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# The Effect of Dutch Colonial Architecture on Palace in Bali, Indonesia

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## Abstract

Dutch colonial architecture is an architecture that combines western and eastern cultures. Dutch colonial architecture was present through the work of Dutch architects and was intended for the Dutch who lived in Indonesia, in the period before independence. Agung Karangasem palace is one of the remains of architectural works built in the 19th century after Dutch colonialism conquered Karangasem in 1894, by Statehoder I namely Anak Agung Gede Jelantik, the first king of the Kingdom of Karangasem. This palace uses the concept of *Tri Mandala*, which is different from the general concept of the palace in Bali, namely *Sanga Mandala*. Another uniqueness is the existence of a building with the name *Gedong Maskerdam* which is the residence of the king in the Main Mandala. The purpose of this study was to dig deeper into the style and visual characteristics of the *Gedong Maskerdam* building. The type of research used is qualitative-rationalistic research with descriptive methods, namely describing the object/building *Gedong Maskerdam* and analyzing the style and visual character of the building. The results showed that the colonial style of *Gedong Maskerdam* was largely influenced by the Indische Kingdom Style (Age 18-19).

**Keywords:** Colonial Architecture, *Gedong Maskerdam*, Agung Karangasem Palace

## 1. Introduction

### Background

Indonesia is a country with diverse tribes and races that creates a different culture in each archipelago, which creates a diverse architecture as well. But after the arrival of European traders to Indonesia, architecture, and culture in several regions of Indonesia were influenced by Dutch culture. Mixing between two Indonesian cultures with the Dutch is called colonial culture (Covarrubias, 1937; Handinoto, 1998; Rajendra & Nicholls, 2013). One of the buildings affected by Colonial culture was the *Gedong Maskerdam* building in Agung Karangasem palace, Bali. The pattern of the Agung Karangasem palace space that is different from another palace in Bali is because when Agung Karangasem palace was built, the kingdom of Karangasem was a kingdom that was not yet independent. After the king of Karangasem, I Gusti Gede Karangasem died in 1849, the king of Mataram namely I Gusti Anglurah Ktut Karangasem sent his three nephews. Thus the kingdom of Karangasem from then on was under the control of the Mataram kingdom. Then, after the Karangasem dynasty in Mataram was ruled by the Dutch in 1894, the kingdom of Karangasem automatically fell into the hands of the Dutch. Furthermore, the Dutch

appointed Anak Agung Gde Jelantik as Stedehouder I and occupied Palace Amlapura, now called Agung Karangasem palace (Agung, 1986). So based on this background, it is only natural that the concept of building a palace in Agung Karangasem palace is different from other palaces in Bali (Ardika, 2004; Megawangi, 2013; Andiani, 2014)

According to Sumalyo (1993), Dutch culture not only affected the lives of Indonesians but also, the way of thinking of Dutch architects, when applying local/traditional concepts to their design buildings. Colonial architecture in Indonesia is a unique cultural phenomenon (a mixture of cultures between colonialists and Indonesian culture), and no other place, including other former colonies. The uniqueness of these buildings can be seen in the form of Dutch colonial heritage buildings, which according to the results of Handinoto's identification and analysis (1998), the era's architectural style was divided into three architectural styles, namely: (1) Indische Empire Style; Transitional Architectural Style; (3) Indo-European style. Therefore, researchers are interested in knowing more about the style of colonial buildings seen in the *Gedong Maskerdam* building that still exists today. The results of this study can be submitted to the government and can be a proposed theme in preserving the Karangasem area of Agung Palace as a supporter of Heritage City with the potential of colonial architecture.

### Research Question

Based on the background above, the formulation of the problem from this study is:

1. What is the influence of Colonial Architecture on the *Gedong Maskerdam* building?
2. What style of building is used by the *Gedong Maskerdam* Building?

### Research Objective

Agung Karangasem palace is located in the city of Amlapura which is the capital of Karangasem district, also a center of the kingdom in the past. Based on its layout, Agung Karangasem palace is not in the *Kaja-Kangin* area (Northeast) and is not placed at the intersection (*Pempatan Agung*), around it now there are several functions including the field, Gede Karangasem palace, and the residential neighborhood. Agung Karangasem palace discussed in this study is the modern type. Variations in the shape of the palace building that is not owned by other palaces, namely the nuances of cross-cultural architecture, which can be seen in each building because of acculturation of Traditional Balinese Architecture with foreign cultures (Megawangi, 2013; Andiani, 2014).

### Outcome Targets and Research Benefits

In this study, the aim to be achieved was to find out how the influence of colonial architecture on the *Gedong Maskerdam* building and to know what building style was used by the *Gedong Maskerdam* Building.

Academic benefits: For science, this research is expected to enrich the study material of colonial buildings, especially those that have colonial architectural influences on the *Gedong Maskerdam* building in Agung Karangasem palace. Practical benefits: can be used as a reference for formulating efforts to approach the preservation of palace buildings, especially those that are subject to colonial influence as a cultural heritage that is the object of tourism, in preserving cultural preservation and city identity. For the object itself, this research is expected to be used as inspiration for the formulation of policies to control changes in palace buildings that occur mainly in the City of Amlapura, Karangasem, Bali.

## 2. Literature Review

### Elements of Colonial Architecture Style

According to Handinoto (1998) and Budihardjo (1986), elements of architectural style can be divided into 4 main elements, namely: floor plan, appearance, building shape, and construction system. The plan is to see horizontal buildings as high as 1 meter from a height of 0.00 buildings with the upper part of the building removed. According to Handinoto (1998), plans in the Indische Empire's architectural style (Ages 18-19) are determined by the shape of a full symmetry plan, there is a central space, and there is a terrace that surrounds the floor. Whereas the Transitional Architecture (1890-1915) was determined by a full symmetry plan, and there was a terrace on the floor. Modern colonial architectural plans (1915-1940) are determined by asymmetry (more varied), there is no terrace on the floor and uses light-retaining elements.

The physical form of a building appears in two dimensions. Visible images can be drawn clearly or added shadow effects to strengthen the dimensions or back and forth fields in the building. According to Handinoto (1998), the elements seen in the Indische Empire Style (Century 18-19) are determined by: the dominance of Greek-style columns, there is a front terrace (*voor galerij*), there is a back porch and looks symmetrical. For the transitional architectural style (1890-1915), the element seems to be determined by: there is an attempt to remove the Greek-style column, there are gables, and there is a tower (tower) at the entrance. For modern colonial architectural styles (1915-1940), determined by: it seems not symmetry, and it looks clean design. The use of building materials is all materials used for construction purposes. Many natural ingredients, such as clay, sand, wood, and stone.

According to Handinoto (1998), that the architectural style of Indische Empire (Ages 18-19), is determined by: the main construction building materials are bricks, both columns and walls, wooden building materials especially on horses, frames, and doors, and not many us glass. In the building style of the Transitional Architecture (1890-1915), the use of building materials Bricks on the columns and walls, the main materials of wood in the horses, frames, and doors, and the use of glass in the windows are still very limited. Building materials in the buildings of the Modern Colonial Architecture style (1915-1940), mainly are: concrete building materials and the use of glass material is quite wide (especially in windows). The construction system is the way in which the structure of a building is carried out (a matter of strength, connection of elements/parts that are connected in detail). The structure is that the elements are placed and interconnected with the intention that the structure has the nature of being able to withstand certain loads (Sumalyo, 1993; Kurniawan, 2016). The loading of building structures is diverse and complex (complex). Buildings accommodate living people, movable items, varying wind loads, static structures, and building materials all carried by the structure or frame of the building and channeled to the ground through the foundation. However, according to Handinoto (1998), that the construction system elements in the Indische Empire-style building (Century 18-19), are: on the use of bearer Walls, with rows of columns on the front and rear terraces; then using a column and beam construction system, and using a roof shield construction with tile roof coverings. The building style of the Transitional Architecture (1890-1915) uses a system of bearing wall construction with striking front gables, using the form of gable and shields by using tile roof coverings, and There are attempts to use additional construction as ventilation on the roof. For the Modern Colonial architectural style (1915-1940), using the framework construction system, so that the wall only functions as a cover, still dominated by gable with roof tile or shingle cover material, and there are parts of the building using concrete construction, using a flat roof of concrete, which has never existed (Sumalyo, 1993; Kurniawan, 2013)

### **The architecture of *Gedong Maskerdam***

This palace was founded by the Kingdom of Karangasem with the king of Anak Agung Gede Jelantik at the end of the 19th century. At that time the territory of the Karangasem Kingdom expanded to Lombok Island. This shows that the Kingdom of Karangasem has experienced its heyday. Balinese people gather in a community from century to century and experience adaptation in their socio-cultural life. During its history, adaptation emerged in various fields of life, including the spiritual field. From the mystical, anthological, and functional times, it seems that architectural works have undergone improvements through slow adaptation without leaving the existing elements, which then make traditional Balinese architecture. The same applies to architecture in Agung Karangasem palace. Various architectures, originating from outside Bali, and other adjustments can be found in this palace. (Agung, 1986; Sulistyawati, 2008; Megawangi, 2013).

The layout in Agung Karangasem palace does not follow the palace spatial pattern in general in Bali, but follows the temple pattern that uses the *Tri Mandala* concept, which is divided into three parts, namely the main (inner), middle (middle) and non-oppressive the division of space in Agung Karangasem palace was simpler than the other large palace which also functioned as the place of the previous kings (Gelebet, 1985; Dwijendra, 2009; Salain, 2015).

Agung Karangasem palace is unique in architecture and seating patterns. Agung Karangasem palace floor plan has two types, namely the traditional type in the south and the modern type in the north. The southern palace area is

an older palace built previously by kings in Agung Karangasem palace around 1875. While in the northern part of the palace area which was built in 1900, it has more modern characteristics than the southern region. Modern elements can be seen from the shape of the building, ornaments used, and the names of the buildings used. The manifestation of architecture in this region is seen as a foreign influence, especially the thick one seen is Dutch influence. Dutch influence began after the Karangasem dynasty in Mataram palace was ruled by the Dutch in 1894, then the Netherlands appointed Anak Agung Gde Jelantik as Stedehouder I and occupied Amlapura palace, now called Agung Karangasem palace. The influence of this external culture is the result of the involvement of the Dutch architect named Van der Heutz, who collaborated with local undagi. The European influence is seen in the style of the main building with a large veranda. Agung Karangasem palace discussed in this study is a modern type. The *Gedong Maskerdam* building is in the northern region of the modern type palace (Gelebet, 1985; Dwijendra, 2009; Salain, 2015).

The name *Gedong Maskerdam*, this term is clearly not from the Balinese language. But this was inspired by the name of the Netherlands (Amsterdam). The Balinese name is *Saren Agung*, as the king's residence in the real sense (sleep and family activities) called the *Saren Agung* (Raja's residence) in the palace in the form of *Bale Bandung*, a building that has a room and terrace, with wooden poles according to bale size (can also be flat *bale*), namely *Bale Bandung* which was developed into pole 22. While *Gedong Maskerdam* this space pattern is almost the same as *Bale Gunung Rata*, but the dimensions are bigger. Similarly, pole material on the terrace consists of brick, wood, and metal (iron), unusual for similar buildings in traditional Balinese architecture (Agung, 1986; Sulistyawati, 2008; Andiani, 2014).

### 3. Research Methods

The type of research used is rationalistic qualitative with descriptive method, descriptive method aims to find out things that are related to the state of things. Descriptive method is done by collecting data from the results of field observations, documentation/photo, and literature studies related to the object of study. Observations on the architecture of the *Gedong Maskerdam* building were carried out by looking at and observing the style and visual character of the building directly in the building, which was the case study in this study. Observation of building styles includes plans, looks, building materials used, and construction systems used. Observation of visual characters includes the form of roofs, exterior walls, doors, and windows. Documentation/photo is done by photographing the condition of the building and recording information and data obtained in the field. Literature study is carried out by studying the writings and various concepts and various theories related to the development of Dutch colonial architecture in Indonesia and the history of *Gedong Maskerdam*, so that data can be obtained to analyze the visual style and character of buildings (Nasution, 2001; Moleong, 2010; Groat, 2013).

### 4. Result and Discussion

#### Floor plan

*Gedong Maskerdam* is the building where the king lives. Right in front of *Gedong Maskerdam* there is a *Pemandesan Bale* as a place of religious ceremonies. West of *Gedong Maskerdam* there is a *Bale Pawedan* differentiation which is a sacred building, while behind *Gedong Maskerdam* there is a *Gedong Londen* building as a residence for the royal family surrounded by other *gedong* buildings such as the *Gedong Betawi* building, *Gedong Yogya*, and *Ekalanga*. *Gedong Maskerdam* has a full symmetry plan, like a building plan commonly used in buildings in the era of the 18-19 century or known as the Indische Empire Style era. *Gedong Maskerdam* as the king's residence in the form of *Bale Bandung*, is a building that has a room and terrace. While this *Gedong Maskerdam* pattern is almost the same as *Bale Gunung Rata*, but its dimensions are eight times larger. *Gedong Maskerdam* has a front porch (*Voor galerij*) and a back porch (*Achter galerij*), to avoid direct sunlight and rain water. Looks symmetrical following the shape of the building plan, using a square wooden column on the front porch (*Voor galerij*) and back porch (*Achter galerij*). Has 6 entrances, namely: 5 entrances from the front and 1 entrance from behind. *Gedong* is equipped with 4 bedrooms. The entrance of *Gedong Maskerdam* is protected by sun/rain protection/barrier elements in the form of a corridor on the left and right sides of the building, also behind

the building. The use of protective/light retaining elements is found in Indische Empire Style buildings (Ages 18-19).

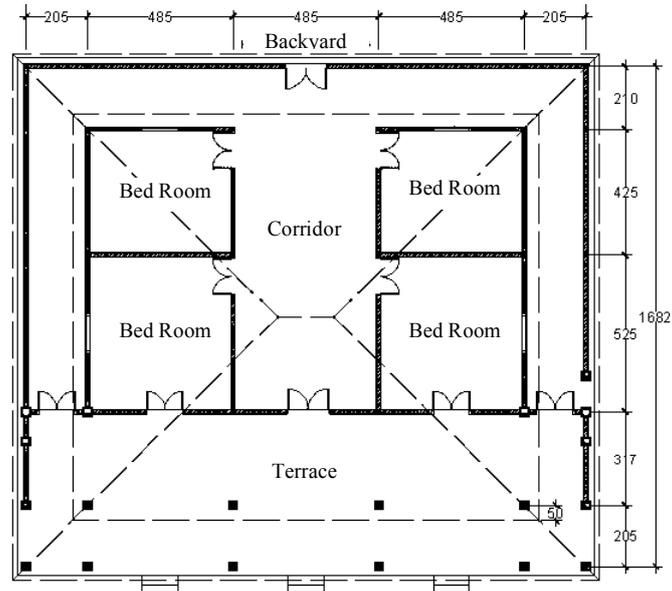


Figure 1. Plan of *Gedong Maskerdam* Building  
Source: Observation, 2018

### Elevation

The *Gedong Maskerdam* building initially functioned as the king's bed and subsequently functioned as a place to receive royal guests. The form appears symmetrical building, and there are columns and appear to reflect the form, follow, function, or clean design. The building looks decorated with 3 entrances, 1 entrance to the corridor and 2 entrances to the dining room and to the bedroom. Each side of the right and left has 1 entrance to the back of the building. The corridor on the left, right and back of the building resulted in the building and lighting on the building going well. There is a terrace on the front of the building, and the terrace is supported by rows of iron columns wrapped in concrete at the bottom. The roof of the building is in the form of a shield with a slope between 380 to 580. The terracotta tile roof cover with wood construction. The walls in the building are bearing walls made of bricks with a thickness of 30cm. The walls are finely textured, made from a mixture of river stone and limestone in plaster. The door uses the main material from wood carved with paint finishing. On the front, there is a building column made of iron combined with a pair of square bricks, the column used is 20 x 20cm.



Figure 2. Elevation of *Gedong Maskerdam* Building  
Source: Observation, 2018

### Building Materials

The roof of the building uses wood as the main structure with a roof covering using tile. The wall uses brick material as the main construction material for the wall of one stone with a thickness of 30 cm. Finishing on walls uses limestone as stucco. Frames, doors, and windows use wood. The use of iron material can be found, especially in the building column and on the trellis of the windows as the safety of the building. While on the floor of the building using tile material on the terrace and terrazzo in the inner room.



Figure 3. Use of Materials on Terraces, Columns, and Building Windows

Source: Observation, 2018

### Construction System

The *Gedong Maskerdam* building looks sturdy because the strength of construction is very prioritized especially the use of basic materials such as transverse brick (one stone) and the use of selected wood. Roof construction uses the form of a pyramid roof. The height of the wall is approximately 5m, which is designed with a high wall structure. Construction of the column is made sturdy as in the general colonial building. The use of this kind of column is not merely a consideration of construction but has aesthetic value, especially decoration, on the pedestal column or entablature section. This kind of column is known as a column of order architecture, which is the influence of classical European building constructions. This kind of column stall is commonly used in the construction of colonial style buildings in a number of places in Indonesia. On the wall, there is a hole that serves as natural lighting. The shape of the roof used is a simple gable form, without using a ceiling. The air can flow well because it is equipped with windows that are on the left and right sides of the building (cross circulation)



Figure 4. Construction System on The Side, Terrace, and Back of The Building

Source: Observation, 2018

### 5. Conclusion

The style of the Dutch colonial heritage building *Gedong Maskerdam* is predominantly influenced by the *Indische Empire Style* (Ages 18-19). The visual characteristics of the buildings of the Dutch colonial heritage *Gedong Maskerdam* include: It has the form of a shield roof, with a slope angle of  $38^{\circ}$  to  $58^{\circ}$  with tile roof covering material. The wall is a construction of a bearer wall, thick walls with a thickness of between 30cm, smooth textured walls,

made of a mixture of river stone and limestone in plaster. The building column is made of square iron, the column used is 20 x 20cm in diameter. The model, type, size, number, and placement of the doors of each building are different. Large diameter doors, double doors, using wood materials. The window has a model of massif wood panel windows and blinds windows. The *Gedong Maskerdam* building as a legacy of the past, the community should still maintain and preserve the Dutch colonial architecture as one of the supporting elements of the old city character in Karangasem Regency. As well as to improve the quality of the environment and architecture that has architectural and historical values.

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