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THE EXISTENCE OF SINOM HOUSE IN BENDOSARI, KADEMANGAN, BLITAR IN TERMS OF SPACE CONFIGURATION

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ABSTRACT

Traditional houses are important to maintain and explore because the values of wisdom are embedded in them. Sinom House is an architectural manifestation of Javanese people's homes with the characteristic of a pyramid roof shape; in general, Sinom houses can be found in Java. In this study, the object of the Sinom house studied was in Bendosari Village, Kademangan, Blitar, which has the character of a rural area with a rocky mountainous landscape that tends to have hot weather, as well as the characteristics of a community working in agriculture, from these factors resulting in a simpler Sinom house shape in terms of area and spatial configuration. This study aims to identify the characteristics of the existence of the spatial configuration of the Sinom house in the location of Bendosari Village, Kademangan District, where the factors to be identified come from comparative literature sources, namely aspects of floor plan typology, spatial composition, roof shape and structure, and a general description of the research location. As a traditional vernacular residence of the Javanese people, these characteristics can be reviewed from the aspect of the spatial configuration that forms a single unit of the Sinom house. In the aspect of spatial configuration, the variables studied are floor plan typology, spatial composition, and roof structure. The method used in this study is descriptive qualitative in both stages of data collection and analysis. Data collection is done by direct observation, architectural documentation, and interviews as supporting data. The results of this study are expected to deepen the knowledge of Javanese residential architecture in rural areas and can be useful for enriching architectural knowledge and further research.

Keywords: existence; space configuration; Sinom house

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INTRODUCTION

Existence, which is rooted in the philosophy of Existentialism, means something that has an actual form, defined as a state that is real, known for its existence and recognized for the existence of an object or anything tangible (Ekawati, 2017). On the KBBI website, existence is defined as a noun or noun that means existence, or something that exists and can be recognized and seen. In the book Ethics and Philosophy of Communication by Muhammad Mufid, existence has the meaning that something that exists, whether objects or anything, existence is always related to humans. In architecture, the notion of existence is inseparable from human existence with its historical background, as well as architectural objects that are viewed from the object itself and other objects around it, as well as objects with the same style (Hanifati and Harjoko, 2020). Existence in traditional architecture can be found in the embodiment of buildings as a medium for the existence of cultural heritage; a deeper form of architectural existence can be observed in its spatial configuration; the spatial configuration in this case can be interpreted as a spatial arrangement that is closely related to the occupants' activity patterns (Aditya Fitriyanto, 2020).

Waterson (Weichart, 2020) reveals that the factors that cause the diversity of vernacular architectural formations in Indonesia are influenced by economic factors, social status, education level, wealth, urbanization, and globalization, although the main factor influencing diversity is the location where the architecture is located. In current developments, traditional vernacular houses as a manifestation of old traditional works are increasingly abandoned for various reasons, which are essentially based on changes in mindset supported by social changes and the community environment (Ekaraga, Widjajanti and Sulistyo, 2018). These changes, result in today's very rare generation of young people, in particular, less exploring their traditional culture due to the availability of information and forms that are very rarely found around them (Suneki, 2012). Whereas the values of local wisdom contained in the dwelling can still contribute, to universal and modern values that are developing at this time (Djono, Utomo and Subiyantoro, 2012).

In research on the concept of traditional Javanese space in a cultural context by (Kartono, 2005) the configuration of space as a deep form of cultural existence, especially in this research is a Javanese-style residence generally has a space configuration order with a linear formation backwards. The linear formation forms several building periods, where the foremost period is named Pendhapa as the main gathering space, Pringgitan as a transitional space in the middle generally for Wayang performances, and the deepest space is Dalem. The spatial configuration in Javanese dwellings recognizes a concept of binary opposition that distinguishes between spaces, resulting in an understanding of space that distinguishes between outer and inner space, right and left, activity space and rest space, and right Sentong and left Sentong. The space configuration also indirectly contributes to producing the most prominent visual identity in Javanese dwellings, namely the roof formation, which is generally divided into the basic forms of Kampung, Limasan, and Joglo.

Sinom House is one of the types of traditional vernacular residential formations inhabited by Javanese people in several regions. Rumah Sinom is a form of dwelling; in general, architecture in Javanese cultural works is realized in the form of housing; the form of traditional Javanese housing is oriented to the position of social status and the location

of the owner's residence. In general, housing in Javanese architecture is divided into three categories, namely housing for nobles, housing for people in villages, and housing that functions as a place of worship (Rooseandriantini, Santoso and Ambarwati, 2019). As a dwelling located in the tropical-humid archipelago, the roof is the most prominent part of the architecture among other parts. Similarly, in Javanese architecture, the roof is the most prominent part of an identity, and its formation is based on the social status and position where the occupants are located. The roof formation of Javanese architecture is classified into Tajug roof forms for residences functioning as places of worship, Joglo and Limasan roofs for the nobility, and Kampung roof forms for people living in sub-villages or villages (Susilo, 2015).

Research on the form of Javanese culture in the form of limasan houses (Rohmah, 2020), revealed that the Sinom house is a traditional Javanese house that is classified as a dwelling with a roof formation in the form of a limasan. In general, Javanese limasan houses have a building framework formed of bamboo, coconut trunks, glugu, and teak wood. Javanese traditional houses, especially limasan, are built using a certain frame system, which ultimately forms a rectangular building, and then the inner space of the building is partitioned with organic materials to form small spaces. The division of space in a Limasan-shaped house, including the Sinom house, which is located in a village, can generally be characterized by a house that does not have a Pendapa and Pringgitan; there is only the Dalem or core space which is divided into Emperan, the middle part in the form of space, and Sentong which is divided into three parts: *Tengah* or middle side, *Kiwa* or left side, and *Tengen* or right side.

Sinom houses as an embodiment of Javanese dwellings can generally be found in Central Java, such as in Cimrutu Cilacap (Kusmayadi, 2015), Yogyakarta Special Region, and parts of western East Java. Although the naming and spatial layout of Sinom houses is relatively the same between regions, the prominent difference as a characteristic is in the formation of the roof. In research on the typology of vernacular house architectural forms in Java by (Hamka and Winarni, 2023). The Sinom house as a Javanese residential formation has specifications depending on the user and occupants (Muhadiyatiningsih and Fathonah, 2020). It was identified that the Sinom house in Rembang has a two-plane roof formation with an elongated square shape equipped with decorative elements at the ends and center of the roof, the Sinom house in Ponorogo has a pyramid roof with a lower roof height than the Sinom Rembang house, and the wall partition is close to the face of the building (Sari, Antariksa and Ridjal, 2016). Another study that explored the ethnomathematics of Joglo traditional houses in Tulungagung, identified that Sinom houses have a close relationship with Joglo houses, so the formation of Sinom houses in Tulungagung more resembles Joglo houses with high roof planes (Sulistyani *et al.*, 2019).

From the description and previous research, especially regarding the configuration of space in the research on the concept of traditional Javanese space in a cultural context by (Kartono, 2005), the Sinom house as a residential with a similar style needs to be researched on how its space configuration compares to the concept of space configuration that has become a standard and differences with other regions. The selection of Bendosari village in Kademangan sub-district, on the south side of Blitar district, was not only chosen based on the availability of Sinom houses but also in terms of the natural environment that

is more characterized by heat, as well as the daily character of the community, causing the form of Sinom houses to have a different character in other areas, in the area of Javanese communities. Therefore, this research aims to identify the characteristics of the existence of the Sinom house space configuration at the Bendosari village location, Kademangan sub-district, where the factors to be identified come from comparative literature sources, namely aspects of plan typology, space composition, roof formation, and structure, as well as an overview of the research location.

METHODS

The research method used in this research is the descriptive-qualitative method. The descriptive qualitative research method in this research is applied to both the data collection and data analysis stages. The data collection method is divided into two stages. The first stage is secondary data collection in the form of literature studies as research support as well as a comparison of the object under study. The second stage is primary data collection through observation, measurement of houses, taking pictures, and supporting interviews. Primary data collection is carried out based on research objectives and supporting literature, which is related to aspects of space configuration characteristics related to the general description of the research location, plan typology, space composition, and roof formation and structure on research samples. The sampling method was carried out by the purposive sampling method. By first identifying the typology of plans at the location and selecting several samples, which would then be explored for their spatial configuration characteristics, the data collection location was chosen in the hamlet with the most availability of samples, namely Krajan hamlet.

The primary data that has been obtained is then processed using 3D modeling using Autodesk Revit 2023, interpreting building photos with descriptions, and describing the results of supporting interviews. The data is then analyzed exploratively to determine the characteristics of the existence of the Sinom house space configuration. Considering the very limited literature sources that discuss the Sinom house, the literature sources used are literature sources that are broadly related to the context of spatial configuration in Javanese-style buildings or literature on the existence of Sinom houses in other regions. So that the results of data analysis in this study are expected to determine the characteristics of the spatial configuration of the Sinom house at the research location.

RESULTS AND DISCUSSION

General Overview.

Bendosari village in Kademangan sub-district is a village located approximately 20 km from the center of Blitar city, as a research location Bendosari village is located at coordinates -8.215172169967612, 112.10815889292098, with elevations ranging from 250 meters above sea level to 266 meters above sea level, so this village can be classified as a transition area between lowland and highland areas.

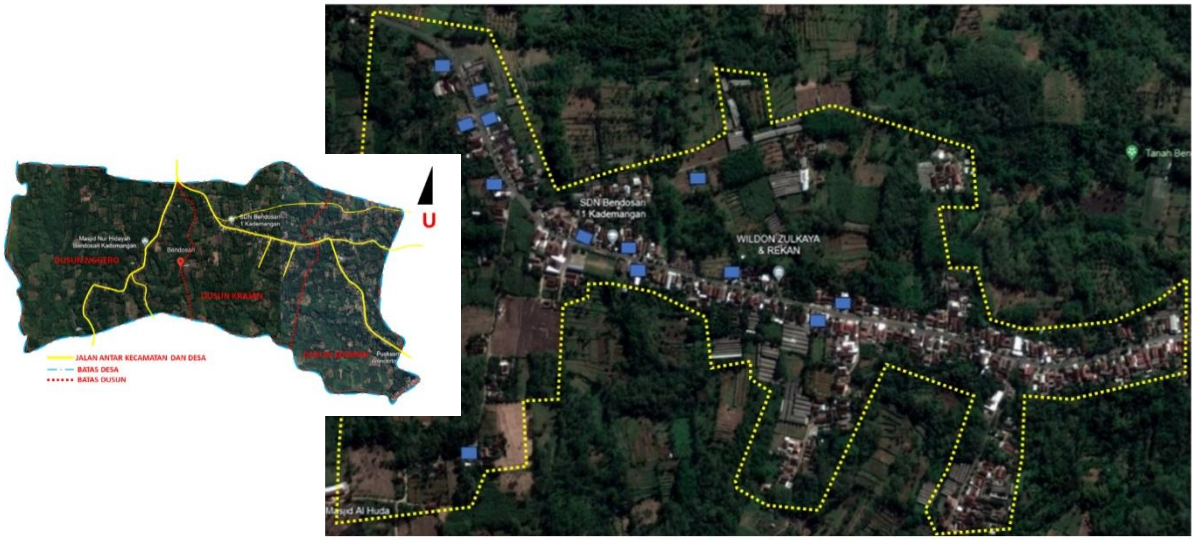

Figure 1. Map of Bendosari and populations for sample.
Source : processed from (GoogleMaps, 2023)

Bendosari Village is a village that has a linear settlement character following inter-district roads and village roads as shown in (Figure 1). Based on interviews with the expert judgment of a village elder, the linear settlement pattern in this village has a density between houses based on cousin kinship or one ancestor. With residential distances between residents of the house ranging from 1 meter to 10 meters. Meanwhile, the back side of the settlement is a Tegalan-type cultivation, which is also the occupation of the majority of villagers. The architectural formation of houses in this village can be categorized based on the roof formation, which is divided into two formations, namely traditional house formation and modern house formation. Traditional house formation can be identified from the roof formation of Srotongan houses and Sinom houses, with sizes in traditional dwellings having dimensions between 8 to 12 meters on the facade and 8 to 13 on the side view, while modern houses have pyramid and gable roof formations with dimensions between 7 to 12 meters on the facade and 8 to 30 on the side view.

Figure 2. *Sinom* house towards the surounding environment.
Source: Personal documentation (2024).

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Based on direct observation at the research location, Sinom House is a residential formation that has the most prominent physical characteristics of the roof among other residential formations, with a pyramid formation that is higher than the surrounding houses, which are on average in the form of a gable roof, or Srotongan. The existence of Sinom houses provides harmony and distinctive characteristics in Krajan Hamlet, as seen in (Figure 2). The unique roof formation is formed from the composition of space in the Sinom house, so the configuration of space is very influential in the existence of Sinom houses in Bendosari village. The next discussion will discuss the typology of the Sinom house plan, the composition of space in the house, the structure, and the roof of the building.

Sinom House Plan Typology.

Typology can be interpreted as a classification that is carried out systematically based on general characteristics in any science or object (Manuchehr, 2022). Meanwhile, the typology of the sinom house as a Javanese-style house refers to previously studied literature, which defines that in general, Javanese-style houses have at least a pendapa, pringgitan, and dalem with several senthong (Kartono, 2005). The selection of three typologies in this discussion is based on the placement of the kitchen, or Pawon, against the main Sinom building.

The results in the field show that the Sinom House in Bendosari village generally consists of two building masses that are combined but have two types of roofs. The main house in this case is called the Sinom house, and the companion house is called Gandhok/Pawon, which functions as a kitchen or is also called Pawonan. In Bendosari village, there are three types of typologies of arrangement between the main Sinom house and the Gandhok/Pawonan house.

The first type of Sinom house, as shown in (Figure 3), is a type of house with building orientation towards the north-south direction, with the position of Gandhok/Pawonan on the left side of the main Sinom house. The main building of the Sinom building functions as a place to receive guests, gather with family, and rest at night and during the day, while the Gandhok or Pawonan building functions as a service building, especially cooking and eating and bathing activities. The Gandhok or Pawonan building is attached to the left side of the main building, which is accessed through a door; generally, the Gandhok or Pawonan building in this type has a rectangular plan with the front side shorter than the main building's front side.

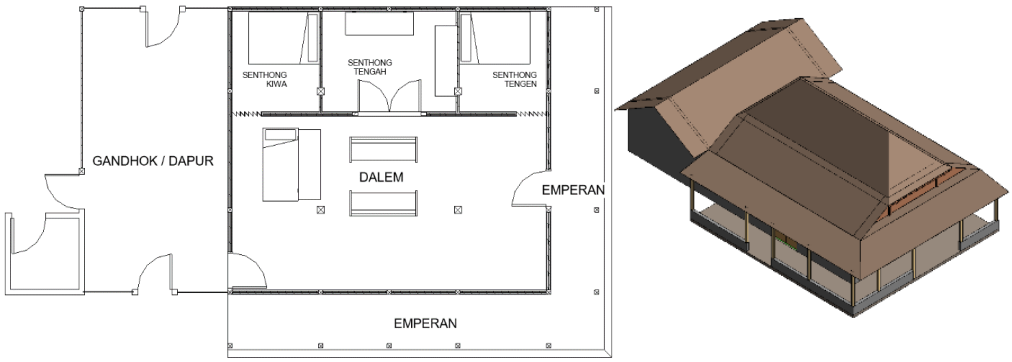

Figure 3. Sinom house type with Gandhok on the left side of the building.
Source : Personal documentation(2024).

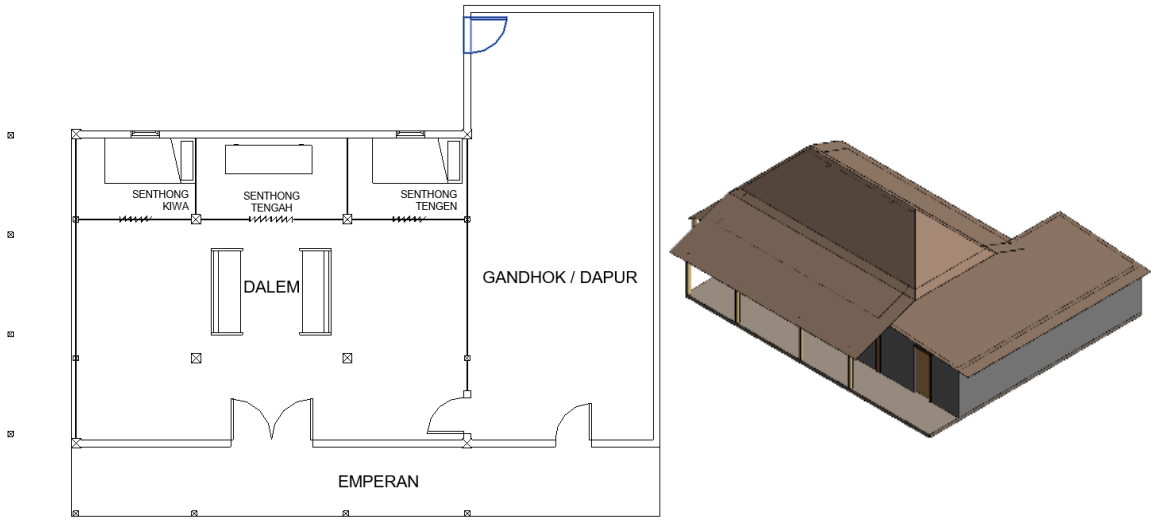

Figure 4. *Sinom* house type with *Gandhok* on the right side of the building.
Source : Personal documentation(2024).

The second type of Sinom house, as shown in (Figure 4), is a type of house with building orientation towards the north-south direction, with the position of Gandhok or Pawonan on the right side of the main Sinom house. The main space of the Sinom building functions as a place to receive guests, gather with family, and rest at night and during the day, while the Gandhok or Pawonan building functions as a service building, especially cooking eating and bathing activities. The Gandhok or Pawonan building is attached to the left side of the main building, which is accessed through a door. Generally, the Gandhok/Pawonan building period in this type has a rectangular plan with the front side shorter than the main building on the side.

The third type of Sinom house, as shown in (Figure 5), is a type of house with a building orientation towards the north-south direction, with the position of Gandhok or Pawonan on the back side of the main Sinom house. The main period of the Sinom building

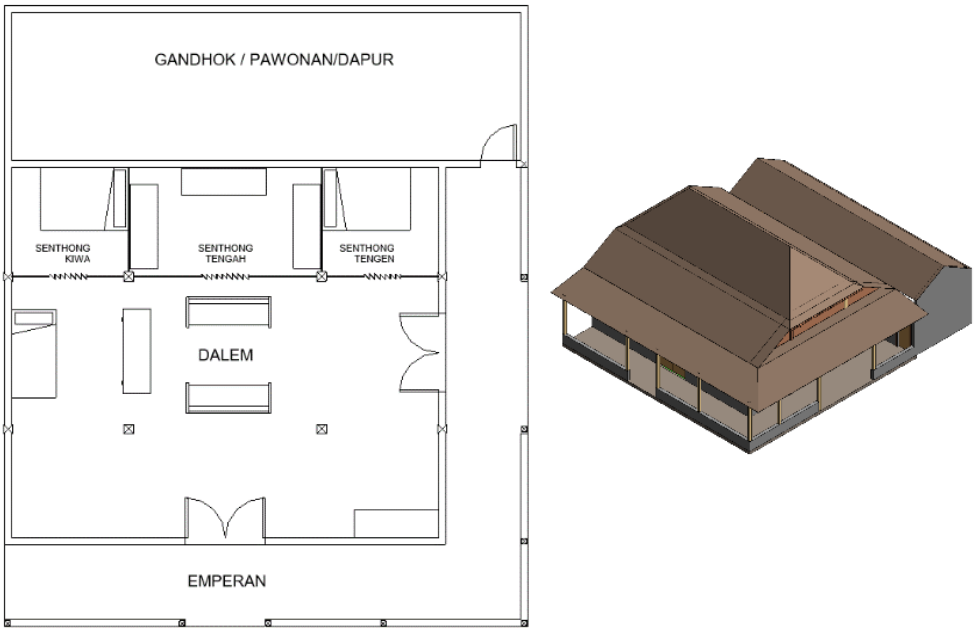

Figure 5. *Sinom* house type with *Gandhok* on the back side of the building.
Source : Personal documentation(2024).

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functions as a place to receive guests, gather with family, and rest at night and during the day, while the Gandhok or Pawonan building functions as a service building period, especially cooking and eating and bathing activities. The Gandhok or Pawonan building is attached to the back side of the Senthong room of the main building, which is accessed through a door. Generally, the Gandhok or Pawonan building in this type has a rectangular plan with the side shorter than the backside. The Pawonan room in Sinom houses is not always located at the back of the building; at the location, the thing that is considered in the placement of the Pawonan besides the north-south orientation is the position of the road towards the house, which affects the location of the side door of the house, which then determines the location of the Gandhok or Pawonan by not being close to the road or the direction of the guests coming or going back.

Space Composition of the Sinom House.

In a study conducted by J. Lukito Kartono (2005) on the concept of Javanese traditional space in a cultural context, it is explained that the spaces in traditional houses are arranged linearly backward, minimally in the form of one basic period with the composition of space in the form of left *Sentong*, middle *Sentong*, and right *Sentong* arranged in parallel, with *Dalem* in the form of space in front of the Sentong arrangement.

In the Sinom house in Bendosari village, Kademangan, Blitar, the composition of the space uses a traditional spatial arrangement that is generally used by the Javanese people as studied by J. Lukito Kartono above, as seen in (figure 6) with a similar arrangement where the left sentong, middle sentong, and right sentong are arranged in parallel. There is a Dalem in front of the Senthong; the only difference is in the position of the pawonan, which varies in placement. The composition of the Sinom house at the research location looks different when compared to the Sinom house in Kertosari, Ponorogo (Sari, Antariksa and Ridjal, 2016), in the Sinom house in Bendosari village, the composition of the floor plan is simpler by maintaining the composition of the floor plan like the traditional Javanese spatial arrangement, while in the Sinom house in Kertosari Ponorogo, the composition of the space is more complex and larger.

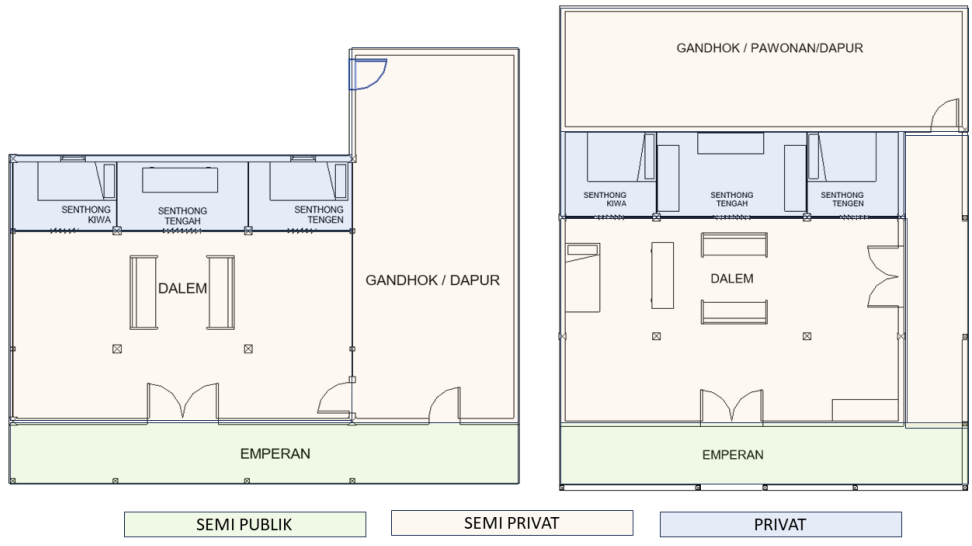

Figure 6. Space composition and zoning of the *Sinom* house.
Source : Personal documentation(2024).

In modern and traditional architecture, the concept of zoning in a house or building is known, which divides the privacy zones of users and guests, and in the traditional Javanese spatial arrangement, it is also related to circulation, which is the connection between spaces (Gunawan, 2009). In the findings that have been studied as in (figure 7), the Sinom house in Bendosari village has a linear zoning pattern to the back, starting with a semi-public zone on the building terrace or Emperan which functions in addition to the building terrace also for the initial reception of visitors, then Dalem has a semi-private zoning nature that functions as an open area for receiving guests as well as Pawonan where both rooms function as cooking and service areas so that permission is required from the homeowner to access them, while the private zone is found in the left Sentong room, middle Sentong, and right Sentong which function as a place to sleep, except for the middle Sentong which is deliberately left empty for personal reasons that function variously, as a place of worship, or storage of valuables, in these rooms outsiders are not allowed to access, or accessed in case of emergency such as helping or treating sick residents.

In the space inside the building that can be accessed by researchers, found that there are two types of *Dalem* rooms, the first is the Dalem room in the *Sinom* house does not have a roof or ceiling cover, so that the roof truss and roof structure are exposed and give an aesthetic impression as shown in (Figure 8).

The second type of *Dalem* room, is a *Dalem* room that has a ceiling cover as shown in (figure 8) which is made of bamboo finished with paint, this is to minimize dust from the roof truss space. The ceiling does not completely cover the roof but only in the space below the four *Saka Guru* or main column. In both types of *Dalem* rooms have a wooden plane partition between *Dalem* and *Sentong*, as shown in (figure 7) the plane is named as *Tebengan* which has an access door, and the upper *Tebengan* functions as a top cover between rooms.

Figure 7. A view of the *Dalem* room of *Sinom*'s house.
Source : Personal documentation(2024).

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Figure 8. Bamboo ceiling in the *Dalem* room of the Sinom house.
Source : Personal documentation(2024).

Form and Roof Structure of Sinom House

As a space-forming element, the roof in Javanese architecture has developed since the 13th century and has a classification of 5 main forms, namely Panggang Pe, Kampung, Limasan, Tajug, and Joglo (Bayu Hermawan and Yulianto P. Prihatmaji, 2019). The existence of the Sinom house as a traditional Javanese-style residence in Bendosari village, Kademangan, Blitar is most easily recognized from the roof formation. Based on interviews with village elders who know the Sinom house, it was explained that the roof formation of the Sinom house was derived from the roof formation of the traditional Srotongan model house in the form of a gable roof.

The roof modification creation begins with the addition of roof planes on the left and right sides below the highest plane, namely the Penuwun plane, so that it creates a pyramid roof shape as seen in (figure 9), the roof plane creation consists of two planes named Dhedher which has a triangular shape and a wider plane, and a smaller but longer plane under Dheder which is named Buntut Mimi. The roof transformation is in accordance with what has been studied by (Susilo, 2015) based on Kawruh Kalang R. Sosrowiryatmo, that the roof in Javanese architecture can develop according to the radiation of the building mass.

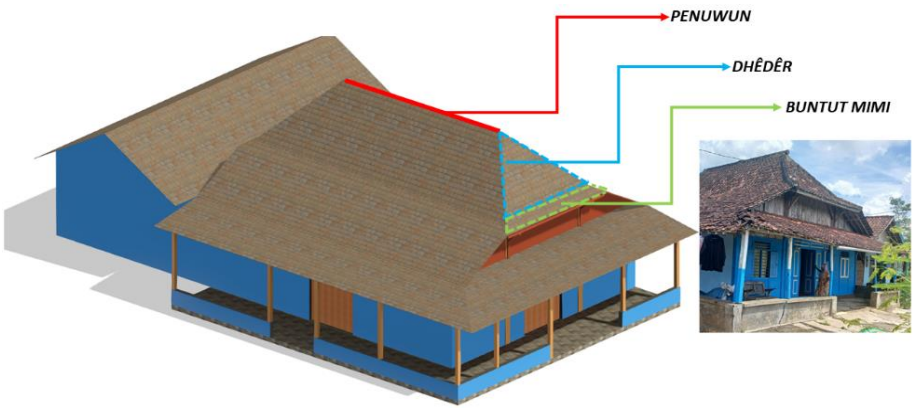

Figure 9. The roof formation of the Sinom house.
Source : Personal documentation(2024).

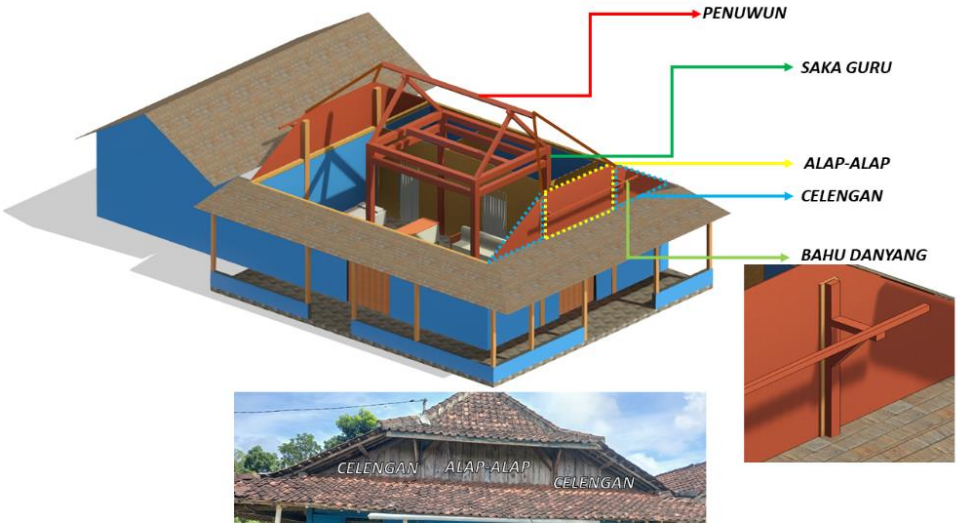

Figure 10. Detail of the roof structure and air circulation plane of the Sinom house.
Source : Personal documentation(2024).

The roof shape, as the main characteristic of the existence of the Sinom house as a traditional Javanese-style residence in Bendosari Village, Kademangan, Blitar, has slightly different details compared to the Srotongan roof structure, which is the source of creation according to the elders (Expert Judgements). The main structure, as seen (figure 10) is supported by Saka Guru, which has four wooden columns, then the horse-horse and the ridge beam called Penuwun. As a building located in a tropical climate, there is a wooden plank area under the Dheder roof that is shaded by the Buntut Mimi roof. This area consists of a three-plane roof with a rectangular middle plane, named Alap-Alap, and two right-angled triangles named Celengan. To support the Buntut Mimi roof, there is a wooden frame, as in (figure 10) with the name Bahu Danyang. All of these structures form a single roof unit called the Sinom house roof, which is the identity of the Sinom house's existence.

CONCLUSIONS

The existence of Sinom houses as traditional Javanese-style dwellings in Bendosari village, Kademangan, Blitar is side by side with other traditional and modern houses. Sinom houses still emphasize their traditional identity by maintaining the roof shape and spatial arrangement patterns that still adopt Javanese spatial planning. The typological characteristics obtained in this study found that the plans of sinom houses in Bendosari village are divided into three types of typologies, with the difference being in the kitchen period, or Pawon/Gandhok; the difference in the placement of the period; and the average size of the sinom house is different from the Sinom house in Kertosari, Ponorogo (Sari, Antariksa and Ridjal, 2016). So that it strengthens the characteristics of the Sinom house in Bendosari, Kademangan, Blitar.

In its spatial composition, the spaces in the sinom house, which are classified as traditional houses, are arranged linearly to the back, following the axis of the building's orientation and the level of privacy in the house. With the addition of the Gandhok or Pawonan period, a new pattern is created where the Gandhok or Pawonan is located on the left and right sides, as well as behind, so that the privacy pattern of the house is different from the standard privacy arrangement of space in Javanese culture. Changes in the

circulation pattern in the main building and the Pawon or Gandhok building are characteristic of building changes. However, the semi-private nature is maintained, which requires permission to access the Gandhok or Pawonan period. according to the theory put forward by Heath and Markus (Indrawan, Faqih and Purnomo, 2019). However, the semi-private nature is maintained, which requires permission to access the Gandhok or Pawonan period. The existence of the upper Tebengan and the door Tebengan that separate the private zones in the left Sentong-sentong, middle sentong, and sentong is a form of effort to maintain the privacy zone architecturally that separates the two zonings in the main building of the Sinom house.

The roof structure that has a uniqueness and function as a former of the upper space, based on interviews with village elders who know the Sinom house and direct observation of the object, explains that the shape of the Sinom house roof comes from the shape of the traditional Srotongan model house roof, which is saddle-shaped. The shape of the roof is evidence that strengthens the characteristics of the Sinom house, as has been studied by (Susilo, 2015) based on Kawruh Kalang R. Sosrowiryatmo, that the roof in Javanese architecture can develop according to the radiation of the building mass. The roof planes with the names of residents as Dheder, Buntut Mimi, as well as the ventilation plane of the room under Dheder, which is named Alap-Alap and Celengan, and the construction of the Buntut Mimi roof plane further strengthen that the roof is an identity that strengthens the existence of the Sinom house in Bendosari village, Kademangan, Blitar.

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