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CRITICAL FACTOR INFLUENCING THE RESIDENTS' DECISIONS TO RENOVATE SUBSIDIZED HOUSES IN SLEMAN REGENCY

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ABSTRACT

A house is a basic need that ideally fulfills the aspects of comfort, health, and safety. However, subsidized houses that are built still have constraints in terms of space limitations and material specifications. So it often cannot optimally accommodate the needs of residents. This research aims to identify factors influencing residents' decisions to renovate subsidized houses in Sleman Regency, with case studies of Godean Jogja Hills and Griya Moyudan Asri housing. This research used a descriptive qualitative approach through closed questions and semi-structured interviews. The results showed that space requirements were the main factor driving renovations at 56.97%, followed by comfort reasons and perceptions of insufficient house area. The types of space most added include kitchens and terraces. This research contributes to understanding the dynamics of residents' adaptation to the limitations of the initial design of subsidized houses. It was found that developers and the government need to be considered in designing subsidized housing, which is more flexible, sustainable, and meets the long-term needs of low-income communities.

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1. Introduction

A home is one of the basic human needs that serves as a place to live and as a space for family growth and development, social interaction, and a symbol of economic stability. Houses have a strategic role in creating a decent quality of life regarding comfort, health, and safety. Various international studies have shown that poor housing conditions, such as inadequate space, lighting, ventilation, and security, are strongly associated with lower life satisfaction and health problems (Chimed-Ochir et al., 2021; Hu et al., 2022)

Subsidized housing is one form of government effort to provide livable and affordable housing for low-income people (MBR). This is in line with the Law of the Republic of Indonesia Number 1 of 2011 concerning Housing and Settlement Areas, which states that housing is a basic need for every citizen and that the State is responsible for ensuring everyone can live in a decent and affordable home.

However, in its implementation, subsidized housing often faces challenges, such as limitations in area, building quality, and comfort. These houses are commonly built with fundamental specifications and limited spatial arrangements, which frequently fail to meet the actual needs of the occupants. The study by Perdamaian & Zhai (2024) emphasizes that the performance of subsidized houses in Indonesia has not fully met livability standards, in terms of health, comfort, and space function, due to design, materials, and local climate limitations.

Research by Andrianto and Rahadi (2021) indicates that residents' preferences for subsidized housing are influenced not only by affordability but also by the perceived inadequacy in functional aspects such as space flexibility, ventilation, and privacy. Furthermore, a study by Puji and Ellisa (2024) highlights that young families in Mataram City, West Nusa Tenggara, often adapt their subsidized housing units by modifying spatial layouts to better suit their daily activities and cultural practices. These adaptations include incremental changes that gradually diverge from the original design provided by developers, reflecting the occupants' need for more functional and culturally appropriate living space.

The results of research conducted by Kurniati and Nurhidayatullah (2020) on subsidized houses in Godean District, Sleman Regency, show that 29% of structural

and non-structural works fall into the "No" and "Inadequate" categories. This finding indicates that residents must renovate their subsidized houses to improve their comfort, aesthetics, and functionality. The process of renovating an old building has many considerations. In these considerations, it is necessary to know the existence of special needs that may be very specific. These needs will be compared with the availability of space, affecting the quality of comfort. Subagya and Yetti (2021).

However, the decision of residents to renovate subsidized houses is undoubtedly influenced by several factors, such as financial capability, personal preferences, location, surrounding facilities, and the initial quality of the building. Therefore, it is important to examine further the factors that influence residents' decisions to renovate subsidized houses, especially in Sleman Regency, so that it can be a basis for consideration in future housing policies.

Renovation is not only an individual act to improve physical space, but also a reflection of the changing needs and aspirations of the occupants. Over time, the needs of the occupants of the house will increase. Every resident always wants their house to have adequate facilities (Ugizaqiah et al., 2020). This often occurs outside the formal regulatory framework in subsidized housing, making understanding residents' motivations and constraints essential. Spaces in subsidized houses have met the basic needs of homeowners. There are clear territory boundaries, such as private, public, and semipublic spaces, with living rooms, bedrooms, toilets, terraces, and kitchens. However, space changes based on accommodation needs result in a tendency not to utilize the space due to the owner's activities in the house. Both inappropriate and increased activities (Pratama et al., 2021). Subsidized houses have standards set by the government, but developers always provide space for homeowners to expand if they need additional space. The development of subsidized houses changes the typology of the building. Several aspects must be met: function, geometry, and response (Hardy et al., 2021).

Other considerations involved in renovating their homes are based on residents' decisions. It is necessary to analyze what factors influence renovation decisions in Sleman Regency as a case study, specifically Griya Moyudan Asri housing and Godean Jogja Hills housing.

These two housing estates are used as research objects because of subsidized housing. The criterion for selecting these objects is that there is a period of development. Griya Moyudan Asri housing is classified as housing still under construction. In contrast, Godean Jogja Hills housing has been established for over 5 years. The difference in the period is used as a basis for analyzing occupant factors in making decisions.

This research seeks to explore and analyze these dynamics in greater depth. Focusing on the Sleman Regency as a case study, it aims to identify the key factors that drive renovation behavior among subsidized housing residents. The results are expected to contribute valuable insights for policymakers, planners, and housing developers in designing future, more responsive and sustainable subsidized housing schemes.

2. Literature Review

2.1 Subsidized housing

Subsidized housing is a government program that provides affordable housing for low-income people (MBR). However, in its implementation, subsidized houses often experience limitations in design, construction, and basic facilities. Bramantyo et al. (2019) in their research in Mutiara Hati Housing, Semarang, stated that the quality of subsidized houses built by the government has not fully met residents' expectations. In their study, the level of satisfaction of residents only reached 63.65%, with the main problems being the narrowness of space, the condition of building materials that are quickly damaged, and the limitations of public facilities such as drainage and open space. This shows that although the houses are declared habitable administratively, there are still many shortcomings from the user's point of view.

Simbolon et al. (2023) also highlighted that in the implementation of the subsidized housing program, there are several fundamental problems, such as inaccurate targeting of beneficiaries and low occupancy rates. Many recipients of subsidized houses do not occupy their homes in the long term, and some even resell them. One of the reasons for this is the inadequate quality of the buildings and their inability to meet the long-term needs of the beneficiaries, which triggers the desire to renovate or make gradual physical changes.

Recent studies have shown that occupants of subsidized housing frequently adapt their units in response to evolving household needs. For instance, Simbolon et al. (2024) found that in Grand Permata Residence II, 13 14 households modified their residential layouts to better suit their financial capabilities and daily activities. This transformation highlights dissatisfaction with the rigid design of initial units provided under the government's subsidized housing program. It reflects the need for flexible housing models that allow gradual spatial adjustments.

Similarly, Lastiur and Septanaya (2024), in their case study in Bekasi, emphasized that resident satisfaction in subsidized housing is influenced by internal spatial quality and external factors such as access to transportation and infrastructure. However, most residents expressed general satisfaction; the perceived inadequacy of basic facilities determined whether they chose to remain in or leave their homes.

These findings underscore the importance of integrating flexibility and contextual responsiveness into subsidized housing design and delivery to improve long-term livability and reduce the need for post-occupancy modifications.

2.2 Residents' Decision on Home Renovation

Residents' decisions to renovate their homes do not

just happen but result from a complex consideration process. Ugizaqiah et al. (2020) in their research at Surabaya Permai 4 Housing Bengkulu stated that the factors that influence home development, namely the condition of residents, funds, social and cultural factors, building conditions, a sense of security and comfort, and the safety of building structures, influence home development decisions. The funding factor is the most dominant and influential in-home decisions. Then followed are building structure safety factors, a sense of security and comfort, social and cultural, occupant conditions, and building conditions.

Atmaja et al. (2023) examined the satisfaction levels of recipients of the Self-Help Housing Stimulant Assistance (BSPS) program in Indonesia. The research highlighted that many subsidized houses did not meet livable standards, prompting residents to undertake renovations to improve the quality of their homes, including aspects like roofs, walls, and essential facilities. This underscores the proactive role of residents in enhancing their living conditions when initial housing provisions are inadequate.

2.3 Space Optimization and Efficiency

Space limitation is one of the most dominant issues in subsidized houses, especially type 36, which only has two bedrooms and one main multipurpose room. To overcome these limitations, residents often renovate, focusing on space optimization and efficient use of available land. Subagya and Yetti (2021) explain that renovations are usually done to add living rooms, larger kitchens, or additional rooms as family members grow. Space rearrangement and a more functional interior design are solutions frequently used to create comfort in a limited space.

Meanwhile, Qadrunnada and Armia (2024) highlighted the importance of flexible design and multifunctional interior elements in type 36 subsidized houses in West Aceh. This study showed that residents could create comfortable spaces by utilizing folding furniture, bunk beds, and hidden storage. In this context, renovation is done because of aesthetic or additional functional needs and as a strategy to deal with the house's physical limitations.

2.4 Effect of Regulation

Renovation of subsidized houses cannot be separated from the context of the regulations that govern it. In many cases, the government and developers set specific rules regarding the limits of renovations that can be carried out, especially on the facade and primary structure of the building. Simbolon et al. (2023) point out that many residents of subsidized houses feel constrained by overly rigid policies, which encourage them to renovate without permission or informally.

In addition, the licensing process for renovating subsidized houses is often time-consuming and costly, and poorly socialized to residents. As a result, many renovations are carried out without official procedures, leading to legal problems or conflicts between developers and residents in the long run.

3. Research Method

3.1 Data Collection Technique

Data collection in this study was conducted in Sleman Regency, Yogyakarta Special Region, with study locations in two subsidized housing estates, namely Godean Jogja Hills and Griya Moyudan Asri. This research used three data collection techniques: closed-ended questionnaires, semi-structured interviews, and field observations. The closed-ended questionnaire was used to identify the main factors that encourage residents to renovate, such as the need for additional space, thermal comfort, natural lighting, physical condition of the building, and aesthetic reasons. Although the questionnaire was structured in a closed-question format, the data obtained was further categorized and then thematically analyzed to remain in line with the qualitative approach and to find general trends in renovation patterns.

In addition, semi-structured interviews were conducted to explore more deeply the personal motivations, occupant experiences, and social contexts that may influence renovation decisions. The format of the interviews followed the flow and topics related to the questionnaire to follow the narrative that the respondents built naturally, and to get the reasons for the answers given in renovating.

Field observations were also carried out to see firsthand the house's physical condition, the form of renovation, and the surrounding environment where the respondents live. This observation aims to strengthen the data from the questionnaires and interviews by presenting visual and contextual evidence of the renovation decisions made by the residents.

3.2 Sampling Technique

Sampling in this study was carried out using a purposive sampling method, a deliberate sampling technique that considers indicators relevant to the research objectives. The criteria for respondents in this study are residents of subsidized houses of type 30/60 or 25/60 who have lived in the house, renovated their homes, and are willing to become respondents in the data collection process. So, this study involved 31 respondents who met these criteria.

3.3 Data Analysis Technique

The data obtained in this research will be analyzed using a qualitative descriptive analysis approach. Systematically describing the questionnaires, interviews, and observation results to identify the main patterns driving renovation decisions. In line with Mertens (2024), this approach is used when research aims to provide an in-depth description of a particular program, practice, or context: "Qualitative methods are used in research that is designed to provide an in-depth description of a specific program, practice, or setting" (p. 235).

The first stage, namely data reduction, was carried

out by filtering and selecting information most relevant to the research focus, especially those related to the reasons for renovation, residents' subjective experiences, and obstacles that residents experienced during the renovation process. This is in line with Mertens (2024) explanation that data reduction occurs when the researcher begins to select parts of the data to be coded, namely by labeling the data excerpts conceptually intertwined: "assigning a label to excerpts of data that conceptually 'hang together'" (p. 440).

Furthermore, the data that has been reduced is then presented in the form of descriptive narratives, direct quotes from interviews, tables grouping factors based on field data, and comparisons of previous research results to trace similarities and differences in findings. This presentation aims to develop a comprehensive interpretation of the phenomenon under study. Fellows and Liu (2015) explain that "The results relate to the analyses of the data, while the conclusions use those results, together with the theory and literature, to determine what has been found out through the execution of the study" (p. 266). The interpretation of the data is crucial because it connects the results with the theoretical context and research objectives.

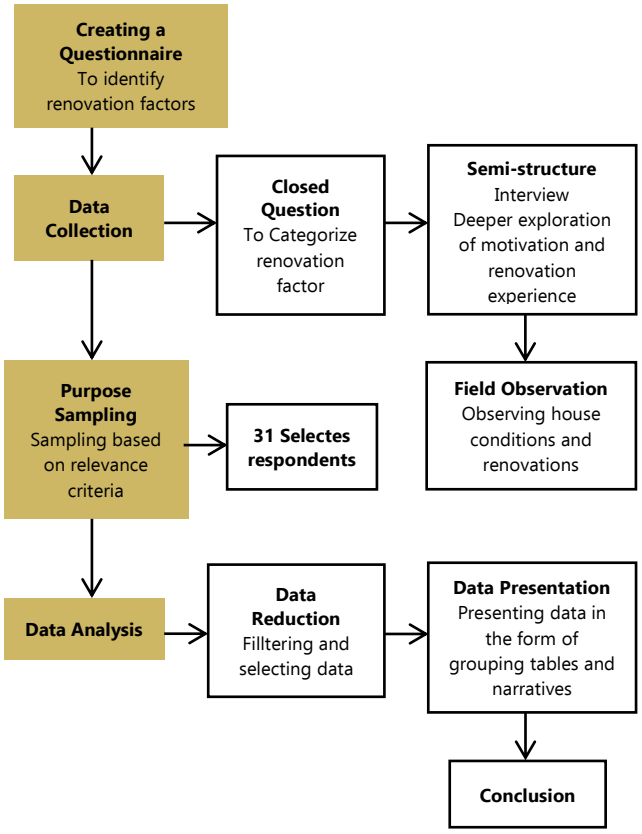

Figure 1. The Flow Chart of The Research Process

The last stage is conclusion drawing and verification to see recurring patterns in respondents' answers and to obtain the primary motive for renovation. The verification process was done through triangulation, and consistency checks between data sources. Mertens (2024) asserts that triangulation is a method for "checking information that has been collected from different sources or methods for consistency of evidence across sources of data" (p. 446), to increase the validity and reliability of the research results. This analytical framework was chosen to identify emerging themes from the interviews and questionnaires, which was also applied by Dewi et al. (2024) in their study of post-improvement outdoor space utilization in Kampung Mojo, Surakarta.

All stages of the analysis are contained in the research process flow chart (see Figure 1). This chart illustrates the relationship between stages, from the formulation of instruments (questionnaires and interview guidelines), data collection through three methods (questionnaires, interviews, and observations), data filtering, presentation in tables and narratives, and concluding. This chart is a visual guide to show how each methodology stage is interconnected and contributes to the research outcome.

4. Results and Discussions

This section explains the research location to help readers understand the context more thoroughly. Understanding the area's characteristics is important because the physical condition, age of the building, and socio-economic situation can influence their decision to renovate their homes. This study selected two subsidized housing sites with different characteristics based on the construction period to obtain a more comprehensive analysis.

4.1 Overview of the Research Location

This research uses two housing locations as the object of study, namely Godean Jogja Hills Housing and Griya Moyudan Asri. The selection of these two housing options is based on differences in the period of occupancy that are considered to influence the behavior and decisions of residents in carrying out renovation. Godean Jogja Hills is a housing estate that has been occupied for more than five years, so it reflects the characteristics of residents who have lived there for a long time and may have done some form of renovation. Meanwhile, Griya Moyudan Asri is a relatively new housing estate because it only started to be occupied about 1,5 years ago and still has a relatively smaller number of residents than Godean Jogja Hills Housing. This difference in the age of the housing provides an opportunity to analyze renovation decisions from two different points in time – old residents and new residents – so that the research result can reflect more diverse dynamics and factors.

This is also supported by the findings of Mahdi and Purwanto (2018), whose exploratory study shows that residents who have lived in subsidized houses for a specific period begin to feel deficiencies in the physical aspects of the building. These deficiencies trigger renovations to increase comfort and improve the space's function. Thus, the age of occupancy is an essential variable in analyzing the tendency of renovations carried out by residents.

Based on these considerations, the following section will describe the physical conditions and characteristics

of Godean Jogja Hills Housing, one of the research locations. These explanations include the location, building type, and composition of the residential space, which serves as a background to understand the context of the renovation carried out by residents.

4.1.1 Godean Jogja Hills

Godean Jogja Hills Housing is a subsidized residential area in Kapanewon Godean, Sleman Regency, Yogyakarta Special Region. The residential unit is type 30/60, with a building area of 30 m^2 and an area of 60m^2. The space provided in this residence consists of 2 bedrooms, one living room, one bathroom, a front yard, and a backyard, as illustrated in Figure 2, which shows the typical floor plan of a house in Godean Jogja Hills Housing.

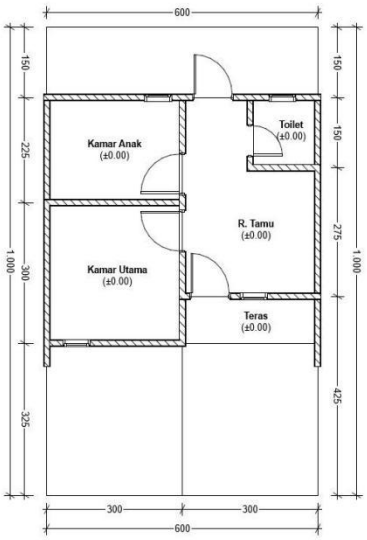

Figure 2. House plan in Godean Jogja Hills Housing

Based on data from Sikumbang Tapera 2025, residential units are sold for Rp—130,000,000 by the provisions of the government-subsidized housing program. Based on the observation, it was found that the technical specifications of the house, such as roof structure and materials, were. This house uses a lightweight steel frame roof and a galvalum tile roof. The walls of the building are made of lightweight bricks that have been plastered, giving a neat impression and efficiency in construction. The floor of the house uses ceramic finishing. The foundation of the building uses river stone masonry with reinforced concrete. A similar use of construction materials is also found in a study by Katsir and Listyawan (2023), which examined subsidized housing projects and confirmed the application of lightweight steel frames and lightweight brick walls as part of the standard construction approach in such developments.

Figure 3 shows the general appearance of the housing unit and its surrounding environment, including the frontage of typical units in Godean Jogja Hills Housing.

Figure 3. Godean Jogja Hills Housing

4.1.2. Griya Moyudan Asri

Griya Moyudan Asri Housing is a subsidized residential area in Kapanewon Moyudan, Sleman Regency, Yogyakarta Special Region. The residential unit has type 25/60, with a building area of 25 m2 and a land area of 60 m2. The space provided in this residence consists of 1 bedroom, one living room, one-bathroom, front yard, and backyard, as depicted in Figure 4, which presents the typical layout of a housing unit in Griya Moyudan Asri. Although literature suggests that subsidized housing in Indonesia generally includes a broader range of space, such as terraces, living rooms, dining areas, bedrooms, bathrooms, kitchen, laundry, and drying areas (Wisesa in Amelia, 2023), field observations at Griya Moyudan Asri indicate a more limited spatial provision. The layout excludes essential domestic spaces like kitchens and laundry areas, which are critical for daily activities. This discrepancy highlights a gap between design expectations and on-the-ground implementation, which has led many residents to initiate renovations to meet their basic household needs. The visual appearance and uniform design of the housing units can be seen in Figure 5, showing the actual condition of the residential buildings in the area.

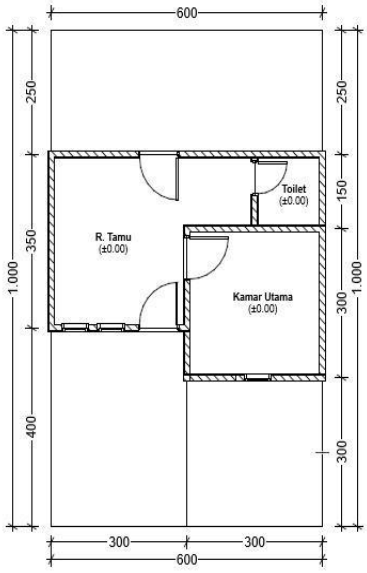

Figure 4. House plan in Griya Moyudan Asri Housing

Based on data from Sikumbang Tapera 2025, residential units are sold for Rp—166,000,000 by the provisions of the government-subsidized housing

program. Based on the observations, it was found that the technical specifications of the house, such as structure, roof, and materials, were. The roof structure uses a steel frame with a sand galvalum roof covering. The walls are made of red bricks, which are finished with plaster and paint. The floor covering uses ceramic tiles with a size of 40x40 cm. The foundation of the building uses river stone masonry reinforced with reinforced concrete structures.

Figure 5. Griya Moyudan Asri Housing

4.2 Respondent Characteristics

Based on the results of field observations and in-depth interviews conducted with the residents of the two selected housing units, it was found that most of the housing units had undergone some form of renovation. The occupants carried out these modifications for various reasons, reflecting their unique needs, preferences, and responses to the physical conditions of their living environment. The specific motivations underlying each resident's decision to renovate are detailed in Table 1, which provides an overview of the observed and stated factors influencing the remodeling activities. These include practical considerations such as the need for additional space, comfort enhancement, structural issues like leakage or broken ceramics, and security concerns such as the absence of fencing.

Table 1. Field observations and interviews: Results

Respondent Name	Factors that influence remodeling decisions	
A1	Space Requirement	Wind-driven rain
A2	Comfort	
A3	Space Requirement	To Prevent Moisture
A4	Space Requirement	
A5	Leakage	
A6	Space Requirement	
A7	None	
A8	Space Requirement	No fence
A9	Not Spacious Enough	
A10	Space Requirement	
A11	Not Spacious Enough	
A12	Space Requirement	
A13	Space Requirement	
A14	Space Requirement	
A15	Space Requirement	
A16	Space Requirement	
A17	Space Requirement	
A18	Space Requirement	Broken Ceramics
A19	Not Spacious Enough	
A20	Comfort	
A21	Space Requirement	
A22	Space Requirement	Comfort
A23	Space Requirement	Not Spacious Enough
A24	Space Requirement	Comfort
A25	Space Requirement	
A26	Not Spacious Enough	Comfort
A27	Space Requirement	
A28	Space Requirement	
A29	Space Requirement	
A30	Space Requirement	
A31	Space Requirement	Comfort

The raw data from individual responses was then categorized and quantified to provide a clearer picture and identify the most frequently cited reasons. This summary is presented in Table 2, which outlines the distribution of respondents across each identified factor, along with the corresponding percentage values. The data reveal that space requirement is the most prominent reason for renovation, reported by 23 respondents, which accounts for 56,97% of the total. This high percentage suggests that many residents feel the initial design of the house does not meet their spatial needs, whether due to family growth, functional requirements, or personal preferences, thus prompting modifications to the original layout. Other significant but less dominant factors include comfort (15,38%), perception of the space as not spacious enough (12,82%), and various minor but specific concerns such as the absence of a fence, water leakage, or broken structural elements.

Table 2. Factors that influence remodeling decisions

Factors that influence remodeling decisions	Number of Respondents	Percentage
Space Requirement	23	56.97%
Comfort	6	15.38%
Not Spacious Enough	5	12.82%
No Fence	1	2.56%
Leakage	1	2.56%
Broken Ceramics	1	2.56%
To Prevent Moisture	1	2.56%
Wind-driven rain	1	2.56%

To further illustrate these findings visually, the proportions of each reason that influenced renovation decisions have been presented in a pie chart shown in Figure 5. This graphic representation effectively highlights the dominant role of space-related needs while giving a visual weight to less frequent but relevant concerns like comfort, moisture, or material issues. Combining tabular and visual data provides a comprehensive understanding of the motivations behind renovation practices among residents in the studied housing estates.

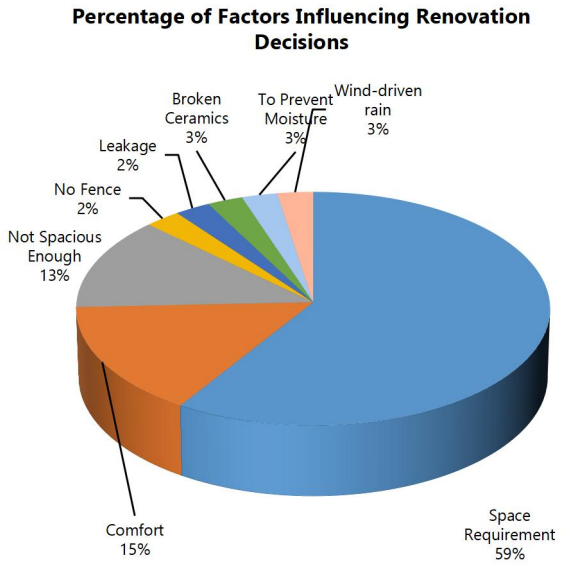

Figure 5. Percentage of factors influencing remodeling decisions

Most residents stated that the space in the subsidized houses was insufficient for their household needs, such as a kitchen, terrace, additional bedroom, or workspace. This demand for extra space also reflects the family's changing needs, such as adding family members, the need for privacy, or new activities requiring a separate space.

"Initially, it was just one room, but my children are getting older, so I need to add another room for them."
(Respondent A20, resident of Griya Moyudan Asri Housing, 2025)

Apart from bedrooms, some residents also mentioned the need for a kitchen and expanding the kitchen in their homes. This need is particularly evident among residents who run home-based businesses. For instance, Figure 6 shows one of the houses in Godean Jogja Hills Housing that has undergone physical modification to accommodate such a business activity.

"I opened an angkringan business. The kitchen at the back is narrow, so I moved everything to the front and sold angkringan."
(Respondent A12, resident Godean Jogja Hills Housing, 2025)

Figure 6. One of the houses in Godean Jogja Hills Housing

The findings show that space limitation is a significant issue in subsidized housing, encouraging residents to renovate their dwellings to meet the family's evolving needs. The limited space in subsidized houses is often the main reason for residents carrying out renovations. This is in line with research by Reza (2021), which shows that subsidized houses generally only provide basic spaces with sizes that are made as efficient as possible, such as carports, terraces, living/family rooms, bedrooms, kitchens, and bathrooms. This causes residents to feel the need to add additional space to meet the needs of a growing family. This phenomenon is also found in Hardy's (2021) research in Kupang City, where residents developed their houses on the remaining land to optimize the house's function in meeting residents' needs.

Furthermore, the results of the questionnaires and interviews also revealed the types of spaces that were added or modified in the renovation process. This data is presented in the following table:

Table 3. Type of space added

Type of space added.	Number of Respondents	Percentage
Kitchen	8	50%
Terrace	6	37.5%
Workspace	1	6.25%
Guest room	1	6.25%

Based on the data in the table above, Table 3 shows that the type of space most frequently added by respondents in the renovation process was the kitchen. A total of respondents, or approximately 50% of those who made modifications, added a kitchen to their unit. This indicates a significant unmet need, as many residents felt compelled to create a kitchen space that the developer did not initially provide.

One respondent, Respondent A8, a resident of Godean Jogja Hills housing, stated:

"Initially, this house didn't have a kitchen, so my son added a kitchen at the front of this house, next to the garage, because the one at the back was not enough."

This shows that functional spaces such as kitchens are paramount in renovation. Adding kitchens by residents of subsidized houses reflects the gap between the developer's standard plan and the residents' basic needs. The absence of kitchens as part of the main functional house in subsidized houses indicates that the initial design has not fully considered essential domestic activities. This is in line with the findings of

Bramantyo et al. (2019), which stated that more than 60% of respondents were dissatisfied with subsidized houses built without kitchens, making kitchens one of the most frequently added elements in the renovation process. In a similar study, Reza (2021) also found that kitchen development is the first step for residents in adjusting subsidized houses to their lifestyle and family needs, especially for those who run home economic activities such as culinary businesses. Thus, the addition of a kitchen not only functions as a complementary space, but also as a form of functional and economic expression from residents against the limitations of the initial design of the subsidized house.

Furthermore, terraces are the type of space often added, namely six respondents or around 19% of all respondents who renovate for space needs. The addition of a terrace provides additional space for activities such as receiving guests, a children's playground, planting plants, or just relaxing. One example of this can be seen in the actual condition of a respondent's house, as documented in Figure 7, which shows the front view after adding a terrace beside the carport.

Respondent A11, a resident of Godean Jogja Hills Housing, explained:

"We built a terrace in front of the house, because previously, guests came directly to the living room. This terrace is also a place for children to play sometimes."

Figure 7. Respondent's house A11

Meanwhile, only one respondent, or around 6.25%, mentioned additional spaces such as a workspace and guest room. Although fewer, this reflects the growing importance of functional needs, such as the need to work from home.

Respondent A19 said:
"Now I work from home, so I partition off a small section for my workspace, so I don't disturb my children's studies."

This quote indicates that the space has been adjusted to accommodate lifestyle developments and new needs previously unmet in the original design of the subsidized house.

The second factor is comfort, which was mentioned by six respondents (15.38%). Renovations in this category are carried out to improve housing quality, such as adding ventilation, changing the interior layout to make it more comfortable, or improving air circulation and natural light. An example of this can be seen in Figure 8, which shows one of the houses in Griya Moyudan Asri Housing where a skylight was installed, the residents' effort to address issues related to comfort and spatial atmosphere in their homes.

"The original house was dark and stuffy. So, I made a skylight on the roof at the back and this stone model wall, so it doesn't look monotonous."
(Respondent A20, resident Godean Jogja Hills Housing, 2025)

Figure 8. One of the houses in the Griya Moyudan Asri housing

This shows that comfort is also an essential factor that encourages residents of subsidized houses to renovate. Residents' efforts to improve comfort through renovation show that the quality of space is not only seen from the physical size, but also from aspects of functionality, natural lighting, air circulation, and subjective feelings towards occupancy. This aligns with Subagya and Yetti's research (2021) that comfort is often the primary impetus in rearranging residential interiors, especially in small-sized dwellings such as subsidized houses. Renovations that include adding ventilation, opening new openings, or rearranging space layouts are common strategies to create a healthier and more pleasant atmosphere. In addition, occupant comfort is closely related to the adequacy of lighting and air quality in the house. Therefore, renovation in the context of subsidized housing is not only technical, but also a quest for a better quality of life through improving the micro environment within the house.

In addition, the third factor, the house not being spacious enough, was also the reason for renovation for five respondents (12.82%). Although it looks like the need for space, this category emphasizes the respondents' perception of the overall size of the house, which was considered too small when they first moved in.

"The back kitchen was originally narrow, then I widened it, blocking the right and left of the building, so now it's quite spacious."
(Respondent A9, resident Godean Jogja Hills Housing, 2025)

Residents' perceptions of houses that are too small from the start are a reflection and limitation of the standard area of subsidized dwellings, which is often not in line with the real needs of households. This is in line with the findings that occupant comfort is strongly influenced by building areas, where houses with limited area can limit daily activities and reduce the overall quality of housing.

In addition to the three main factors above, respondents also mentioned several other reasons, namely no fence, leaks, broken ceramics, to avoid dampness. Although not a dominant factor, the technical conditions of the building, such as the absence of fences, roof leaks, broken ceramics, moisture, and Wind-driven rain problems, still influence residents' decisions to renovate. These problems reflect the subsidized houses' lack of quality and physical resilience to the tropical climate and daily functional needs. In their study, Bramantyo et al. (2019) mentioned that subsidized houses in Semarang suffer minor damages that affect comfort and safety, including leaking roofs, cracked walls, and suboptimal installations. Meanwhile, Kurniati and Nurhidayatullah (2020) found that around 29% of structural and non-structural works in subsidized houses in Godean fell into the "unfit" or "less fit" category, prompting residents to make immediate repairs for comfort and safety. Therefore, although the scale is small, these factors indicate the importance of the initial quality of construction in preventing future renovation burdens.

Overall, the findings show that subsidized housing, while affordable, often does not meet the full spatial needs of residents in the long term. Almost all residents undertake renovations due to limited space, lack of comfort, and the physical condition of the building that does not support daily life. This is in line with research by Bramantyo et al. (2019), which states that more than 60% of respondents were dissatisfied with the absence of kitchens in subsidized houses built by developers. This condition causes the house to be considered less livable. It encourages the owner to carry out renovations to improve the quality, comfort, and function of the space in the residence.

5. Conclusion

This study found that the dominant factor influencing residents' decisions to renovate subsidized houses in the Sleman district is the need for additional space, which 23 respondents, or 56.97%, mentioned. This shows that most residents feel that the initial design has been unable to accommodate their family space needs optimally. Adding space built with kitchen, terrace, and workspace functions became an option in common renovations. Furthermore, convenience was the second most common reason, with six respondents (15.38%), followed by the perception that the house was not spacious enough, which was expressed by five respondents (12.82%). Meanwhile, several other factors also influenced, but with a smaller percentage, were the absence of a fence, leaks, broken ceramics, and humid conditions, each mentioned by respondents, or 2.56%. This data reflects that although most renovations are driven by space and comfort, the house's physical condition and security are also a concern, albeit on a smaller scale. This finding suggests that the current design of subsidized housing is not responsive to the evolving needs of residents in the long term.

This research can be used to develop a more flexible residential design if it is to be renovated, and there is a need to consider gradual expansion of space. However, this study has limitations in the number and coverage of respondents in two housing locations, and has not considered aspects that influence residents' decisions, such as occupation, number of family members, and the desired level of comfort in the renovation carried out by residents. Therefore, further research is recommended to deepen the topic through quantitative approaches, such as energy calculation simulations, analysis of carbon emission levels, and evaluation of residents' comfort levels before and after renovation. In addition, stakeholders, including developers, local governments, and neighborhood communities, need to be involved and considered in supporting legal and sustainable renovations of subsidized houses.

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