

## STUDY OF FLOOR PLAN ALTERATION OF GORONTALO REGIONAL POLICE FORCE OFFICIAL RESIDENCE

R P S Sastra<sup>1</sup>, Wijayanti<sup>1</sup>, and B I R Harsritanto<sup>1\*</sup>

<sup>1</sup> Architecture Department, Engineering Faculty, Universitas Diponegoro, Tembalang,  
Semarang, Indonesia

### ABSTRACT

Home is a place to live and rest, where we get protection, able to feel comfort, tranquillity, and pleasure. In supporting the performance of the Indonesian National Police, institution provides housing facilities for its members to be used during their service period in the region. In accordance with the National Police Chief Regulation No. 13 of 2018, each member of the National Police has the right to a residence for the duration of their term of office in an area, but ownership of the residence does not escape the regulations in it, one of which is the uniformity of the house according to the prototype of the official house design. Over time, the standard and uniformity of the official residence applied to the prototype of the house changed, both interior and exterior of the house, small or large changes so that the official house looked not uniform. This study analyses the trend of spatial changes that occur in each official residence and the factors causing it by conducting direct surveys and interviews with related parties to determine the percentage of changes. The ownership of the official house that changes according to the period of service of the occupants is one of the factors for this change. According to its function, the official residence is only used during the period of service of its occupants, during which time changes will continue and grow. Uniformity is mandatory, as a National Police facility, it is necessary to innovate in order to minimize design changes, both inside and outside the building.

*Keywords:* Study, Floor plan alteration, Police Force

### 1. INTRODUCTION

House is a building for shelter and rest, it has function as a place to live for a certain period of time. The house must be able to guarantee the interest of the family to grow, socialize and provide peace, pleasure and comfort [1]. The need for a house or place to live is one of the motivations for the development of the higher life, in other words, a place to live is basically a place for humans or families to carry out their lives [2]. The National Police of the Republic of Indonesia is a state apparatus that plays a role in maintaining security and order, upholding the law and providing protection and services to the community and every member of the Indonesian National Police must be ready to be placed throughout the territory of the Republic of Indonesia. To support the implementation and smooth running of the duties of the National Police, members of the National Police have the right to have a place to live, the housing can be in the form of an official house, a dormitory house or a boarding house provided in each service area. The rights of members of the National Police to obtain official housing are listed in the Regulation of the Chief of Police Number 13 of 2018, which divides houses into 2

---

\* Corresponding author's email: [bangunirh@lecturer.undip.ac.id](mailto:bangunirh@lecturer.undip.ac.id)

DOI: <https://doi.org/10.20885/icsbe.vol4.art43>



categories, namely official houses for certain positions in group I and dormitory houses and boarding houses in group II. This is of course aimed at facilitating members of the Indonesian National Police who serve throughout the territory of the Republic of Indonesia within a certain period of time. Gorontalo Regional Police is the Regional Police Command Headquarters in the province of Gorontalo which was established in 2003 which was previously a part of North Sulawesi Regional Police. Official housing within the Gorontalo Regional Police is provided as a facility to members of the police with certain positions, in this case, the main police officer. The prototype of the implementation of the official housing comprises its standards and uniformity, and the distribution is based on position or rank within the Gorontalo Regional Police Structure Organisation.

There are 23 official houses to date with several types, which are designated for certain positions in Gorontalo Regional Police. In this research, the small type of 54 would be examined. It is hoped that this official housing will fulfil the needs of each member assigned to the Gorontalo area. However, ownership of official residences that keep changing according to the tenure of the occupants, tends to encourage each occupant to adjust the conditions of the residence to their needs. This encourages changes such as adding space, changing the shape and area of space, shifting space or simply changing the function of space.

## 2. LITERATURE REVIEW

### 2.1 House Review

A house is a building to live in [3]. The need for shelter is actually one of the main needs, then because humans no longer live sedentarily, they need a permanent place to live, which can now be called a home [4]. Furthermore, the concept of the house [5] is described as follows:

- 1) The house as the embodiment of identity, as a symbol and a reflection of the values of the occupants' tastes
- 2) As a place of intimacy, belonging, togetherness, warmth, love, and security
- 3) As a place of solitude, and solitude; a place to escape from the outside world and routine
- 4) As root and continuity; home or hometown is seen as a place to return to the roots and foster a sense of continuity in the chain of future processes.

Three main functions contained in a house where you live [6] are:

- 1) The house as a support for family identity (identity) which is manifested in the quality of housing or protection provided by the house. The need for shelter is intended so that residents can have shelter to protect themselves from the local climate.
- 2) The house as a support for the family's opportunity to develop in socio-cultural and economic life or the function of the family bearer. This need in the form of access is translated into fulfilling social needs and ease of going to work in order to get a source of income.
- 3) The house as a support for a sense of security (security) in the sense of ensuring the condition of the family in the future after getting a house. Security guarantees for the housing environment occupied as well as security guarantees in the form of ownership of houses and land (the form of tenure).

From the definition and function of the house, it can be said that there is a close attachment by the residents to the house they live in, so it affects the feelings felt by the residents.



When a consumer buys a house and is not satisfied with the house he lives in, there will be a tendency to make the house he occupied more comfortable by making changes. The reason someone makes a change comes from the reciprocal relationship between the occupants and their place of residence, this reason also depends on the condition of the occupants, the physical aspects of the place of residence, and the socio-requirements of the occupants themselves [7].

Making changes to the house has advantages such as improving the quality standards of the house, improving the physical appearance of the house or simply providing a wider or more comfortable space for residents to meet their psychological needs. In accommodating the changes needed, the occupants of the house made several adjustments [8]:

- 1) adaptation of family rules, the family will change the rules to adapt to the conditions around the house
- 2) the family adaptation structure, where there is a grouping of the composition and organization of adaptation for housing
- 3) residence mobility
- 4) change the place of residence to be more feasible

Households with a larger number have a positive correlation to house changes. Households with more adults allow change to occur compared to households with small children. This is because when growing up, the privacy needed is even higher, so the need for space increases and encourages changes in the house [9].

Basically, building a house is a daily activity carried out by individuals, families or communities themselves [10]. According to him, insight is too focused on achieving physical targets, and the quantity of housing procurement with prototype models [11]. The need for space in the house is the basis for setting or organizing space in a house:

- Has a special function or requires special forms.
- Flexible in use and can be freely manipulated.
- Single and unique function or importance to the organization of the building.
- Have similar functions and can be grouped into a functional set or repeated in a linear sequence.
- Requires exterior exposure to light, ventilation, views, or access to outdoor spaces.
- Must be separated to maintain privacy. Privacy is the desire or will to control physical access and information to oneself from other people, while personal space is the embodiment of privacy in the form of space.
- Must be easily accessible

Space cannot be separated from human life, both psychologically, emotionally (perception), and dimensionally. The relationship between humans and space according to Edward T. Hall in Forrest Wilson's book 'Structure Essence of Architecture' is that the important feeling about space is territorial, this feeling fulfils the basic needs for self-identity, comfort, and security in the human person. The territory is a close relationship between privacy and personal space [12]. Territory is a limited space used by individuals or groups that is maintained as an exclusive place [13].

## 2.2 Space Adaptation

Space adaptation is an activity in space to accommodate the growing demands of activities so as to maximize the value of space [14]. Buildings are objects that move dynamically with a shift in the environment. According to Schmidt et al [15] there are 6 strategic building adaptations:



- 1) adjustable (changing in furniture) is a change in equipment or furniture because it adapts to the wishes of the user or owner.
- 2) versatile (change in spatial arrangement) is a change in the physical order of the space which is influenced by the existing components and furniture.
- 3) refit able (changes in component performance) related to changes in components that affect the architectural elements of the building
- 4) convertible (change of function) is a change caused by additional functions or expansion of space.
- 5) scalable (change in size) is a building adaptation related to the construction of additional structures to meet the needs of users or owners.
- 6) movable (change of location) which is a change in the location of the building because the building can no longer meet the needs of residents and owners

### 2.3 Gorontalo Regional Police Official Residence Review

Based on the Regulation of the State Police of the Republic of Indonesia Number 13 of 2018 concerning Service Housing / Dormitory / Mess it is stated that "The National Police Service House is a state house in the form of a building owned and/or controlled by the Police and functions as a place to live or stay and a means of family development and support the implementation of the duties of civil servants to the police. The purposes of office/dormitory/message housing are:

- 1) support the implementation and fluency of the Indonesian National Police duties; and
- 2) actualize the welfare of Civil Servants at the Police through the acquisition of Official Residence/ Dormitory House/Dormitory in accordance with their rights.

The official residence of the National Police is divided into 2 groups, namely Category I which is intended for holders of certain positions, and the rights of the occupants are limited as long as the official concerned still holds that particular position. Category II official house in the form of mess and dormitory housing whose relationship cannot be separated from the police service and is only intended for civil servants at the police and if it has stopped or retired the house is returned to the police. However, its ownership is still bound by regulations and prohibitions in the form of:

- a) Have more than one official residence
- b) Occupying an official residence that is not in accordance with the placement permit or is not in accordance with the required position
- c) Changing the function and form of the National Police Service House, either partially or completely
- d) Utilizing the Police Service Residence that is inhabited to unauthorized persons, among others, for rent, lease, loan-use; and
- e) Transferring the occupied Official Residence to another party without permission from the authorized official. (Indonesia Paten No. 13, 2018)

The Gorontalo Regional Police area is equipped with facilities for supporting activities in the form of the main building, office building, ceremonial field, mosque, canteen, sports facilities, directorate buildings and areas, internal police needs such as weapons warehouse, police vehicle area, and also equipped with residential facilities such as non-commissioned officer's barracks, Policewoman mess and official residence for the Regional Police Chief and deputy Regional Police Chief, and also for main officers of the Regional Police.



### 3. METHODOLOGY

The research method used is qualitative as a process that tries to gain a better understanding of the complexities that exist in human interaction. The descriptive qualitative method in this study was carried out by direct observation of the field and conducting interviews with related parties.

Studies and observations are based on changes that occur in the object of research in a certain period by the findings in the field. The data analysis technique was carried out by descriptive qualitative methods, which were carried out by describing or describing the results of research and observations in the field. Data analysis was carried out by tabulation and then followed by an explanation of the object of research. Descriptive analysis was also carried out by explaining the exotic condition of the official house in the Gorontalo Regional Police housing office to be compared with the initial design according to the prototype of the National Police official house plan at the Gorontalo Regional Police. The limit of this research is at the official residence with a total observed official residence of 6 houses of type 54 of the main police officer which includes the main officer carrying out the main tasks consisting of the director and head of the field as well as supporting elements.

### 4. RESULT AND ANALYSIS

Hierarchy is something that is upheld in the Indonesian National Police, this hierarchy is also applied in the placement of official residences. Based on observations at the Gorontalo Regional Police official housing, in addition to the hierarchy of ownership of the official housing, there are many changes to the official residences, both changes in function, additions or major changes to the room. The lack of a sense of security, comfort, and privacy in a house tends to give the occupants a desire to make changes until a sense of security, comfort, and privacy needs are fulfilled in it. Even more, the use of existing official residences is facilitated by the Indonesia National Police for its members in the region.

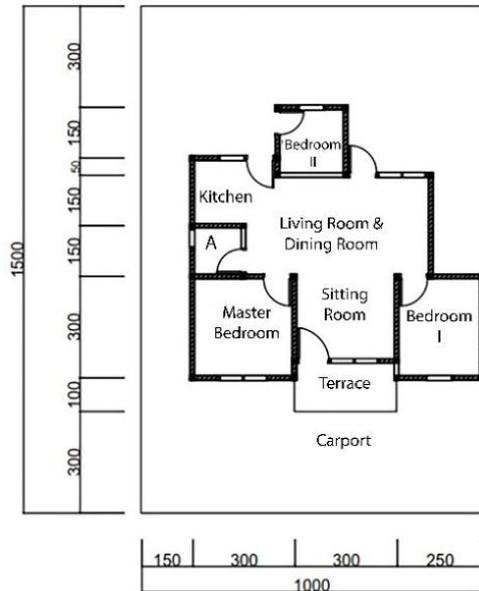
The availability of space according to the prototype design in an area forces the residents to adapt to the situation as it is, some will be able to adapt, however, some others with certain conditions and factors will feel lacking, and so the desire of making changes in the design of space will come out, either because of personal needs, or psychological. However, the biggest demand that causes changes in space is the perception and need of each individual who is different, while as an official residence, ownership will continue to change and only until the term of office of a person change and is replaced by a new official. As Rudolf Arnheim said, space cannot be separated from human life, both psychologically, emotionally (perception), and dimensionally [16]. However, a dwelling can survive with the original when the occupant feels that his general space needs have been fulfilled [17]. The following are the results of the observations and the comparison of the original floor plan design (table 1).



Table 1 Transformation of type 54

**TYPE 54**

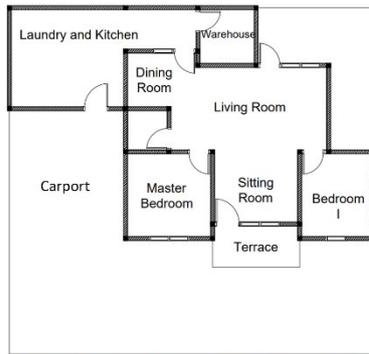
**ORIGINAL FLOOR PLAN**



**Space Availability Initial Design of Official Residence**

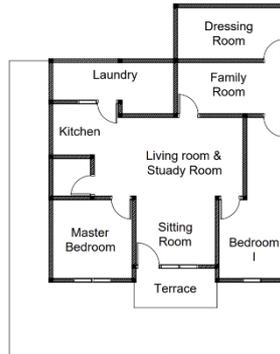
1. Master Bedroom
2. Bedroom I
3. Additional Bedroom (II)
4. Sitting Room
5. Living Room
6. Dining Room
7. Kitchen
8. Shared Bathroom (A)
9. Carport
10. Terrace

**Head of Police Medical and Health Division**



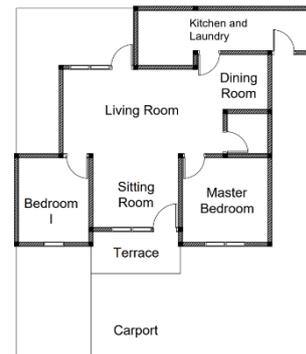
- Add a laundry area and kitchen
- Utilize the spare hooked space into an additional carport
- Change the function of additional bedroom into a warehouse
- Change the function of kitchen into a dining room

**Director of Vital Object and Protection Unit**



- Modify the bedroom II by adding more space into a laundry area
- Add more rooms for the family room
- Add a dressing room
- Modify the bedroom I
- Change the function of the living room into a study room

**Director of Criminal Investigation**



- Modify the bedroom II by adding more space for kitchen and laundry area
- Change the function of the kitchen into a dining room



Auditor I



- Change the function of additional bedroom into a warehouse
- No more significant modification

Auditor II



- Change the function of additional bedroom into a warehouse
- No more significant modification

Head of Information and Technology



- Modify the bedroom II by adding more space for service and storage area
- Utilize the spare hooked space into an additional carport

Table 2 Analysis of motives and factors of spatial change trend

No	OFFICIAL RESIDENCE	SPACE CHANGES AND ADDITIONS	MOTIVES	FACTORS
<b>TYPE 54</b>				
1	Head of Police Medical and Health Division	<ul style="list-style-type: none"> <li>● Modification at the additional bedroom into a service area consist of laundry, and storages</li> <li>● Additional carport in the spare space</li> </ul>	<ul style="list-style-type: none"> <li>● The need of space to do laundry and occupant's storage need</li> <li>● The need of space for occupant's tertiary needs (vehicle)</li> </ul>	<ul style="list-style-type: none"> <li>● Additional needs</li> <li>● Lack of spaces</li> </ul>
2	<b>Director of Vital Object and Protection Unit</b>	<ul style="list-style-type: none"> <li>● modify the additional bedroom into a larger laundry area (for washing and drying clothes)</li> <li>● Add more rooms for family room and dress room</li> <li>● Modification of bedroom I</li> </ul>	<ul style="list-style-type: none"> <li>● The lack of privacy in the drying area</li> <li>● The large member of the family who lives</li> <li>● Dimension of the bedroom is</li> </ul>	<ul style="list-style-type: none"> <li>● Lack of spaces</li> <li>● Psychological needs</li> <li>● Additional needs</li> </ul>



		<ul style="list-style-type: none"> <li>● Changing the function of a living room into a study room</li> </ul>	<p>considered too small that it needed a dress room to keep all clothes</p> <ul style="list-style-type: none"> <li>● A family room to keep the occupant's privacy from easily seen</li> </ul>	<ul style="list-style-type: none"> <li>● Number of family</li> </ul>
3	Director of Criminal Investigation	<ul style="list-style-type: none"> <li>● Modification at the additional bedroom into a kitchen and laundry area by adding more space</li> <li>● Change the function of the kitchen into a dining room</li> </ul>	<ul style="list-style-type: none"> <li>● dimension of the existing kitchen is too small (2m x 3,5m)</li> <li>● the need of a laundry room</li> </ul>	<ul style="list-style-type: none"> <li>● Additional needs</li> <li>● Lack of spaces</li> </ul>
4	Auditor 1	There are no additions and changes	small number of occupants	Number of family members
5	Auditor 2	There are no additions and changes	Have no sense of ownership	Not settle
6	Head of information technology	<ul style="list-style-type: none"> <li>● Modification at the additional bedroom into a service area by adding more space</li> <li>● Utilize the spare hooked space into an additional carport</li> </ul>	<ul style="list-style-type: none"> <li>● the need of more space in service area to satisfy the personal need</li> <li>● The need of space for occupant's tertiary needs (vehicle)</li> </ul>	Additional needs

Based on observations, 4 of 6 official residences of type 54 have modifications in the floor plan, and 2 of them are not having significant modifications (see table 2).

Table 3 Analysis of the need for space availability based on the trend of space changes

The Availability of Space on The Original Floor Plan	Tendency Space Alteration	Minimum Recommendation of Room Availability
<ul style="list-style-type: none"> <li>● 1 Master Bedroom</li> <li>● 1 bedroom</li> <li>● 1 additional bedroom for the housemaid or the driver</li> <li>● Kitchen</li> <li>● 1 shared bathroom</li> </ul>	<ul style="list-style-type: none"> <li>● Modification / add a laundry area</li> <li>● Add a more private drying area</li> <li>● Modification / add storage area or warehouse</li> <li>● Add carport</li> <li>● Add a family room</li> </ul>	<ul style="list-style-type: none"> <li>● 1 Master Bedroom</li> <li>● 2 bedrooms</li> <li>● 1 additional bedroom for the housemaid or office facilities need</li> <li>● Kitchen</li> <li>● 2 bathrooms</li> <li>● Living room</li> </ul>



---

<ul style="list-style-type: none"> <li>● Living room includes the dining room</li> <li>● Sitting room</li> <li>● Terrace</li> <li>● Carport</li> </ul>	<ul style="list-style-type: none"> <li>● Add a dress room</li> <li>● Add a sufficient kitchen size</li> </ul>	<ul style="list-style-type: none"> <li>● Dining room</li> <li>● Sitting room</li> <li>● Terrace</li> <li>● Carport / garage</li> <li>● Laundry and drying area</li> <li>● Warehouse</li> </ul>
--------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

---

The availability of space and dimensions is considered to be inadequate due to the lack of security, comfort and privacy. The outcome of the observation shows that the modification of the official residence is based on some factors which one alteration could be based on more than one factors. The factors are:

1. the lack of space, where the availability of space is deemed to have an inappropriate size
2. additional needs, to accommodate the needs of its residents where the space requirements can be added to the remaining space in the house area (see table 3)
3. psychological needs, to satisfy the psychological desires of residents for security and privacy in such a way to create a sense of comfort and tranquility (see table 4)
4. the number of the family, which means the needs of rooms and space are affected by the number of occupants, dominated by family members.

From the observation, 4 of 6 houses that have been modified mostly indicate the need for added spaces.

Table 4. Percentage of the tendency space alteration needs

Categoric Factors	Necessity	Percentage	Tendency Space Alteration
<ul style="list-style-type: none"> <li>● Lack of Space</li> <li>● Additional needs</li> </ul>	<b>The need of a laundry area</b>	<b>75 %</b>	<b>Additional laundry room</b>
<ul style="list-style-type: none"> <li>● Psychological needs</li> <li>● Additional Needs</li> </ul>	<b>The need a private drying area</b>	<b>75%</b>	<b>Additional drying area which is not accessible from the outside</b>
<ul style="list-style-type: none"> <li>● Additional Needs</li> <li>● Lack of Space</li> </ul>	<b>The need of service area includes storage/warehouse</b>	<b>25%</b>	<b>Additional service/storage in the modified room</b>
<ul style="list-style-type: none"> <li>● Additional Needs</li> </ul>	<b>The need of an additional carport/garage</b>	<b>50%</b>	<b>Additional carport/garage</b>
<ul style="list-style-type: none"> <li>● Psychological need</li> </ul>	<b>The need of an additional family room</b>	<b>25 %</b>	<b>Additional family room that has more privacy</b>



<ul style="list-style-type: none"> <li>• Number of family</li> <li>• Lack of Space</li> </ul>			
<ul style="list-style-type: none"> <li>• Lack of Space</li> <li>• Psychological needs</li> </ul>	<b>The need of additional dress room</b>	<b>25%</b>	<b>Additional dress room for keeping clothes due to the lack of bedroom size</b>
Lack of Space	<b>The need of a sufficient kitchen size</b>	<b>50%</b>	<b>Additional kitchen in the modified room</b>

## 5. CONCLUSION

Based on the research and interview that has been carried out at the Gorontalo Regional Police housing office, the results obtained are:

1. In the overall official residences that have changed, either adding space, modifying space or changing the function of the room
2. Lack of space and additional need for residents is the strongest reasons for residents to make modifications to the official residence
3. There's added space to the official residence
4. There are frequent exchanges of official residences based on the needs of their respective residents due to the different types of official residences
5. In simple terms, based on the results of surveys and interviews, the needs of each occupant are dominated by the need for sufficient room space, especially an adequate service area (too small), privacy for bedroom in a residential environment, sufficient privacy between activities in the house with socialization, and the internal needs of the position (the needs for a driver that inherent in official need) so that an additional bedroom is needed for the driver or housemaid.

The Indonesian National Police upheld the dignity of the police who are authoritative, firm as law enforcers, and secretive. The need for privacy both for personal and for the police institutes also needs to be implemented in residential houses. Therefore, both the type and the concept of the official house should be considered for the next life, to maximize uniformity.

## 6. ACKNOWLEDGEMENT

This research was financially supported by the Faculty of Engineering, Diponegoro University, Indonesia through strategic grant 2022 no.3178/S/arsitektur/5/UN7.5.3.2./PP/2022 on the name of Bangun I R Harsritanto as corresponding author<sup>2</sup>

## 7. REFERENCES

- [1] H. Frick and F. B. Suskiyanto, 2007. Dasar-dasar arsitektur ekologis, Yogyakarta: kanisius
- [2] A. H. Maslow, 1970. Motivation and Personality, New York: Harper & Row
- [3] Pusat Bahasa, 1997. "Kamus Besar Bahasa Indonesia. Edisi 2 cet. 9 ed.," Departemen Pendidikan dan Kebudayaan : Balai Pustaka



- [4] JUHANA, 2000. "Pengaruh Bentuk Arsitektur Dan Iklim Terhadap Kenyamanan Thermal Rumah Tinggal Suku Bajo Di Wilayah Pesisir Bajoe Kabupaten Bone Sulawesi Selatan," Program Pendidikan Pasca sarjana Universitas Diponegoro, Semarang
- [5] N. K. A. Dewi and N. M. Swanendri, 2007. "Rancangan rumah tumbuh tipe kpr btn di kota denpasar," *PESAT (Psikologi, Ekonomi, Sastra, Arsitek, dan Sipil*, vol. 2, pp. 21-30
- [6] J. F. C. Turner and R. W. Fichter, 1972. *Freedom to Build: Dweller Control of the Housing Process*, MacMillan Publishing Company
- [7] T. W. Murtini, A. S. Wijaya and A. Adiyati, 2018. "Pola Mix Use Ruang Rumah Tinggal," *Tata Loka*, vol. 20, no. 2, pp. 113-123
- [8] I. Sinai, 2010. "Moving or Improving: Housing Adjustment Choice in Kumasi, Ghana," *Housing Studies*, vol. 16, no. 1, pp. 97-114
- [9] A. G. Tipple, 2000. *Extending themselves: User-initiated transformations of government-built housing in developing countries*, Liverpool University Press
- [10] E. Budihardjo, 1997. *Arsitektur Pembangunan Dan Konservasi*, Jakarta: Djambatan
- [11] E. Sjaifoel, 2008. *Kajian Perubahan Fisik Rumah Tinggal Pada Permukiman Perumnas Martubung Medan*, Medan: Sekolah Pascasarjana Universitas Sumatera Utara
- [12] R. I. Surasetja, 2007. "Fungsi, ruang, bentuk dan ekspresi dalam arsitektur," FTKP-UPI, Bandung
- [13] L. A. Pastalan, 1970. "Privacy as a behavioral concept," *Social Science*, vol. 45, no. 2, pp. 93-97
- [14] R. Schmidt, J. Deamer and S. Austin , 2011. "Understanding adaptability through layer dependencies," in *CED 11 - 18th International Conference on Engineering Design - Impacting Society Through Engineering Design*, Copenhagen
- [15] T. E. S. A. A. G. Robert Schmidt III, 2010. "What is the meaning of adaptability in the building industry," in *Open and Sustainable Building*, derio
- [16] R Arnheim, 1991. *Outer Space and Inner Space*, The MIT Press, Leonardo, vol 24 no 1, pp73-74
- [17] R Arnheim, 1977 *Perception of Perspective Pictorial Space from Different Viewing Points*, The MIT Press, Leonardo, vol 10 no 4, pp283-288

