced areas in the matter of architecture [11]. Peliatan is one of the best villages in the current District of Ubud. In the Dutch East Indies, the government took an architectural pattern from here and developed it as an official style in Bali, later known as The Gianyar Style [12].

Information related to the fortress characteristics; the plan, the wall, the tower of this pura as well as the gate and access to it can be observed in Table 2.
### Table 2. The Temple Pura Gede Peliatan, Ubud.

| PLAN          | ![Plan Diagram] |
|---------------|-----------------|
| **WALL**      | ![Brick Wall]   |
| **TOWER**     | ![Bale Kulkul]  |
| **GATE**      | ![Gate and Wall]|
| **ACCESS**    | ![Easy Access]  |

**PLAN**

A perfect rectangular plan.

**WALL**

High and thick Brick wall.

**TOWER**

A *bale kulkul* on the east corner of the *pura*. Also a tower-like *meru* in the innercourt and one additional tower to keep the ceremonial device.

**GATE**

Narrow gate and additional *aling-aling* wall behind the gate.

**ACCESS**

Flat and easy access to the gate, since its location is just next to the village main street. After entering the gate, the circulation becomes winding.
3.3. Pura Agung Jagatnata, Denpasar
Pura Agung Jagatnatha, the largest temple in the city of Denpasar is located right next to the Bali Museum, while on the east side lay the town square Puputan Badung. This temple was built to accommodate the Hindus who came to Denpasar urban areas from various villages of Bali. After obtaining permission from Governor Bagus Sutedja, on January 1, 1965, the architect Anak Agung Ketut Anggara from Banjar Belong, Denpasar, began working to design the buildings while at the same time leading the undagi – traditional building expert- to work in the field [13]. Like most temples in Bali, the position of the building faces towards Mount Agung. Hindus in Bali believe that on the top of the mountain is the palace of the Gods. Pura Agung Jagatnatha was inaugurated through a small ceremony on May 13, 1968.

Information related to the fortress characteristics; the plan, the wall, the tower of this pura as well as the gate and access to it can be observed in Table 3.

Table 3. The Temple Pura Agung Jagatnata, Denpasar

| PLAN         | ![Diagram of Pura Agung Jagatnata] |
|--------------|-----------------------------------|
| A perfect rectangular plan. |

| WALL         | ![Image of High and Thick Brick Wall] |
|--------------|--------------------------------------|
| High and thick Brick wall. Height of over 2 m. |

| TOWER        | ![Image of Bale Kulkul] |
|--------------|------------------------|
| A bale kulkul on the north and south corner of the pura. |

| GATE         | ![Image of Wide Gate] |
|--------------|-----------------------|
| Wide gate on the candi bentar, sufficient for 3 or 4 people. Narrow gate on Kori Agung, also Additional aling-aling wall behind the gate. |
ACCESS

Flat and easy access to the gate, since its location is just next to the closed street between the temple and city square.

4. Conclusion
Studies conducted have shown that almost all the characteristics of the fortress, in general, are fulfilled in the Balinese temple of pura, which were built after the Nirartha era. This may not be intentional since Nirartha also certainly did not expect that the design he made with the architects of Majapahit would become a common pattern that was followed by the community for many years after. Architecture is a reflection of the community. In this case, it appears that the Mahapahit people together with Nirartha did try to survive the influx of powerful Islamic cultural influences from Java.

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