

Residents' Modifications to Subsidized Housing: An Emerging Typology at Housing Sentany Regency in Cirebon, Indonesia

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Abstract

Subsidized housing comprises houses developed by the government. They are either state-owned or managed by a state-owned party. Usually, they are intended for the low income communities. This research examines the subsidized housing developed in Sentany Regency Housing in Indonesia. It has created designs with attractive building facades but during its development, the residents have made changes to the facades. This paper examines this phenomena to understand the reasons for the changes to the facades.

The research used a qualitative research method and a descriptive approach. It provides theoretical understanding on the forms of the facade typology of subsidized housing developments formed in the Sentany Regency Housing Complex. In fact, the subsidized housing follows the concept of growing houses, which can meet the basic needs of residents. It thus provides opportunities for the residents to make changes to the facade of their houses. The needs and abilities of the people initiating facade and other changes has produced very diverse housing.

It concludes that the occupants make changes in response to the occupants' basic needs, economic capacity, sense of security, and the appearance of the building related to the occupants' hobbies.

Keywords: Typology, facades and development of subsidized houses.

Introduction

The development of a house by residents can lead to the development of space, both external and internal and the shape of the facade of the house. Apart from the rooms, the building facades are very important for the residents because the facade is the initial appearance of a house which can reflect the characteristics of its residents and can also be the collective identity of the housing complex. A building facade shows the orientation of the house towards the direction of the road.

Sentany Regency Housing Area in Cirebon Regency has unique characteristic facades that have been regulated by the Developer. Moreover, the housing complex is in an orderly area. It already contains several housing elements that support the house and the shapes of the buildings. They have formal impressions. In fact, as known, a house in harmony with Nature is a reflection of the personal self both as an individual and family as a whole. This reflects the personality and welfare of the people. Housing is part of the community life and the overall social environment (Sunarti, 2019). In fact, the

subsidized housing provided follows the concept of a growing house, which can meet the basic needs of the residents, thus providing opportunities for them to make changes to the facade of their houses. Interestingly, the availability of the opportunities for changing the facades of the house based on the needs and abilities of the community has enabled the development of very diverse subsidized houses.

This research examines the Subsidized Housing Developed in Sentany Regency Housing which has been created based on a design concept to produce attractive building facades allowed to be modified by the residents. The paper focuses on developing a typology of the facade developments carried out by the residents and explore the reasons for these changes. The aim of the research is to illuminate the idea of user transformations and their manifestations.

Its objectives are:

1. To identify a facade typology by classifying facade changes due to house changes).
2. To identify why these changes have been made.

Theoretical Framework

A house is a form of structural manifestation influenced by the surrounding environment and is closely related to the values of its residents (Rapport, 1986; Budiharjo, 2009). A house is a place for shelter. It is also a place to carry out various activities (Sunarti, 2019). According to Turner (1972), a house is a place for carrying out various social activities and a place for its residents to take shelter. A residence is a container that is formed in which there is a construction process of adjustments based on the needs of the occupants in order to achieve comfort (Hartiningsih, 2008).

Often, the development of subsidized housing occurs based on human needs. According to Prijotomo and Santosa (1997), a typology is the activity of looking at the types of architectural objects and grouping them. Typology according to Lang (2005), is a theoretical classification that explains a phenomenon of that object. It is an aspect that classifies an object with several similarities regarding characteristics that are specifically created and constant.

The study of typology is used to explain changes in a type, because a type has certain characteristics that differentiate it from the other types. The purpose of studying a typology is as a tool for viewing and studying architectural objects (Faisal, 2014). Typologies arise from changes. A change is adapting to the local conditions which result in changes in various forms (Wahyuasih, 2007). Change according to Papageorgiou in Hartiningsih (2008) is an event that occurs intentionally or not, resulting in a difference from the start to finish due to influences from the outside or vice versa. Indeed, changes occur due to a process of repeated adjustments (Yafiz, 1994).

According to Habraken (Roihanah, 2014), Changes are divided into 3 factors namely:

- a. Technical Factors
Such as changes to the replacement of window, door and floor elements due to damage that occurs.
- b. Stylistic Factors
- c. Functional Factors
Such as adding more private elements as a measure to prevent damage and increase storage.

According to Potts and LaMars (2004), change is a change from a current situation to a future situation. However, according to Ching (1994) changes are of 3 types. They are:

1. Change of dimensions
Changing the dimensions of the shape but still retaining the identity of the original shape.
2. Change consequence subtraction (subtractive)
Reducing part or several parts resulting in a change in the form of the original identity.
3. Change consequence addition (Additive)
Adding a little or a lot results in a change in the form of the original identity.










JENIS PERUBAHAN	KONDISI AWAL	PERUBAHAN	KONDISI AKHIR
PERUBAHAN DIMENSI			
SUBSTRACTIVE			
ADDITIVE			

Fig. 01: Illustration of changes occurring
Source: Author, 2022

As has been said, development of subsidized housing often respond to human needs. Maslow who has studied human needs, has proposed a Theory (Heylighen, 1992), which shows that human needs rise vertically in a hierachical manner as they are met. This theory has been presented as a pyramid as follows.



Fig. 02: Maslow's theory
Source: Maslow,1943

1. Physiological needs
Physiological needs at the bottom of the need heirachi. They are the needs to maintain life. They include the need for food, drink, and shelter. Foe example, people need a house that is livable. Thus, this need underlies the need for a house that is ready to be occupied properly.
2. Safety needs: need to feel safe
These needs are driven based on the need for safety, absence of fear, anxiety and other psychological needs.
3. Love needs
This appears as a consequence for affection, be friendly, acceptance, offering love and giving Love.
4. Self Esteem and accomplishment need
Emerging needs after need of love is fulfilled, the ego needs achievement and recognition
5. Self-actualization need
The maximum need of a human being is to achieve his/her full potential and prove his potential to others.

This reserach takes the theoretical position that changes people have done in modifying the facades of the subsidized housing schemes can be understood in terms of satisfying these needs as articulated by Maslow (1947).

Research Methods

This research was conducted at the Sentany Regency Housing Complex which is located in the Wanakarta Block, Kel. Tukmudal, Kec. Source Cirebon Regency. This housing area was built in 2011 by the Developer PT. Tulus Asih Group. Its area is 30,571 m², divided into 2 types of house subsidies: namely Type.30/72 and Type 36/72. In 2012 it had added an area of land amounting to 1800 m². Thus, the total land is 32,371 m².

This research aims to examine the typology of subsidized housing development developed by house residents. The research used qualitative research methods including field observations and descriptive analysis. This method was used to examine the typology of forms of subsidized housing developments carried out by residents. The observation method used is based on guidelines for typological theory (Moneo, 1978) referring to the aspects that form house elements from initial process.

Data collection techniques include taking photos or documenting during field observations, and selecting research samples and conducting interviews. The aspects studied through observations are the interior, exterior and facade changes.

This research focuses on the typological aspect according to Sulistijowati (1991), namely changes to layout, additions to room layout, color, and addition of accessories. First it looked at all the facade changes that have been carried out in the housing complex. Then they were grouped into part of a facade development typology. What changes have occurred in the grouping of the facades were observed. Following is the sequence of research.

1. Taking photos or document all house facades.
2. Doing a typological sketch of the transformations.
3. Determining the type of the category of change
4. Determining the types of houses to carry out in-depth research and interviews with the residents of the houses.

Then the observations made were categorized according to the aspects observed. This involved reducing and formulating the types of changes that have occurred in subsidized housing at Sentany Regency Housing. Finally data was analyzed and summarized.

Findings and Discussion

Cirebon Regency is a region located in the Eastern part of the West Java Province. Cirebon Regency is also the boundary and entrance between the West Java Province and Central Java.

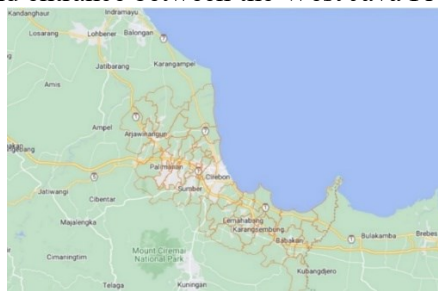


Fig.03: Map of Cirebon Regency

Source: Cirebon Regency Regional Research and Development Planning Agency, 2022

Object of Research

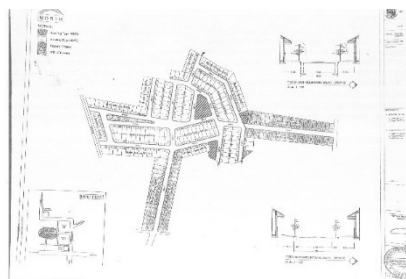


Fig.04: Site Plan in 2011

Source: Document Tulus Asih PT

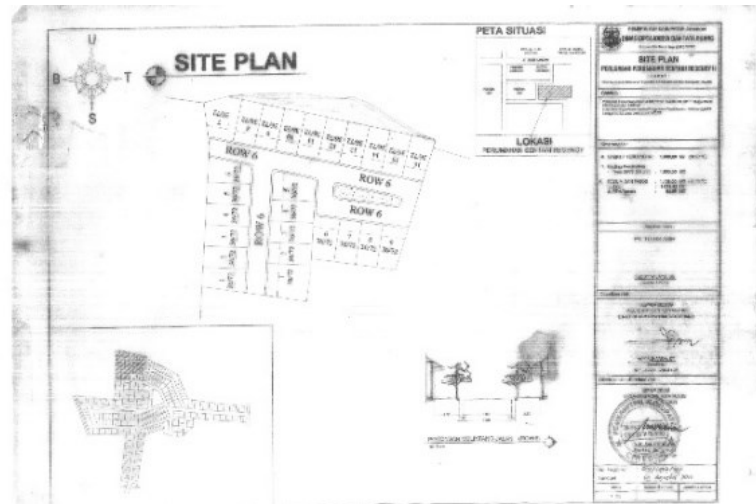


Fig.05: Site Plan for additions in 2012
Source: Document Tulus Asih PT

After increasing the land area to 32,371 m², this housing complex has 3 types of houses, namely Type.30/72 with 194 units, Type.30/73 with 25 units and Type.36/72 with 74 units.



Fig. 06: Location Maps
Source: Google Maps, 2023

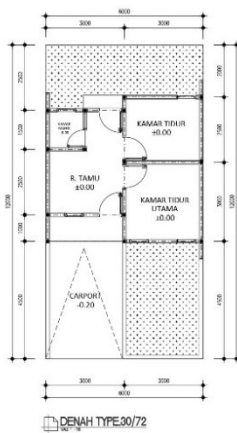
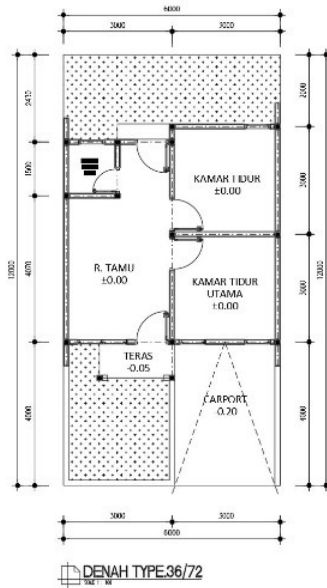


Fig.07: Type.30/72 and Type.30/73
Source: Document. Tulus Asih PT

**Fig. 08:** Type 36/72

Source: Document Tulus Asih PT

Typology of Subsidized Housing Development

Based on the results of direct observations in the field, several results were recorded regarding the form of changes carried out by the residents. They are as follows.

1. The residents of the house changed the layout of the rooms.
2. Did not change the room layout but added additional space to the remaining land.
3. Changed the original color of the building.
4. Add façade accessories.
5. Changed the façade of the house.

Table 01: Conclusion of Block A Facade Changes

Source: Author, 2023

Change Facade Block A Building				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
36 houses	35 houses	5 houses	35 houses	34 houses
90 %	87.5 %	12.5 %	87.5 %	85 %
40 houses	40 houses	40 houses	40 houses	40 houses

The changes that have been carried out in housing are divided into two types:

1. Changes due to additions (additives). This involves changing the shape of the facade and adding facade accessories.
2. Changes in shape dimensions but has the identity of the original shape. Not changing the shape of the facade, just adding some dimensional changes.

Table 02: Conclusion of Facade Changes carried out in Block A

Source: Author, 2023

Including into changes due to additions (additives).	31 units	77 %
This includes changes in shape dimensions but has the identity of the original shape.	9 units	23 %

Table 03: Conclusion of Block B Facade Changes

Source: Author, 2023

Changes to the Block B Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
19 houses	20 houses	2 houses	20 houses	20 houses
95 %	100%	10 %	100%	100%
20 houses	20 houses	20 houses	20 houses	20 houses

Table 04: Conclusion of Facade Changes that occurred in Block B

Source: Author, 2023

Including into changes due to additions (additives).	23 units	77 %
This includes changes in shape dimensions but has the identity of the original shape.	7 units	23 %

Table 05: Conclusion of Block C Facade Changes

Changes to the Block C Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
13 houses	13 houses	0 houses	11 houses	13 houses
100%	100%	0 %	84.62 %	100%
13 houses	13 houses	13 houses	13 houses	13 houses

Table 06: Conclusion of Facade Changes that have been carried out in Block C

Source: Author, 2023

Including into changes due to additions (additives).	7 units	54 %
This includes changes in shape dimensions but has the identity of the original shape.	6 units	46 %

Table 07: Conclusion of Block D Facade Changes

Source: Author, 2023

Changes to the Block D Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
19 houses	17 houses	4 houses	18 houses	19 houses
100%	89.47 %	21.05 %	94.74 %	100%
19 houses	19 houses	19 houses	19 houses	19 houses

Table 8: Conclusion of Facade Changes that occurred in Block D

Source: Personal analysis, 2023

Including into changes due to additions (additives).	8 units	42 %
This includes changes in shape dimensions but has the identity of the original shape.	11 units	58 %

Table 9: Conclusion of Block E Facade Changes

Source: Author, 2023

Changes to the Block E Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
17 houses	15 houses	1 house	19 houses	19 houses
85 %	75 %	5 %	95 %	95 %
20 houses	20 houses	20 houses	20 houses	20 houses

Table 10: Conclusion of Facade Changes that occurred in Block E

Source: Author, 2023

Including into changes due to additions (additives).	9 units	45 %
This includes changes in shape dimensions but has the identity of the original shape.	11 units	55 %

Table 11: Conclusion of Block F Facade Changes

Source: Author, 2023

Changes to the Block F Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
13 houses	13 houses	4 houses	13 houses	13 houses
92.86 %	92.86 %	28.57 %	92.86 %	92.86 %
14 houses	14 houses	14 houses	14 houses	14 houses

Table 12: Conclusion of Facade Changes that occurred in Block F

Source: Author, 2023

Including into changes due to additions (additives).	6 units	43 %
This includes changes in shape dimensions but has the identity of the original shape.	8 units	57 %

Table 13: Conclusion of Block G Facade Changes

Source: Author, 2023

Changes to the Block G Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
17 houses	17 houses	0 houses	17 houses	17 houses
100%	100%	100%	100%	100%
17 houses	17 houses	17 houses	17 houses	17 houses

Source: Personal analysis, 2023

Table 14: Conclusion of Facade Changes that occurred in Block G

Source: Author, 2023

Including into changes due to additions (additives).	13 units	76 %
This includes changes in shape dimensions but has the identity of the original shape.	4 units	24 %

Table 15: Conclusion of Block H Facade Changes

Source: Author, 2023

Changes to the Block H Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
22 houses	23 houses	3 houses	22 houses	22 houses
95.65 %	100%	13.04 %	95.65 %	95.65 %
23 houses	23 houses	23 houses	23 houses	23 houses

Source: Personal analysis, 2023

Table 16: Conclusion of Facade Changes that occurred in Block H

Source: Author, 2023

Including into changes due to additions (additives).	10 units	43 %
This includes changes in shape dimensions but has the identity of the original shape.	13 units	57 %

Table 17: Conclusion of Block I Facade Changes

Source: Author, 2023

Changes to the Block I Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
17 houses	16 houses	0 houses	17 houses	17 houses
94.44 %	88.89 %	0 %	94.44 %	94.44 %
18 houses	18 houses	18 houses	18 houses	18 houses

Table 18: Conclusion of Facade Changes that occurred in Block I

Source: Author, 2023

Including into changes due to additions (additives).	13 units	72 %
This includes changes in shape dimensions but has the identity of the original shape.	5 units	28 %

Table 19: Conclusion of Block J Facade Changes

Source: Author, 2023

Changes to the Block J Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
34 houses	22 houses	3 houses	28 houses	28 houses
94.44 %	61.11 %	8.33 %	77.78 %	77.78 %
36 houses	36 houses	36 houses	36 houses	36 houses

Table 20: Conclusion of Facade Changes that occurred in Block J

Source: Author, 2023

Including into changes due to additions (additives).	20 units	56 %
This includes changes in shape dimensions but has the identity of the original shape.	16 units	44 %

Table 21: Conclusion of Block K Facade Changes

Source: Author, 2023

Changes to the Block K Building Facade				
Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories
20 houses	16 houses	3 houses	20 houses	20 houses
100%	80 %	15 %	100%	100%
20 houses	20 houses	0 houses	20 houses	20 houses

Source: Personal analysis, 2023

Table 22: Conclusion of Facade Changes that occurred in Block K

Source: Author, 2023

Including into changes due to additions (additives).	11 units	55 %
This includes changes in shape dimensions but has the identity of the original shape.	9 units	45 %

Table 23: Summary of Conclusions on Facade Changes
Source: Author, 2023

Block	Typology of facade changes					Number of Houses
	Facade paint changes	Facade Fox	Addition of 2 floors	Add fence accessories	Add canopy accessories	
Block A	36	35	5	35	34	40
Block B	19	20	2	20	20	20
Block C	13	13	0	11	13	13
Block D	19	17	4	18	19	19
Block E	17	15	1	19	19	20
Block F	13	13	4	13	13	14
Block G	17	17	0	17	17	17
Block H	22	23	3	22	22	23
Block I	17	16	0	17	17	18
J Block	34	22	3	28	28	36
Block K	20	16	3	20	0	20
Average	227	207	25	220	202	240
Percentage	94.58 %	86.25 %	10.42 %	91.67 %	84.17 %	100%

The data studied is from the aspect of making overall facade changes, creating changes in paint the color of building facades, developing 2 floors, adding facade accessories such as canopies or adding fences. Observations show that 227 out of a total of 240 houses had color changes in the facades. This accounts for a 94.58%. Out of the total of 240 house sample units studied, 207 units had undergone changes which account for a 86.25%. Based on the development of the, 25 houses out of a total of 240 sample houses added 2 floors amounting to 10.42%. 220 units out of the 240 houses had added fence accessories accounting to 91.67%. Similarly, 202 units out of the 240 sample units had added canopy accessories amounting to 84.17%.

Types of Subsidized Housing Modifications

Based on the results of observations in the field, from the results of the grouping table and the assessment aspect table, it is clear that there are several aspects that shape the modifications of each house. They can be grouped into 6 types of developments, as follows.

1. Completely changing the layout of the rooms.
2. Building a house by adding rooms with the remaining land.
3. Changes in paint color inside.
4. Change in outside paint color.
5. Addition of façade accessories, including additions to carport canopies and fences.
6. Complete change of the facade.

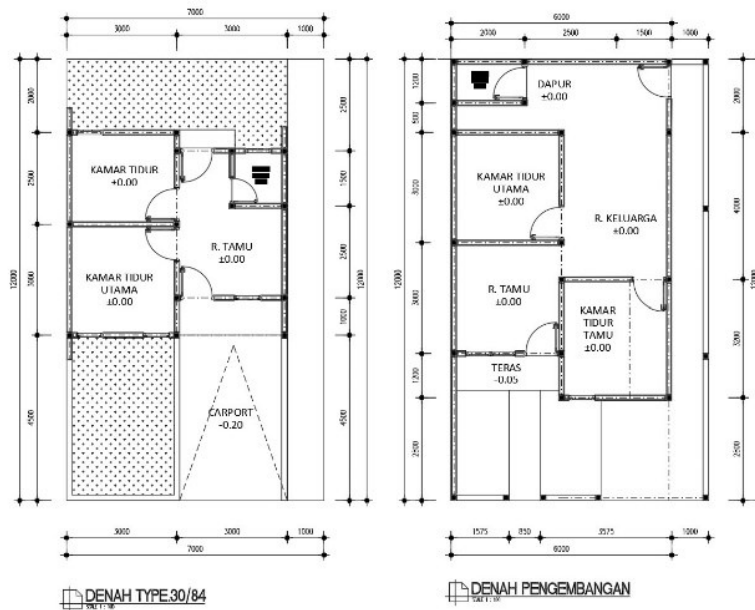
If the six types of house modifications are re-examined, it will produce three types of changes as follows.

1. Completely change the layout of the house, changes facades and additions of accessories to the facade as well as change of the initial paint color.

Changes carried out by the residents completely changes the existing land according to the residents' own wishes. Then the residents of the house make changes, replace the ceramics and completely replaces the facade. This involves renovating the roof using the roof construction and materials that the residents wanted with additional facade accessories such as fences and canopies.



Fig. 09: Image of the house under modifications
Source: Personal Documentation



2. Development of the house by making additions to the remaining land and adding facade accessories as well as changing the interior and exterior paint without changing the facade.



Fig. 11: Photo of development house
Source: Personal Documentation

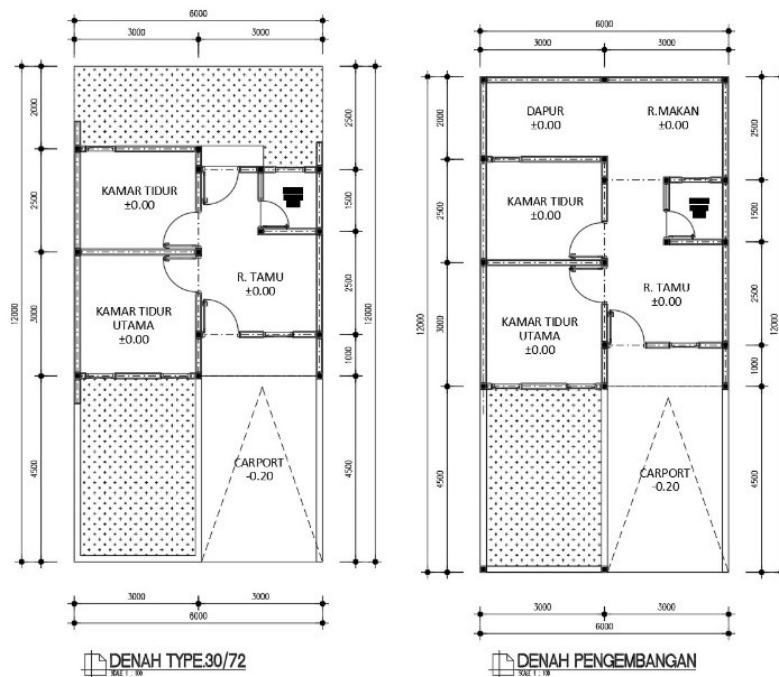


Fig. 12: Development plan
Source: Personal Analysis

The changes carried out by the residents are the additions of the remaining land by replacing paint, floor tiles and adding facade accessories such as adding fences and canopies.

3. Making additions to the remaining land and adding facade accessories as well as changing the interior and exterior paint, leaving it as before without changing the facade.



Fig. 13: Photo of development house
Source: Personal Documentation

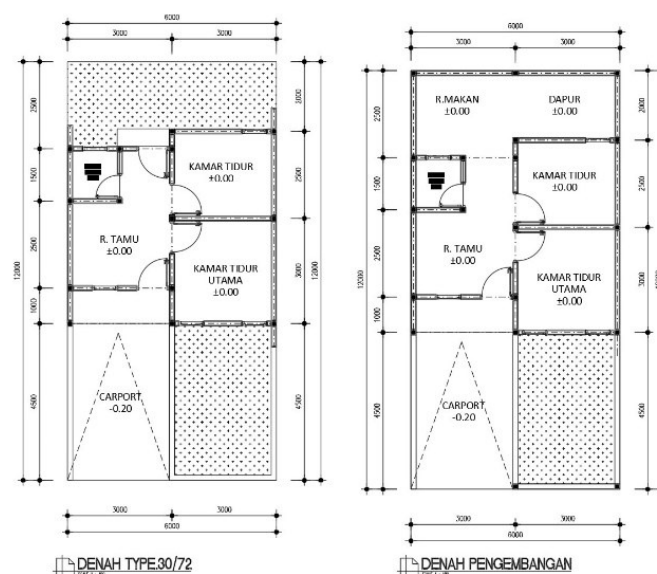


Fig.14: Development Plan
Source: Personal Analysis

On the inside, the types of developments carried out by the residents are adding space to the remaining land by changing the base point of the building itself without changing the exterior paint and replacing the floor tiles. On the building facade, residents add accessories such as fences and canopies without changing the building facade.

Considerations for homeowners developing their subsidized housing.

Some of the reasons why house occupants make changes are as follows:

1. Need base residents
The basic need for additional space is a strong reason why residents expand their homes. Such as the need for additional space for cooking and washing. So the residents of the house expanded the building area.
2. Ability and economy
Economics is a reason for developing a house. When the residents have more economic resources, the residents carry out house developments.
3. Sense of security
Development carried out by residents is based on the sense of security that residents have. Because a sense of security is one of human needs according to Maslow's theory (Heylighen, 1992)
4. Appearance of the facade
The appearance of the facade has become the characteristic or personality of the home owner. So that residents make changes to the facade as they wish. Because it becomes the identity of the residents.
5. Resident's hobbies
In general, residents have various hobbies, one of them is gardening. There are those who take advantage of excess wide land used for planting so that it gives a cooling effect to the house.

Conclusion

Based on the observations in the field, seen from facet aspects and typology development, the conclusion derived is as follows.

1. Changing of the house completely changing the layout of the house, changing the facades and additions of accessories facade as well as change initial paint color.
2. Changing of the house by making additions to the remaining land and adding facade accessories as well as changing the interior and exterior paint without changing the facade.

3. Changing the house by making additions to the remaining land and adding facade accessories as well as changing the interior and exterior paint, leaving it as before without changing the facade.

The modifications of the houses were based on several reasons considered by the residents. In this context, the developers can take either of the following steps.

- a. Create a very friendly house design and make the house design grow, thereby providing opportunities for consumers to make further changes or developments to the house.
- b. Provide livable housing for low-middle income people.

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