

Layout of the Islamic Mataram Palace in Plered: Reinterpreting Defence Aspects for Mitigation-Based Regional Planning

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Abstract:

The palace, as a symbol of power, must be protected from various attacks by enemies/external parties. This effort is carried out by utilising various existing resources, both natural and those that must be provided. In this regard, a reinterpretation of the defence system of the Islamic Mataram Palace in Plered is necessary to explore spatial planning principles relevant to disaster mitigation-based regional planning. Therefore, the question raised in this paper is how the reinterpretation of the Islamic Mataram Palace's defence system in Plered can be utilised for mitigation-based regional planning. This paper aims to identify and reconstruct the layered defence principles of the Plered Palace based on geographical and archaeological evidence as a model for flood mitigation. This paper uses a descriptive-analytical method. Data were collected from field observations and literature. The data are presented descriptively and pictorially. Furthermore, the data were analysed qualitatively by their context and function, and conclusions were drawn. The results show that the defence system at the Plered Palace was designed in an integrated manner, utilising the geographical conditions and enhancing it with the construction of a pool and surrounding fortifications (Cepuri). The fortifications were constructed of white stone and brick, arranged in thick walls. The combination of natural conditions, the pool, and the artificial fortifications created a layered defence pattern. The first and second layers were barriers, namely the river and the pool of Segoroyoso, and the third was the fortification as a final line of defence. Reinterpreting this layered fortification, it can be adapted into a flood mitigation-based planning concept for the Plered area. Flood mitigation utilises ponds or reservoirs, which is now called embung, to collect overflow from residential areas to the artificial lake of Segoroyoso, then joins the two rivers of Opak and Gajah Wong, and stream down to the sea. Research shows that the Plered Palace was built with security consideration aspects of the utilisation of both geographic (natural) and man-made (built) conditions, and those existences can be adapted for disaster mitigation in the modern era.

Keywords: Palace layout; fortification; layered defence; flood mitigation

Abstrak:

Istana, sebagai simbol kekuasaan, harus dilindungi dari berbagai serangan musuh/pihak eksternal. Upaya ini dilakukan dengan memanfaatkan berbagai sumber daya yang ada, baik alami maupun yang harus disediakan. Dalam hal ini, reinterpretasi sistem pertahanan Istana Mataram Islam di Plered diperlukan untuk mengeksplorasi prinsip-prinsip perencanaan spasial yang relevan dengan perencanaan regional berbasis mitigasi bencana. Oleh karena itu, pertanyaan yang diajukan dalam makalah ini adalah bagaimana reinterpretasi sistem pertahanan

Istana Mataram Islam di Plered dapat dimanfaatkan untuk perencanaan regional berbasis mitigasi. Makalah ini bertujuan untuk mengidentifikasi dan merekonstruksi prinsip-prinsip pertahanan berlapis Istana Plered berdasarkan bukti geografis dan arkeologis sebagai model mitigasi banjir. Makalah ini menggunakan metode deskriptif-analitis. Data dikumpulkan dari pengamatan lapangan dan literatur. Data disajikan secara deskriptif dan bergambar. Selanjutnya, data dianalisis secara kualitatif berdasarkan konteks dan fungsinya serta kesimpulan ditarik. Hasil penelitian menunjukkan bahwa sistem pertahanan di Istana Plered dirancang secara terintegrasi, memanfaatkan kondisi geografis dan memperkuatnya dengan pembangunan kolam dan benteng di sekitarnya (Cepuri). Benteng tersebut dibangun dari batu putih dan bata, disusun dalam dinding tebal. Kombinasi kondisi alam, kolam, dan benteng buatan menciptakan pola pertahanan berlapis. Lapisan pertama dan kedua adalah penghalang, yaitu sungai dan kolam Segoroyoso dan lapisan ketiga adalah benteng sebagai garis pertahanan terakhir. Dengan menafsirkan kembali benteng berlapis ini, dapat diadaptasi menjadi konsep perencanaan berbasis mitigasi banjir untuk kawasan Plered. Mitigasi banjir memanfaatkan kolam atau waduk, yang sekarang disebut embung, untuk mengumpulkan limpasan dari kawasan permukiman ke danau buatan Segoroyoso, kemudian bergabung dengan Sungai Opak dan Gajah Wong dan mengalir ke laut. Penelitian menunjukkan bahwa Istana Plered dibangun dengan mempertimbangkan aspek keamanan melalui pemanfaatan kondisi geografis (alami) dan buatan manusia (bangunan) dan keberadaan tersebut dapat diadaptasi untuk mitigasi bencana di era modern.

Kata kunci: Tata letak istana; benteng; pertahanan berlapis; mitigasi banjir

INTRODUCTION

The current location of the Islamic Mataram Palace in Plered is in Plered District, Bantul Regency, amidst a densely populated new settlement. However, the original layout of the palace buildings and surrounding structures can still be traced. Like other palaces, Plered was equipped with a perimeter fort (Priswanto, 2012), as were other Islamic Mataram palaces such as Kotagede, Kerto, and Kartasuro. Plered's location, like Kerto's, is at the confluence of two rivers, a situation unlike that of Kotagede and Kartasuro. This situation is very interesting for examining the Mataram King's defence planning in Plered and its relationship to the mitigation efforts implemented at that time. This is important for reinterpreting regional planning considering mitigation.

The existence of Plered City has been extensively researched and discussed by many experts. A literature review revealed three groups of studies: 1) The history of the Pleret Palace, the third location after Kotagede and Kerto, founded by Sunan Amangkurat I (H. J. de Graaf, 1985; M. Handayani et al., 2024; Siswanta, 2020); 2) The layout and variety of buildings in and around the Plered Palace (W. Handayani et al., 2020; Pratomo & Pranggono, 2017; Rosidi et al., 2013); and 3) The palace's defensive structures, consisting of a perimeter fort made of red brick and Segoroyoso, were created by damming the Opak River until it flooded (Pratama, 2019). Those studies show that no research has yet been conducted discussing the layered defences at the Pleret Palace for use in mitigation-based regional planning.

Therefore, the purpose of this paper is to complete the section on the layered

defences built at the Plered Palace. The research questions are: 1) how was the layered defence system constructed by Amangkurat I in Plered developed, and 2) how can this defence system be reinterpreted for mitigation-based regional planning.

This study is based on the argument that the location of the palace area in the past was determined by numerous considerations. This was also the case when Sunan Amangkurat I moved the palace from Kerto to Pleret, which is in roughly the same area, namely at the confluence of two rivers, the Opak and Gajahwong. In addition to natural factors, socio-political conditions were another important factor influencing the planning of the defence development of the palace area, which served as the centre of government and the residence of the king and his family.

RESEARCH HISTORY

In general, previous research about Islamic Mataram in Plered includes historical studies, materials related to the palace and fort, and materials located outside the palace's core zone. Graaf (1985, 1987, 1986) discusses the early history of Islamic Mataram, its peak of glory, and its subsequent decline. The early history of Mataram covers the clearing of the forest to establish the Mataram palace, its genealogy, the conflict with Pajang, and describes the figure of Panembahan Senopati and his role in leading Mataram. The peak of Mataram's glory highlights the military, territorial, and cultural triumphs that occurred during the reign of Sultan Agung. Meanwhile, books on the decline of Mataram highlight the reign of Amangkurat I, whose government experienced decline. During his reign, the king's control of power declined, leading to internal conflict, rebellion (Trunojoyo), the weakening of royal sovereignty, and the collapse of the Plered palace, prompting his successor to move the Mataram government centre to Kartasura.

Meanwhile, studies concerning materials related to the palace and fortress include objects around the Mataram centre of power, such as the palace, fortress, and keputen (religious palaces). Some even discuss the material remains within the palace in detail. Nayati (Nayati & Hadisumarno, 1985) examined the location of the Plered Palace through aerial photography. This study argues that the limited remains found necessitated a different method, without the need for excavation. The results indicated that the Islamic Mataram Palace in Plered was situated between two rivers, the Opak and Gajahwong. The location of the palace was depicted as north of the confluence of the two rivers in the Plered area. These findings confirm the location of the royal fortress inside and outside the fortress. Meanwhile, Handayani et al. (2020) succeeded in mapping the palace, which includes various site components such as the Grand Mosque, fort, road network and hydrography, town square, balekambang (royal pool), Segarayasa (artificial lake), dam, and other buildings within the palace complex (figure 1).

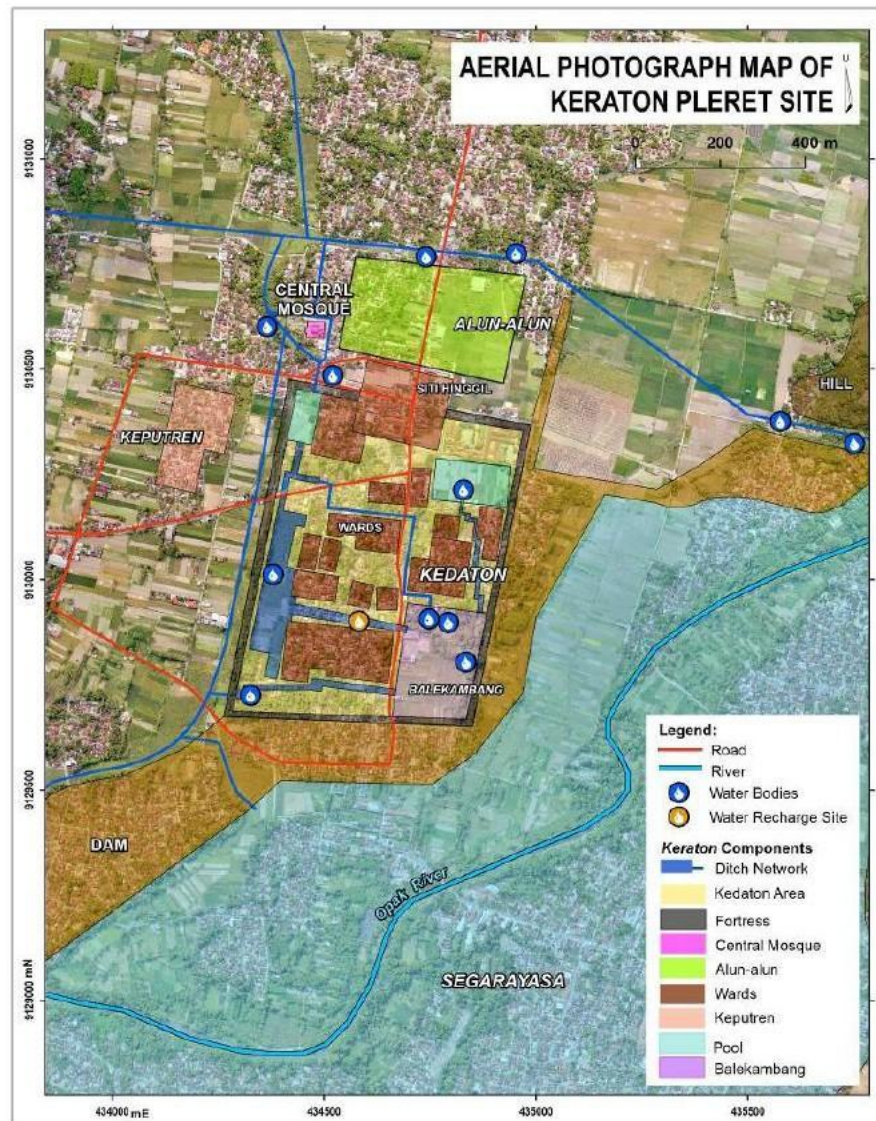


Figure 1. Map of the position of the Plered Palace and other buildings or facilities (sumber: (W. Handayani et al., 2020))

Regarding the fort, Priswanto and Alifah (2012) state that historical data describe the fort's complete form, but archaeological findings to date have not shown any fortifications on the north side. The fort was constructed of red brick and white stone arranged into walls 220-280 cm thick. The brick and stone were installed using the kosod technique, which involves interlocking bricks without adhesive (cement). A photobook displays photographs with narratives that facilitate readers' understanding of the components of the city and palace. These components include the surrounding fort, the grand mosque, the noble residence complex, the town square, the canal, the dam, Srimanganti, Kedaton, and Lemah Duwur. In addition, an important point in this book is the preservation efforts so that history and evidence remain well documented (Priswanto & Alifah, 2019). Another topic related to the fort in Plered, although incomplete, as it only

discusses the west side (Bantul Regency Cultural Heritage Expert Team, 2024).

Meanwhile, findings in the form of materials located outside the core zone of the palace, among others, are described by Chawari (2003), namely regarding objects related to Islamic Mataram that are outside the palace. Regionally, these findings are in the Kutanegara, Negara Agung, Manca Negara, and Pesisiran areas. The findings in southern Yogyakarta appear to still be within the Kuta Negara area, although quite far from the core of the palace. These findings include loose bricks that do not form a structure found in Mangir, Bantul. Another research location, namely in Tamanan, Bantul, obtained data in the form of pottery and porcelain fragments, while in Ambarketawang, Yogyakarta, brick structures, ancient wells, and pottery fragments were found.

METHOD

This paper employs a descriptive qualitative method, a research methodology that attempts to describe data to explain related phenomena (Moleong, 2017). The approach employed is a contextual case study, intended to guide the research process to deviate from its objectives. Data collection was conducted through literature and field observations to obtain a current picture of the field. Literature data was collected by reading and recording data related to the theme. This literature data comes from published articles accessible online or in physical form. Meanwhile, observations were intended to obtain a current picture and situation in the field. The field data was used to cross-check and assess field conditions in relation to the purpose of reinterpretation, ensuring relevance to the field. Analysis was conducted by linking literature data to obtain a

A comprehensive picture of the various buildings that once existed in the Mataram Islamic government complex in Plered. This description is obtained from historical and archaeological data; it is cross-checked between what has been mentioned in history, such as chronicles and reports of visits to Mataram at that time, and the records mentioned in the literature. Meanwhile, archaeological data gained from the literature are used to ensure that the historical accounts support or, at a minimum, do not contradict. Using data from various sources, the position of the fort in relation to other components of the Plered palace was mapped. Next, interpretation is conducted by examining the relationships between the data. Based on these relationships, the meaning behind the relationships is then uncovered. This step will yield an understanding of the fort's function at that time in relation to the palace and other components. These results will serve as a guide for reinterpretation that available to be applied to current life.

DISCUSSION

The Plered Palace was used during the reign of Amangkurat I, after the Mataram power centre was moved from Kerto (Siswanta, 2020). Therefore, this discussion of the fortress in Plered will focus on that king's reign. Based on the research history mentioned above, it is known that the royal centre was surrounded by a fortress and several buildings

outside the fortress, including a mosque, a town square, a women's quarters (keputren), a market, a cemetery, a canal, and a dam that drained stagnant water into a large pool called Segoroyoso. The Plered Palace is also flanked by two rivers: the Opak and Gajahwong. Therefore, based on the data presented in the research history, its function will be revealed and then reinterpreted.

The main component of the palace was the residence of the king and his family, which resided within the fortress. Other components surrounding it but outside the fortress included the grand mosque, market, noble residences, the town square, and the canal. So far, the remains of a thick wall at the Plered Palace site have been found as a cepuri wall. Field research has not revealed a thick wall structure located outside the cepuri. Another indication within the thick wall is the discovery of a umpak (base platform) locally known as Lemah Duwur. As the name suggests, this position is indeed higher than the surrounding area. This elevated position is reminiscent of the name Siti Inggil, which was placed inside the palace, for example, in the later Islamic Mataram period (Rully, 2012), and in other locations, such as the Kasepuhan Palace (Mutiah, 2017) and Kanoman Palace (Irfan & Purnama, 2020) in Cirebon. This comparison is quite convincing that the thick wall, which forms a rectangular pattern with a base found at the northern end, is the cepuri at the Plered Palace.

A fort's defensive function usually involves a moat (jagang). One function of the jagang is to prevent enemies from easily breaching the fort. However, the Islamic Mataram Palace in Plered not only had a jagang around the fort but also a large pond (segoroyoso) on the east and south sides of the palace. There are no articles or books that mention the function of the segoroyoso as part of the defence. The Babad Sengkala document, however, states that the segoroyoso was widened during the reign of Amangkurat I. Therefore, it can be argued that the widening of the segoroyoso indicates that the artificial lake was not yet fully fulfilling its function. It seems that the widening or expansion was due to the demands of the segoroyoso's greater role. Secondly, considering the location on the right side of the palace, it raises the suspicion that its function for supporting the palace's survival is not the primary function. Therefore, it is suspected that the role of the Segoroyoso was related to meeting the water needs of agricultural land. This function is supported by Mataram's status as an agrarian kingdom.

The function of the Segoroyoso for training soldiers in the waters is also relevant to a kingdom that prioritised maritime activities. For the Islamic Mataram Kingdom, maritime affairs were not only an aspect of life but also a crucial foundation for building its power as a major empire in the archipelago. Therefore, Mataram built and expanded important ports on the north coast of Java, such as in Tuban and Lasem (Muhsin et al., 2025), for trade and expansion, such as launching raids on East Java and Banjarmasin. For this reason, it is not surprising that Mataram, which is inland, built the Segoroyoso pool, which was used for training soldiers in the waters (Purwoko, 2020; Siswanta, 2020) as well as for pleasure and as a source of fishery.

Meanwhile, Plered was the third option for relocating the Mataram government centre. Plered was undoubtedly chosen for some reasons, such as geography and spatial location. The geographical reasons were related to food security and sovereignty. The

security reasons were based on Plered's location between the Opak and Gajahwong rivers. The river would act as a natural barrier against enemy advances toward the centre of government, as the Opak River flows eastward, turns westward and then meets the Gajahwong River. The rivers which meet south of the palace had formed a barrier that almost encircles the palace. Thus, Plered occupies an ideal position for security against natural factors. Amangkurat I stated that the second reason, spatial, was that the palace's relocation to Plered was an effort to build a larger palace. Building a larger palace certainly requires substantial natural resources. One way to achieve this is by expanding agricultural space supported by adequate irrigation. Thus, geographical and spatial reasons are quite logical for positioning Sogoroyoso in supporting the greatness and majesty of Mataram, with a role in supporting food sovereignty.

Based on these functions, Segoroyoso and the Opak and Gajahwong rivers can be reinterpreted for current needs. Linked to the current reality, the area behind the Plered Palace site, now toponymically referred to as *pungkuran* (the back of the palace), and towards the river, has become a residential area, with only certain areas remaining vacant. Segoroyoso's former function as an irrigation source can now be restored in a smaller form, becoming reservoirs to collect overflow from settlements to prevent flooding and then channel it into the river.

CONCLUSION(S)

Based on archaeological findings, there was a multi-layered fort, or perhaps more accurately, a multi-layered barrier. This multi-layered barrier included the Opak and Gajahwong rivers (natural layers), Sogoroyoso (artificial, acting as both a barrier and a source of life), Jagang (artificial), and Cepuri (artificial). However, it is recognised that this study is still limited to literature review and archaeological observations, resulting in an interpretation of the fort's past function, which is then reinterpreted to explore its potential use in the modern era. Thus, the reinterpretation is logical at the ontological level; however, new field data on elevation are still needed so that hydrological principles apply to the locations of the reservoirs being constructed. Therefore, the results of this research still need to be followed up with topographic and hydrological studies so that the reservoirs can be constructed in appropriate locations and function effectively.

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