

# PRIVACY AND TERRITORY REGULATION ON DOME POST-DISASTER SETTLEMENT IN NGLEPEN, SLEMAN, YOGYAKARTA

Anisza Ratnasari<sup>1</sup>, Syam Rachma Marcilia,

<sup>1</sup> Department of Architecture, Pradita Institute  
Scientia Bussines Park Tower 1, Jl. Boulevard Gading Serpong Blok O/I, Gading Serpong,  
Tangerang

<sup>2</sup> Department of Architecture and Planning, Gadjah Mada University  
Jl. Grafika No.2, Sleman, Yogyakarta

Email: 1.anisza.ratnasari@pradita.ac.id, 1. syam.r@ugm.ac.id

## Abstract

Privacy and territory in a dwelling are inseparable. Territory is a need of private space to mobilize and socialize. Resident provide physical boundaries clearly to distinguish their house environment from others. In fact, although most of the post-disaster houses in Nglepen, Yogyakarta initially had physical boundaries, it was difficult to distinguish between private, semi-public and public zones because of the overlapping boundaries of the surrounding environment. This study aims to determine the privacy and territory regulation on dome post-disaster settlement in Yogyakarta. Physical boundary mapping and behavioral observations are done to get a detailed picture of it. The results of this study show that the main cause of the inter-houses territory dan privacy conflict is related to the access of each house. This problem occurs in the public space is caused by a design error in which the designer does not pay attention for the need of the communal space to accomodate the resident' social activities. By knowing this, this study is expected to contribute to the improvement of a life quality with careful design planning, so that the residents of the house still obtain their own privacy.

**Keywords:** *post-disaster dome settlement, territory, privacy, household activity*

## Abstrak

**Judul:** *Judul dalam Bahasa Indonesia*

*Privasi dan teritori pada sebuah rumah tinggal adalah hal yang tidak dapat dipisahkan. Munculnya batas teritori merupakan manifestasi dari kebutuhan penghuni terhadap ruang untuk mereka beraktivitas dan bersosialisasi. Faktanya, meskipun sebagian besar rumah paska gempa di Nglepen, Yogyakarta pada awalnya memiliki batas fisik tersebut, namun di lapangan sangat sulit membedakan zona privat, semi privat/publik dan publik karena ada tumpang tindih batas teritori yang diberikan penghuni terhadap sekitarnya. Studi ini bertujuan untuk mengetahui regulasi dan teritori di permukiman tersebut. Untuk mendapatkan gambaran terperinci dilakukan pengumpulan data melalui pemetaan batas fisik dari setiap rumah dan lingkungannya serta pengamatan perilaku penghuninya terkait aktivitas sosial yang mereka lakukan. Hasil dari studi ini memperlihatkan bahwa terdapat regulasi privasi dan teritori pada setiap rumah. Konflik teritori antar rumah terkait akses terjadi karena permasalahan desain, terutama karena keterbatasan ruang untuk aktivitas sosial mereka. Dengan mengetahui mekanisme yang dilakukan penghuni terkait regulasi yang dilakukan terhadap privasi dan teritori rumah dan lingkungan mereka diharapkan studi ini dapat memberikan kontribusi terhadap peningkatan kualitas hidup penghuni permukiman dengan perencanaan desain yang matang dengan batas teritori yang nyata dan tegas supaya penghuni rumah tetap memperoleh privasi.*

**Kata kunci:** *permukiman rumah dome paska gempa, teritori, privasi*

## **Introduction**

Yogyakarta earthquake in May 2006 in destroyed almost all residential areas in Sleman and surrounding areas. The existence of a dome house in Nglepen village, Prambanan, Yogyakarta is one of the responses to alleviate the suffering of the earthquake victims. This settlement is a donation from the World Association of Non Government NGO that works together with Dome for the World. The provision of dome house assistance for disaster victims was not only carried out in Indonesia, but also in several places in the world. For example, dome house assistance was given to victims of the 1970 Gediz earthquake in Kutahya, Turkey and as many as 500 dome houses were built for victims of the 1972 Nicaragua earthquake (Oliver, 1987: 214-215).

When the earthquake occurred, the Indonesian government received post-disaster dome house from WANGO (World Association of Non Government) that located in Nglepen Village, Prambanan. The total was 71 houses and only 20 houses (28%) were occupied at the end of April 2007 (about 5 months after the settlement was ready for habitation) (Saraswati, 2007). This settlement was divided into 6 blocks with shared bathrooms for 11-12 houses and equipped with public facilities, such as; mosques, kindergartens, soccer fields and parks. The post-disaster settlement was a substitute settlement from the old one, where almost all of the houses were destroyed by the earthquake.

Even though it was physically, psychologically and culturally incompatible with residents, its existence was very helpful for the victims. However, in the process the residents made several adaptations and adjustments to their houses. The form and the order of the house were a reflection of the activities and social life their user (Rusydi, (2008: 99). Most settlers must change their old behavior and habits to deal with a new environment (Syam and Ratnasari, 2016). This was done because the limited space and house setting could not accommodate the habits they had done before in their old environment.

Activities of the user that cannot be accommodated inside the house will be transferred outside the house and its surroundings. Therefore, they will automatically arrange their territory as a mechanism to regulate the privacy and interaction they want. It is carried out by providing fences, portals, piles of material, vegetation, pavement, paths, stakes or even lines. Design can also be a cause of territorial conflict. For example, the connecting path of each house with a shared bathroom must pass through the neighbor's house terrace.

By this new understanding, this study is expected to contribute to the improvement of the quality of life of the inhabitants with a mature design plan so that residents can obtain privacy. The post-disaster dome house settlement in Nglepen, Yogyakarta was chosen as the study location to find out whether the temporary and permanent housing assistance provided by the government with foreign parties was on target and ideal for the recipient.

## Literature Review: Territory

Sommer (1969) in Bell, et al., (2001: 276-278) describes territory as an visible area, has a real limit, fixed, and tends to be centered at house and regulated by people who interact in it. In another hand, territory is defined as an area that is considered to be a person's right (Laurens, 2004: 124). Further explained by Laurens (2004: 124), territoriality is an embodiment of ego which indicates that someone does not want to be disturbed.

Territory for human is more to be instinctive, to be learned, and the interaction both of them (Brown, 1987, Taylor, 1988 in Bell et al., 2001: 278). According to Altman in Bell (2001: 277) and Laurens (2004: 126-127), territory can be clasified by:

- 1) Primary territory  
It is a very personal place, familiar, high level of control, special permitt;
- 2) Secondary territory  
It is a place that controlled by a number of people and has a moderate level of control;
- 3) Public territory  
People are allowed to be in this place and have a low level control.

Lyman and Scott (1967) in Laurens (2004: 128-129) categorize territoriality into;

- 1) Interaction territory, is a temporary area and controlled by a group of people who interact;
- 2) Body territory, is limited by the human body with skin as the limit.

Similar to Altman, Haryadi and Setiawan (1995: 73-74) urban territories are divided by:

- 1) The first typology divided into: personal, community, society and free occupancy;
- 2) The second typology classified into: urban public, urban semi-public space, public group, private group, family private, and individual private;
- 3) Third typology classified into: public territory, home territory, interactional territory, and body territory.

Territory is very related to privacy. Violation of territorial boundaries will reduce the privacy, so that someone will usually do some things to maintain his privacy through territorial boundaries. There are factors related to territorial violations and defenses. Territorial violations include invasion, violence and contamination. Territorial defense can be in the form of preventive actions, reactions to territorial violations, and social boundaries (Laurens, 2004: 129-130). From the explanation above, it can be explained that territories have physical limits, multilevel, instinctive, can be observed, influenced by internal and external factors, and can be invaded.

## **Methodology**

There are three types of research: basic research, applied research and instrumental research, and this research is an applied research type. The aim is to observe and examine the territory of the observation object and to identify the conflict in the dome house settlement. The research material consists of:

- 1) Fixed elements (including: houses, street furniture, path ways, environmental roads);
- 2) Semi-fixed elements (including place of activities, parking areas, stalls, bicycles, motorbikes, cars);
- 3) Non-fixed elements (residents and its activities, including: household activities, playing, relaxing, chatting)

Data collection techniques are observing behavior and observing physical traces and supported by unstructured interviews to confirm things that are not observed and complete information from previously unstructured observations. This research uses place-centered mapping. This technique is used to find out how humans use and accommodate their behavior at a certain time. The steps that should be carried out are:

- 1) Creating a dome house settlement plan to show the position of the settlement to the surrounding environment;
- 2) Mapping the position and location of houses in blocks and settlements;
- 3) Mapping the fixed elements of each house and its surroundings;
- 4) Mapping the distribution of activities carried out by each occupant of the house to the surroundings.

## **General Frame of the Object Study**

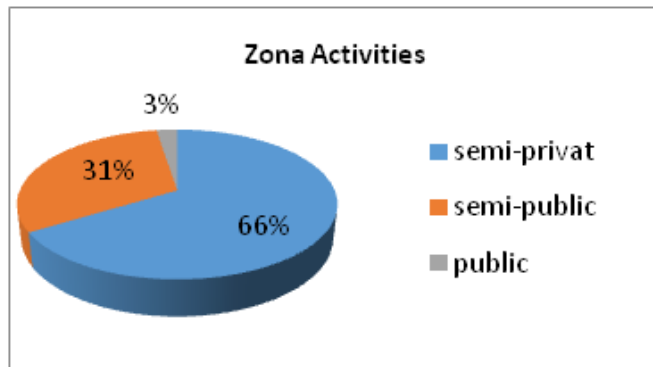
The massive earthquake in Yogyakarta in 2006 destroyed dozens of houses, including the Nglepen village, Prambanan. The dome house settlement which was less than 1 km from the old Desa Nglepen was a land allocated to earthquake victims whose houses were destroyed by it. The settlement consists of 71 houses with circular plans and dome-shaped roofs which are divided into 6 blocks with shared bathrooms for every 11-12 houses and equipped with mosques, kindergartens and communal spaces. The house is built 2 floors, a diameter of 7 meters and a house area of 38 m<sup>2</sup> for each unit. The construction was carried out for 5 months, starting from 10 October 2006 and inhabited by residents at the end of April 2007. It was the first project of World Association of Non-Governmental Organization (WANGO) in Indonesia in collaboration with the Domes for the World Foundation (DFTW), Monolithic Dome Institute (MDI) and was built by Dubai-Based Emaar Properties.



**Figure 1. Map of post-disaster settlement located in Nglepen, Sleman, Yogyakarta**  
 Source: Author’s analysis, 2016

## Results and Discussion

According to the initial concept, the house should be able to accommodate all the activities of its residents, both personal and social. But in fact, the activities of residents of the dome house are mostly done outside. The chart below shows that the semi-private zone (66%) (the path and yard) is the main choice for residents to carry out activities they cannot do inside the house.



**Figure 2. Zona aktivitas penghuni rumah dome**  
 Source: Author, 2016

Other activities related to interaction between residents are carried out in the semi-public zone (31%), in the communal space on each block, the road around the house and others. Meanwhile, the public zone (3%) is used for community activities that require more space. This proves that due to the limited space available, personal space is not able to accommodate the private activities of residents, so that residents use outside space to solve these problems.

For this reason, they usually clarify an visible and tangible physical boundaries that show their ownership and territory. This is consistent with Sommer (1969) in Bell, et al. (2001: 276-278) that territory is an area or region that is visible, limited, restricted, fixed, tends to be centralized and regulated by people who interact in it.

### Settlements Territorial Regulation and the Surrounding

In the 2 hectars-new Nglepen Village there are 80 buildings, divided into; 71 houses for housing, 6 public toilets, mosques, halls and clinics. The western boundary is Klero Village, Sengir Village on the east, agricultural land on the south and river on the north.



**Figure 3. Peta wilayah Desa Nglepen baru**

Source: Author, 2016

The main road that connects Klero Village and Sengir Village is not only the physical boundary of this settlement, but also reinforce it to agricultural land.

There are a gate "Selamat Datang di Desa New Ngelepen" and a portal to enter this settlement. Even though it has a portal, everyone can cross and enter this area freely. However, it can be said that even though it has a visible and clear physical boundaries, the level of environmental control is relatively low. Community territory can be seen from the uniformity of dome house shape.



**Figure 4. Post-disaster dome settlement territory regulation (portal, gate, main road dan dome house)**

Source: Author, 2014

## Inter-Block Territorial Regulation



**Figure 5. Siteplan of post-disaster housing settlement, Nglepen Village, Yogyakarta**  
Source: Author, 2016

Post-disaster housing settlements are divided into 6 blocks, where each block is separated by an environmental road and a ditch that functions as a drainage channel. Each occupant of the house in one block is responsible for cleanliness, order and comfort of each block. Each resident is responsible for cleanliness, order and the comfort of their respective blocks.



**Figure 6. Territorial boundaries between blocks, in the form of; ditch (left) and neighborhood road (right)**

Source: Author, 2016

In accordance with its initial design, trenches and neighborhood street are separate blocks. To clarify the boundary, residents made several regulations to reinforce their territorial boundaries. The territory regulation can be in the form of; sculpture, street furniture, portals and signboards or directions to show the boundaries of the territory of the block. Territory regulations can be stated as; sculpture, street furniture, portals and signboards or directions to show the boundaries of the territory of the block.



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In fact, it collides to other block or private territories. For example, the existence of a portal at the main gate is not in accordance with its function, because each house in each block has direct access to the main environmental road. Placement of street furniture (sculpture, name board, direction sign board and trash cans) should be a marker of the identity of a place, so territorial conflicts can be avoided. From this explanation, it can be concluded that the territorial regulations carried out tend to cause conflict, because there is a territory collision between the territorial boundaries of a house and the block.



**Figure 7. Territory regulations to indicate its territory**  
Source: Author, 2016

**Inter-House (in One Block) Territories Regulation**



**Figure 8. Existing block A**  
Source: Author, 2016

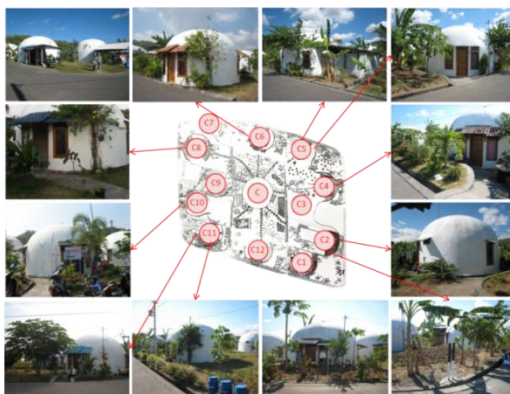
The purpose of implementing the block concept is to harmonize the basic design of settlements and Javanese culture, such as: communing and socializing. Each block consists of 11-12 houses with 1 communal MCK.





**Figure 9. Existing block B**

Source: Author, 2016



**Figure 10. Existing block C**

Source: Author, 2016



**Figure 11. Existing block D**

Source: Author, 2016

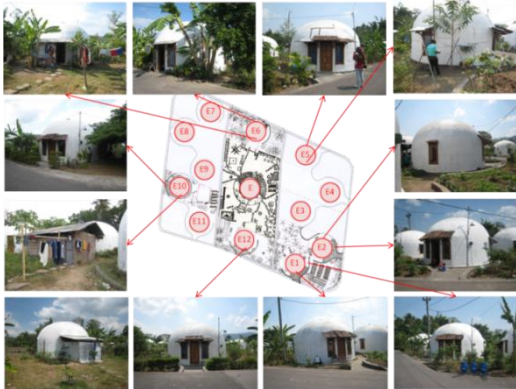
Trenches are the boundaries of one yard to another. It serves as a drainage channel connected to the main drainage that surrounds each block. In addition, there are stakes also used as physical markers as well.

Dome houses with a diameter of 7 meters with an area of around 38 m<sup>2</sup> are built 2 floors for each unit. The first floor consists of 2 bedrooms, a family room and a kitchen, and the second floor is a warehouse. One meter-eaves surround the

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building are the territory of each house. Each house is directly connected to an environmental road reinforced by pavement and concrete and vegetation.



**Figure 12. Existing block E**

Source: Author, 2016



**Figure 13. Existing block F**

Source: Author, 2016



**Figure 14. Territorial boundary sign; waterways (left) and stake (right)**

Source: Author, 2016

Residents have made territorial regulations to reinforce their territorial limits on the smallest scale.



**Figure 15. House territory (eaves, pavements and masonry)**

Source: Author, 2016

Residents will mostly plant vegetation (vines, thick leafy trees, bushes and grasses) around their house to mark their territorial boundaries and create privacy from their limited space. But in fact, planting vegetation is actually disturbing and causing territorial conflict because it crosses the boundaries of other houses. Another mechanism is to make it rigid pavement.

Based on the initial design, each house is equipped with a 1 meter- perimeter around the house and connected with neighboring territories with curved lines made of 20 cm tall masonry.



**Figure 16. Vegetation as a mechanism to reinforce house territorial boundaries**

Source: Author, 2016

Residents do more concreting with the assumption that the yard will look neater, no grass, easier to maintain, cleaner and spacious. However, because the distance between houses is too close, it makes two houses-yard connect and share access to the environment road.



**Figure 17. Conflicts access due to the use of rigid pavements**

Source: Author, 2016

From the siteplan, it can be seen that some houses are very close to the road environment. In some houses, the main door is not less than 2 meters from the road or even there is no eaves on one side. The territory between the house and the environment disappear because the distance is too close. It is disturbs the privacy of the residents.



**Figure 18. Territorial conflict between a house and its environment**

Source: Author, 2016

To get privacy, vegetation is the most widely done solution to solve this problem. Other functions of it are filtering views, filtering dust, wind breaking and aesthetics.



**Figure 19. Vegetation is a way to get residents' privacy**

Source: Author, 2016

Previously explained, that each block consisting of 11-12 houses is equipped with a shared/communal space. Each house has a path way that made by stone arrangement that connetct the back door of each house to the communal space. Meanwhile, many problems are arise, such as; the land was muddy after the rain, many wild plants grew up and the rocks were flooded. To solve it, the residents made several efforts, including; make a small new path, make a square-concrete foot step to connect house to the shared-building. All of that is done to make access easier



**Figure 20. A new small path way as an access from the house to the communal space.**

Source: Author, 2016)

Facts show that the most of that pathway must pass the neighboring territories. In addition, there is no clear boundary between neighbours make a new privacy conflict. Here, it can be described that the house yard which was originally part of the semi-private of a house was disturbed by the existence of territorial regulations by neighboring houses, especially related to access to communal space.





**Figure 21. Territorial conflicts that occur related to the access**

Source: Author, 2016

## Conclusion

By knowing the mechanism that is carried out by the users to maintain the privacy and territory of their house and environment, it is hoped that this study can contribute to the improvement of the quality of life of post-disaster residents of residential houses by planning a mature design with real and firm territorial boundaries so that the residents can still have privacy.

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