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Identification of physical changes in dome house (Teletubies) Ngelepen Dusun, Prambanan with the Post Occupancy Evaluation (POE) approach

Rachmat Budiharjo*, Soesilo Boedi Leksono

Architecture Study Program, Faculty of Engineering, Universitas Atma Jaya Yogyakarta
Jalan Babarsari 44 Yogyakarta, Indonesia

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***Corresponding author**: Rachmat Budiharjo
Architecture Study Program, Faculty of Engineering, Universitas Atma Jaya Yogyakarta, Indonesia
Email: rachmat.budihardjo@uajy.ac.id

ABSTRACT

A relocation of houses for the residents of Sengir hamlet, approximately 500 meters away from Nglepen hamlet, which was affected by the earthquake in 2006, the Dome House (Teletubbies) is the product of the participation of several donor countries and is located in Nglepen hamlet, Sumberharjo Village, Kapanewon Prambanan, Sleman Regency, Special Region of Yogyakarta. It has caused its people many contentious issues since it was first used in April 2007. In 2016, the region received the nickname "Dome House Tourist Village (Teletubbies), Nglepen - Prambanan" until 2018, when the community began to relive the glory era. There has been a decrease in tourist visits thus far as a result of the COVID-19 outbreak in 2019–2021. This condition is exacerbated by the addition of space that is not integrated with the dome house plan and changes in the face of the building, further reducing the performance (uniqueness) and attractiveness of the house itself. For this reason, the "Post Occupancy Evaluation (POE)" research was carried out to determine the process of changes to the dome house.

Introduction

The dome houses (Teletubbies) in Nglepen hamlet, Sumberharjo Village, Kapanewon Prambanan, Sleman Regency, Special Region of Yogyakarta are the relocation of the residents of Sengir hamlet after an earthquake with a magnitude of 5.9 on May 27, 2006 (Saputra 2023). The homes of every resident were "swallowed by the earth/sinking" at that point. Sengir hamlet is situated in a steep region to the East of Nglepen hamlet, approximately 500 meters away (G. N. Sari 2008). The building's architecture features a circular floor layout with a roof structure like a dome. There are 80 buildings in all, each having specifics: 71 homes with two stories and an approximate floor area of 38 m²; 6 dome-shaped community centers (one unit for every 12 houses); several rooms with distinct gender spaces (blue for men and pink for women); 1 mosque, 1 meeting hall, and 1 health facility. Construction began on October 10, 2006, and residents began inhabiting it at the end of April 2007. The Dome House which was later called "The New Nglepen" was the first project in Indonesia from the World Association of Non-Governmental Organizations (WANGO) and Domes for the World Foundation (DFTW), with the sole donor Muhammad Ali Alabar, owner of Dubai Emaar Properties, United Arab Emirates.

After the inauguration, only around 20 houses were occupied out of a total of 71 houses available. This is because the Sengir hamlet's occupants, who are mostly Javanese with a focus on farming and cultivation, are unfamiliar with the dome shape and the roundhouse plan, therefore they are reluctant to use it (Saraswati Titien 2007). 67 houses were occupied in August

2007 because they had no other choices (we were compelled to). Since it has been in use, the building's exterior has undergone several changes, such as the installation of eaves or a canopy to protect doors and windows from the elements and precipitation in particular, as well as the addition of more storage space (a warehouse) in the form of semi-permanent space attached to buildings.

Around 2016, the Nglepen hamlet reached its peak when it was transformed into a "Teletubbies Home Tourism Village," helped along by the establishment of a "Pokdarwis" led by the village's children (Wahyuningrum 2018). The Nglepen hamlet area's vibrancy and attractiveness are further enhanced by the sponsoring paint factory's re-painting operation of all the structures. Both small and large groups of tourists visited at that time, enjoying the many well-packaged and given tourist attractions. A new tourist area was added to the "Teletubbies Hill area," which was located around 1.8 km from the Nglepen hamlet.

The COVID-19 outbreak that hit from 2019 to 2021 resulted in a lack of tourist interest coming to the dome house area in Nglepen hamlet until now (Hidayat and Madani 2021). Attempts have been made by Pokdarwis and the Government to bring the "Dome House Tourist Village" back to life (Nugroho 2018). The most recent attempt was a three-day event organized in honor of "World Disabled People's Day" in early January 2023, during which some attendees lodged in houses. The area emptied of guests once the "Homestay" event concluded, despite the dome having been used for that purpose before.

Through research activities by examining the phenomenon of development and physical changes in dome houses from the time they were first inhabited until now using the Post Occupancy Evaluation (POE) approach, it is hoped that it can provide an in-depth picture and input for academic, community and government interests in the process of planning and building houses, especially disaster response development.

Research question

To respond to the development phenomenon in the Nglepen hamlet dome houses, from the time they were used until now, research questions will be formulated:

1). What do the users and dome house owners think when they first enter and use the dome house?
2). What have the homeowners done to modify the building by turning the area into a "Dome House Tourist Village"?
3). What is the current physical condition of the buildings and environment of the dome houses in Nglepen hamlet?

Methods

This research was carried out using qualitative methods with a Post Occupancy Evaluation (POE) approach, which is a research process that aims to assess the performance of a building after it is occupied. Assessments are conducted to create a better understanding of a building's actual performance, space quality and occupant satisfaction (Hay et al. 2018). Post-occupancy housing Evaluation (POE) is an assessment process to ensure the performance of a house and/or environment after it is occupied so that it can meet the needs of its residents, identify areas for improvement, and provide recommendations for the future (Raema, n.d.; Hay et al. 2018).

POE can involve a range of techniques, including data analysis, walkthroughs, surveys, and focus group discussions (FGD), which can aid in pinpointing problem areas and/or optimizing building performance, cutting down on energy consumption, and raising occupant satisfaction and comfort levels. Foundation for the (Quality of Life Foundation 2023). The design process will benefit from the lessons acquired from the deployment of POE; short-, medium-, and long-term recommendations will be identified based on what occurs poorly with a specific facility.

Techniques and data collection

1). Document collection

Review of design drawings, specifications, photographs, and other documentation is an important step in understanding the object. A search of the documents will provide a better understanding of why the facility was designed the way it was. Documents will include:

- Audience (Residents, Stakeholders, Facilities Management profiles, etc.)
- A summary of the project's initial aims and objectives and its scope
- Summary of major change orders (especially those impacting the original project intent/scope)

- As-built drawings
- Design technical specifications

2). Observation/observation

Observations will be divided into 2 parts, namely physical observations of the building and functional observations.

a). Observation/physical observation of buildings

Physical observations will evaluate at a minimum the facilities, location, utility systems, and structures. Finishing materials should also be assessed in terms of durability, and ease of maintenance.

b). Functional observation

Functional observations are field observations regarding how well the facility meets the needs of its residents. Observing how residents use their space; circulation, zoning and functional relationships; etc. This method is used to determine whether the facility is suitable for the residents and community served.

3). Conducting interviews

Interviews are an effective method for gathering information about facilities from the people who occupy them or "occupants", because there are a variety of facilities and different types of people who use those facilities and have an interest in them. Interview aimed at:

a). Facilities management to gain an understanding of how mechanical systems work, electrical, material durability and finishes as well as overall facility operations.

b). A sample number of residents (or daily users) of the facility. Residents are expected to be able to provide answers about what aspects meet their needs, such as sufficient electricity, clean water, and thermal comfort levels, especially inside their homes.

POE compares POE outcomes to the original design intent to assess if a facility has fulfilled the planned physical and functional design. Design requirements and Guidelines contain benchmarks for acceptable physical performance and design requirements. Any deviations from these standards need to be documented, along with the cause of the discrepancy. Three (3) periods of analysis will be conducted from the data gathered through observations, interviews, and document collection: the first period, the tourist village period, and the current period (post-COVID-19).

Research process framework

The research process framework is described in the process diagram as follows (figure 1):

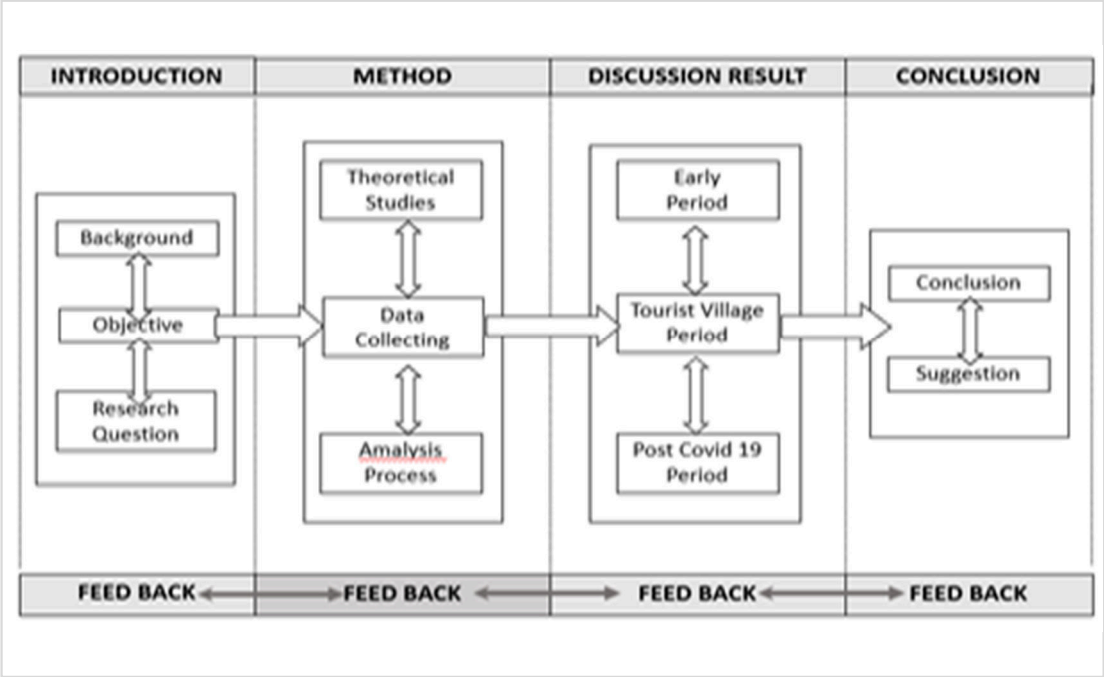

Figure 1. Research process framework

Results and discussion

The dome house in Nglepen hamlet is a house with a dome-shaped roof and a circular floor plan (Saraswati 2007). In the planning there are 71 houses, grouped in clusters divided into several blocks, from block A to block F, having 6 km/communal toilets for every 12 houses (per block) equipped with public facilities such as mosque buildings, PAUD, and multipurpose rooms (Pratama, Santosa, and Satya Adhitama 2016). The diameter of the dome house is 7 m and consists of two floors, an area of around 38 m^2. On the lower floor there is a living room, 2 bedrooms and a kitchen; while the top floor functions as a family room or multipurpose room.

The inaugural project in Indonesia from the World Association of Non-Governmental Organizations (WANGO) and Domes for the World Foundation (DFTW) is named "The New Nglepen" by Dome House Friends. The project is supported by a single donor, Muhammad Ali Alabar, who owns Dubai Emaar Properties in the United Arab Emirates. Aside from Indonesia, five (five) more countries offer dome houses as a kind of disaster relief: India, Belize, Ethiopia, and Haiti (Farabi 2016). Constructed utilizing imported machinery, specifically an inflatable airform for printing the dome housing and blower shape, and local materials because Indonesian materials are of the same quality.

Construction began October 10, 2006, and occupancy began in late April 2007, costing $4,000. It took 3 weeks to make, using 200 bags of cement, 4 trucks of sand, and 200 iron rods. The height of the dome house is 4.6 meters and the walls are 10 cm thick. Construction of the dome house consisted of several stages, starting in September 2006, led by Rich Crandall as project manager. Development stages include (figure 2):

1. Level the land to make it easier for the construction process.
2. Make the house flooring process part by part in several stages:
   a). Make a circle with a diameter of 7 meters for residential houses and toilets, 9 meters for mosque buildings, PAUD buildings, and multi-purpose buildings/halls.
   b). After that, the whole 12 mm iron is woven at a distance of 20 cm.
   c). The next step is casting with sand and cement (1:2). The mixture does not use stones.
   d). After it is dry and hard, dividers (walls) inside the house are made.
3. In making the walls of a house there are several stages:
   a). Dome houses are built with balloons filled with air using a compressor. The balloon is round and made of very strong rubber. One balloon mold can print 100 houses.
   b). For the bones of the building, 10 mm iron is used which is woven at a distance of 40 cm. This iron is woven on a mold into which windows and doors are installed.
   c). After that, casting is carried out manually. After the wall dries, the balloon is deflated and removed through the door.
4. The first-floor rooms were partitioned using bricks with iron reinforcement. Meanwhile, the second floor was made using wooden construction (mezzanine).

Figure 2. Implementation of the dome house construction process, Nglepen hamlet

Dome houses are built with the idea of being resistant to typhoons, storms, fires, and earthquakes (Elano Livin 2021; Gayo 2014). Additionally, domes are supposed to repel fungi, mice, and termites. Despite utilizing specialized technology, the neighborhood is actively involved in the building process. The home building has two stories. The dining area, living room, kitchen, and two bedrooms are all located on the ground floor. The family room is located on the upper floor in the interim. Four windows are arranged to provide ventilation at the top of the dome: two in the front and one in each of the bedrooms. There are two doors on either side. Buildings and land are not owned by the residents. They are limited to occupation. To be more systematic, the discussion will be divided into 3 (three) periods, namely: the initial period of occupying the house in 2007, the Tourism Village period (2018 – 2019), and the current period (post Covid 19)

1). Initial period of occupying the house

Living in a dome house requires a lot of adjustment on the part of the residents. The majority of the inhabitants who are farmers or cattle breeders acknowledge that they are having trouble settling into this community. Residents of dome houses have voiced many complaints, such as the need for eaves at the top of doors and windows, inadequate ventilation, extremely small spaces, the need for extra space for a garage and warehouse, the feeling of heat in the room, the difficulty of arranging furniture that tends to be boxy or rectangular, and the fact that maintaining communal KM/WC frequently becomes a problem in and of itself;

Saraswati Titien (2007) said that when they first occupied the house in April 2007, they started with 20 dome houses which then increased to 67 houses (96.36%) of the 71 houses available. From the opinions of 67 families who live in dome houses, the research results stated, among other things: their houses are attractive (90.90%); residents felt happy living in the complex (92.30%) because it was safe from earthquakes; environmental facilities can accommodate joint activities (81.03%), residents can hold meetings and feasts, either at mosques or along neighborhood roads; residents do not make changes to their buildings to make them more comfortable (68.25%). However, there are a number of grievances, such as the following: they want a patio, their own laundry area, the kitchen is excessively small, and there isn't space for motorcycles. The proposed communal pen for livestock is expected to be located on the north side of the complex, according to the residents. They also mentioned that the air hole at the top of the dome, which allows air to enter the house, helps keep the house cool during the day (75.75%) and at night (84.61%). However, 92.18% of residents said that rainwater enters the house, one of which is through the air hole at the top of the dome when there is wind in each house and the communal toilets are sufficient for daily needs (98.48%). The communal toilets are also sufficient for use (93.93%). Most residents (93.65%) stated that they complied with the developer's "home use and maintenance regulations", but only 57.81% of residents knew about the financial regulations regarding dome houses. This means that there are quite a lot of people who do not know whether houses and land have to be paid, free, or rented.

Pokdarwis asked residents not to build additional buildings higher than the dome, not to plant banana trees or other trees above the dome, and not to keep chickens and other livestock to keep the environment clean, besides that the existence of Pokdarwis also plays a role in helping with land rental payments. each plot, dome house maintenance, environmental maintenance, and business opportunities that support tourist village activities (figure 3).

Figure 3. Dome house building and its surroundings at the beginning of 2007

2). The period of development of tourist villages

Due to the building's distinctive shape it is the only one in Indonesia and even Southeast Asia the dome house region frequently receives media attention, drawing tourists there. This region started to develop into the popular "Dome House Tourist Village, Nglepen - Prambanan" tourist destination in 2008. Not only do tourists come to Yogyakarta and its environs, but they also travel

to other places within Indonesia and even abroad. Young people from the area took the initiative to create a "Tourism Awareness Group (Pokdarwis)" with support from the Tourism Office to manage the area after seeing its potential. Pokdarwis offers youth and hamlet residents training and counseling so they can take an active role in running tourist communities. Until 2017, to maintain its existence and attractiveness, there was relatively little additional space on the dome house land, this was because residents still adhered to the implementation of regulations, including not being allowed to change the shape of the dome house; minimal additional space; it is not permitted to plant plants above the height of the building; maintain the cleanliness of the dome house and the surrounding environment; and it is prohibited to keep chickens (I. W. Sari and Pinasti 2023).

On the wall of the Pokdarwis office, there is a record of the number of visitors from March 2008 to March 2017. 3,407 people visited in 2008; that number rose to 30,255 in 2016. From January to July of 2017, 38,744 people visited the website. Social institutions, such as non-profit organizations, are drawn to the country not only by tourists but also by locals and visitors from overseas, such as South Korea, who are interested in engaging in community service and empowerment projects (Soeswoyo 2020).

Residents of Nglepen hamlet continue to make improvements and innovate through youth groups gathered in Pokdarwis. To attract more tourists, the dome house was originally only painted white, residents took the initiative to paint and draw on the dome house so that it looked more colorful and cheerful. This creative idea received support from a wall paint product industry to provide sponsorship and finally on Wednesday, May 24, 2017, the colorful Dome House Tourism Village was inaugurated by the Head of Sumberharjo Village, Lekta Manuri, ST. and Avian Brands marketing manager, Adhi Pranarko (figure 4).

Figure 4. Beautiful and interesting colorful dome house buildings
Source: https://jogya.com/wisata-jogja-diresmikan-desa-wisata-rumah-domes-di-sleman, May-2017

Entering the dome house tourist village, visitors pay Rp. 5,000,- per person, vehicle parking is determined at Rp. 500,- for bicycles, Rp. 1,000,- for motorbikes and Rp. 2,000,- for family cars, while bus parking is Rp. 5,000. ,- up to IDR 10,000,-. Clowns from Teletubbies are frequently there to welcome guests during holidays. Along with taking in the dome house's uniqueness and beauty, guests may enjoy fun rides including swings, slides, miniature trains, and more. The information center gallery, expression house, village health post, place of worship, hall, public restroom, gazebo, food stalls, production kitchen, children's play area, and accommodations are among the amenities in the dome house tourist village that are still being improved. Next are newly constructed areas like Teletubbies Hill, which is essentially 1.5 km from Nglepen hamlet (figure 5).

You only need to pay an IDR 2,000 ticket to enter the dome house area and look around and snap pictures. For IDR 5,000, the management also offers customized trip packages that include a guide. They were allowed to explore the dome

home, observe the conditions within, and follow the locations where the earth gave way. Camping is available for visitors in the area surrounding the mosque. In addition, visitors can purchase a 10,000 IDR CD recording about the area that collapsed following the earthquake.

For tourists who are reluctant to walk, several transportation alternatives are provided to get around the village, including odong-odong at a rate of IDR 5,000/person; and ATV rental Rp. 50,000/vehicle for 15 minutes; ox cart at a rate of IDR 10,000/person; or use a fleet of Jeeps with a rental of IDR 300,000/vehicle which is ready at Rumah Dome to serve tourist spots in the southern tip of Prambanan District, including Teletubbies Hill, Klumprit Hill, Curug Kembar, Belik Pereng, and Goa Songkurang.

In addition, there are educational tour package services including homestays, trekking, overseas travel, and dome houses. This location is frequently used for leisurely pictures, pre-weddings, and independent film productions. Package for group activities (minimum 10 participants, IDR 6,000 per person/activity). There will be games, video screenings, tracking, village visits, traditional livestock rearing, and arrowroot chip making. For IDR 200,000/art, which includes solo organ, cash dome arts, randa tek-tek, jathilan, and karawitan.

Figure 5. Visitors and residents are very enthusiastic about recreation at the Dome House
Source: https://www.facebook.com/AvianBrands/photos/a. May-2017

Visitors can also stay overnight in the dome house. The rooms provided are two bedrooms and upstairs. The cost of accommodation for each person is IDR 120,000/night with a guide or IDR 90,000/night without a guide, with two meals served. In the dome house, tourists can experience what it is like to live in this unique house. The house used is the house of a resident who moved because he could not adapt to the building.

Pokdarwis is required to report its activities and income to the local community monthly. All proceeds go toward meeting the needs of the Nglepen hamlet's residents and the tourist village, including upkeep of visitor amenities and payment of IDR 15 million in land tax, or IDR 200 thousand per family. Additionally, four to ten tourist village officers receive honoraria each month. Not everything comes in the form of money; residents can also enjoy the usage of a multipurpose room with a sound system, trash bin facilities, and janitors who collect trash from every home.

3). Current period (post covid 19)

Due of the COVID-19 pandemic that impacted Indonesia and the entire world between 2019 and 2021, all community activities, including daily routines like going to school, work, worship, or other events, must be completed from home. The people of Nglepen hamlet are still dealing with the effects of this predicament, particularly concerning the interest and quantity of tourist visitors. The operations of youth groups that are affiliated with Pokdarwis can be considered to be under suspended animation aside from that. They may have relocated, acquired employment elsewhere, joined a family, or any combination of these as some of the causes. Figure 6 below shows the current condition of the Nglepen Hamlet Dome House area (February 2024).

Figure 6. The situation of the Dome House area in Nglepen hamlet
Source: Google Earth, downloaded 3 February 2024

The impact of sluggishness and a decrease in the number of visitors indirectly resulted in the physical decline of dome houses and the surrounding environment, including several houses were left empty and unkempt (because the occupants were abandoned, they already had other houses and sluggish tourist activities); dome houses look dull due to lack of maintenance (information from residents at least every year must be repainted with waterproofing paint and finished with final paint/top coat, residents have financial difficulties); there are additional rooms that vary according to the position of the house on the site which occurs in almost all blocks, both at the front, right side, side left or at the back of the dome house, most of the communal KM/WC buildings are not maintained because most residents have built these facilities in their own homes.

Building blocks are divided into six units, namely Block A, Block B, Block C, Block D, Block E, and Block F, as seen in figure 7. There is one common KM/MCK building among the six dwelling blocks. Since the basic design of a dome house is circular, and the shape of house lots/lots tends to be rectangular, it will naturally be very difficult to develop a space that can blend in with the basic shape of the house.

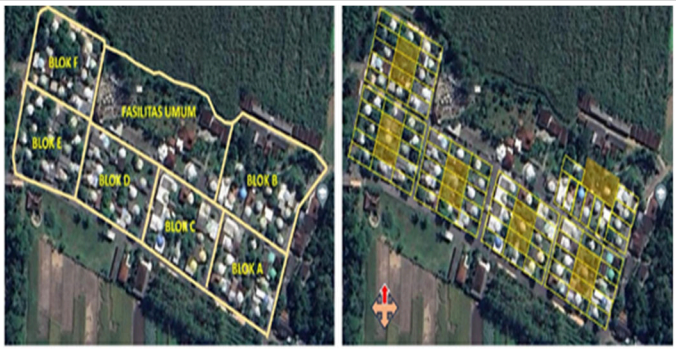

Figure 7. Division of blocks and plots/lots in the Nglepen Hamlet Dome House area

The three dome-shaped structures in Figure 8's public facilities block are the mosque, the multipurpose building (hall), and the PAUD (Early Childhood Education) building. The domes are larger (9 meters) than the house's diameter. The mosque building is still the most used of the three public facility buildings, and a new building has been erected to increase the area available for prayer. The new building's shape contrasts dramatically with the dome's shape. The multipurpose building/hall is used by residents at certain times (rarely) because there are no regular community meetings attended by all residents or visitors, as was the case when this area was a tourist village. The PAUD building is currently no longer used.

The location of the shared km/wc in the central building block, encircled by dome houses,

and behind the dome house is demonstrated in figure 9. The house's back door leads to the shared km/wc building, and the front and back doors are oriented and placed in a straight line to further support this. It is more difficult for occupants to create or add rooms that can blend in with the original concept of the dome house because of the restrictions that prohibit buildings from being renovated or altered in extreme ways. These restrictions are still in place for residents of dome houses today.

Figure 8. Public facilities buildings: Mosque, multipurpose and PAUD

Figure 9. The location of the communal km/wc in the Dome House block in Nglepen hamlet

The current condition is that almost some dome houses have experienced additional space with various types of space functions, including warehouses, garages, business premises, family rooms, pavilions, terraces, and so on. The additional space can be observed from the position of the dome house, either on the side, back, or front. To describe the settings for the physical increase in space and shape of the dome house in each block, it can be explained as follows:

In figure 10, the additional space on both sides/sides of the dome house (case a), because the dome house must be maintained with the entrance position from both the front and back (arrows), this additional space creates inconvenience in circulation and connectivity between the two additional spaces. Likewise, the lack of a unified form of the dome house and the additional buildings is very forced. Although the back door's location can be connected to more space, changes to the back (case b) could improve connectivity and circulation of space. However, the building's shape prevents it from being in harmony with the dome home. By adding a circular shape, the front space extension (case c) aims to unify the dome and improve circulation and spatial interactions. The building in front of the dome home appears to have caused the construction to stop in the middle of the road, making it impossible to identify the structure as a single unit.

In figure 11, additional space on the side (case a) is used for a motorbike shop and garage. The façade of the dome house closed as a result of this addition. A two-story structure that is raised above the dome house and utilized for bedrooms is visible in the case of adding a rear room (case b). The building's shape contrasts sharply with the dome house. Additional space was built to the front and rear (case c). An overhanging terrace was added to the front, and a family room with a typical Javanese roof shape was added to the back. The tension between two extremely

different styles of roofing may be perceived in the detailed picture.

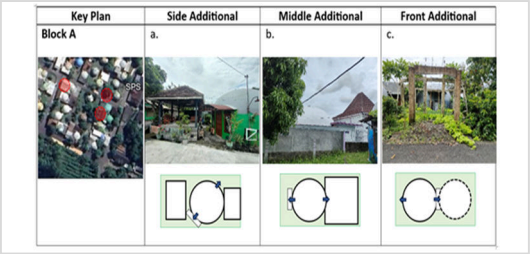

Figure 10. An example of adding space and shape to a house in Block A

Figure 11. Example of adding space and shape to a house in Block B

The family room and bedroom are located in the extra space on the side (case a) of figure 12. Residents now engage in their everyday activities more frequently in modern buildings because they feel more at ease and liberated. Dome house space is typically utilized as a warehouse. The building's shape demonstrates a difference between the pyramid and dome roof shapes, further indicating that the occupants are Javanese. The extra room (case b) at the back is utilized as a bedroom and family area, with a side garage for motorcycles and bicycles. As a result of this extra room, the dome house is only visible from the top and is encircled by walls. A family bathroom/WC, storage, and an extra living room function are located at the front of the house in addition to the front and back spaces (case c). The dominating additional area at the front is made semi-open, allowing the shape of the dome home to still be visible.

Figure 12. Example of adding space and shape to a house in Block C

In figure 13, additional space with a garage function on the left side and a family room function on the right side (case a) of the building is as large and limited as the remaining land so that the KDB reaches more than 90%. The dome house building is squeezed by additional buildings that are made lower than the dome house. Warehouse and km/wc use the extra space at the back (case b). The front yard of the house continues to function as a garden, therefore it is still possible to see the dome house structure. The front case C has an additional space that serves as both an open motorcycle garage and a terrace. It is only partially covered by a roof in the form of an overhang, allowing the dome shape to remain prominent.

Figure 13. An example of adding space and shape to a house in Block D

In figure 14, the addition of a side room (case a) is a semi-open space with a roof in the form of an overhang. The dome house's front and back entrances are situated in the opposite direction from the additional room, making it impossible to link the two spaces directly. The KM/WC facility occupies the extra space at the back (case b), and the dome house structure still has a prominent appearance despite its overhanging roof. The only real alteration to the dome house is the inclusion of a little area at the front (case c), which is utilized for the home's terrace.

Figure 14. Example of adding space and shape to a house in Block E

In figure 15, the additional side and rear rooms (case a) are used for the kitchen and KM/WC with the roof being made lower than the dome house, so that the dome house is still clearly visible. The addition of the rear space (case b) is used as storage space and is made semi-permanent. The dome house can still be seen clearly because the front door is close to the neighborhood road. The addition of the front room (case c) is used for a terrace with a Javanese architectural roof shape that contrasts with the shape of the dome house.

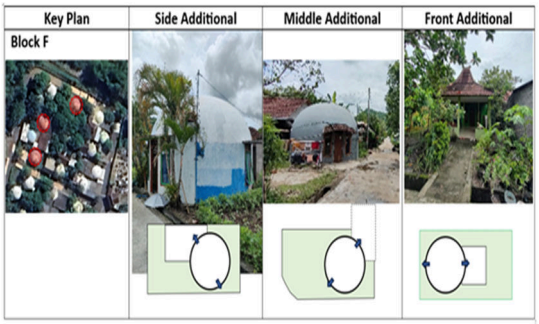

Figure 15. Example of adding space and shape to a house in Block F

Conclusions

The dome house building "The New Nglepen" is a building designed to withstand earthquakes and winds including being resistant to attacks from termites and rats. This is a gift (donation) for people affected by earthquakes from donor countries, so they have no other choice/are forced to occupy it. Until now, residents still do not have clarity regarding their ownership status, what is clear is that they only have usage rights by paying land rent (according to the size of the plot) to the family.

Since the beginning of occupying the house, residents have obeyed and followed the regulations of the developer (donor country), modifications were made to the addition of a canopy to cover the top of the doors and windows to avoid hot sunlight and rainwater.

The Nglepen hamlet is home to the sole dome house in Indonesia. Due to the constant spread of information on social media, people from Yogyakarta and other Indonesian cities, as well as surrounding countries, have been drawn to see the dome house. Residents (especially young people) should take good care of it through Pokdarwis, which is sponsored by the government through the Tourism Office at both the Sleman Regency and DIY Province levels. This was brought to the attention of the many residents who attended. Similarly, the addition of color to the dome house's painting through the sponsorship of private parties enhances its appeal and beauty.

The outbreak of the COVID-19 pandemic has resulted in a decrease in visitor interest in dome houses. The residents of the dome house are aware of this, particularly concerning the upkeep of the structure and surroundings. Pokdarwis pays for land leasing and upkeep when it is referred to as a Tourist Village. Since Pokdarwis is currently in a state of suspended animation, it is impossible to control when it comes to adding new rooms to the front, side, or back of the dome house. In a similar vein, the presence of dome dwellings sometimes obscures the shape of the study object, leaving visitors even less satisfied.

Develop and increase collective awareness among the residents and administrators of RT, RW, and Subdistrict with support from the Government through related agencies that dome houses are valuable and rare assets whose existence needs to be preserved because they have been proven to be tourist attractions that can provide financial support for residents or environmental care.

The need for assistance involving the Government/Relevant Departments, academics, professionals, and the resident community to achieve a successful settlement process.

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Author(s) contribution

Rachmat Budiharjo contributed to the research plan preparation, methodologies, literature review, visualization, data analysis, article drafting and revisions.

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