

THE PROBLEM OF CHEAP HOUSING DEVELOPMENT FOR LOW-INCOME COMMUNITIES IN URBAN; TRANSFORMATION OF THE TRANSITIONAL SPACE AND REVIEW FOR FURTHER RESEARCH POSITIONS

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ABSTRACT

Objective: This study attempts to review important facts related to the issue of providing housing for those with low incomes. Then the practice of residential transformation is reviewed from the spatial aspect, and what issues need to be carried out so that the transformation does not have a broad impact on residents (sustainable). Finally, the researcher tries to review some of the theories that are commonly used by researchers in reviewing housing and the transformation of the residential space itself.

Method: This study uses a review study approach and descriptive explanation. This study involved around 100 reputable journals with a focus on studies of decent and inexpensive housing, and the transformation of residential spaces. The majority of journals are based on Scopus-indexed international journals and national (Indonesian) journals as reputable supporters of the Sinta index.

Results: This study found that providing adequate housing for those with low income is on the agenda of all countries, until now they are still trying to reduce the gap because the amount provided has not been able to keep up with population growth rates. It follows that the transformation of public housing is carried out in transitional spaces, it's just that previous studies have not focused on transitional spaces in front of the house. The focus of his study is to produce a transitional typology. Each country has its own unique characteristics so the study of the factors that cause transformation and the choice of typology need to be studied further.

Conclusions: The next finding is that there is an idea about providing a transitional space for the benefit of social interaction with an inclusive concept, which is an interesting thing to investigate.

Keywords: low-income, transformation, typology.

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O PROBLEMA DO DESENVOLVIMENTO DE MORADIAS BARATAS PARA COMUNIDADES DE BAIXA RENDA EM ÁREAS URBANAS; A TRANSFORMAÇÃO DO ESPAÇO DE TRANSIÇÃO E A ANÁLISE DE OUTRAS POSIÇÕES DE PESQUISA

RESUMO

Objetivo: Este estudo tenta analisar factos importantes relacionados com a questão do fornecimento de moradia para aqueles com baixos rendimentos. Em seguida, a prática de transformação residencial é revisada a partir do aspeto espacial, e quais questões devem ser realizadas para que a transformação não tenha um impacto amplo sobre os moradores (sustentável). Finalmente, o pesquisador tenta rever algumas das teorias que são comumente usadas pelos pesquisadores na revisão de habitação e na transformação do próprio espaço residencial.

Método: Este estudo utiliza uma abordagem de estudo de revisão e explicação descritiva. Este estudo envolveu cerca de 100 revistas de renome com foco em estudos de moradia decente e barata, e a transformação de espaços residenciais. A maioria dos periódicos são baseados em periódicos internacionais indexados pela Scopus e periódicos nacionais (indonésios) como apoiadores respeitáveis do índice Sinta.

Resultados: Este estudo constatou que a provisão de moradia adequada para aqueles com baixa renda está na agenda de todos os países, até agora eles ainda estão tentando reduzir a diferença porque o montante fornecido não tem sido capaz de acompanhar as taxas de crescimento populacional. Segue-se que a transformação das moradias públicas é feita em espaços de transição, só que estudos prévios não têm como foco espaços de transição na frente da casa. O foco de seu estudo é produzir uma tipologia de transição. Cada país tem suas próprias características únicas, então o estudo dos fatores que causam a transformação e a escolha da tipologia precisa ser mais bem estudado.

Conclusões: O próximo achado é que há uma ideia sobre fornecer um espaço de transição para o benefício da interação social com um conceito inclusivo, o que é uma coisa interessante de investigar.

Palavras-chave: baixa renda, transformação, tipologia.

1 INTRODUCTION

Housing is a basic need for humans that must be fulfilled because it has an impact on human happiness, lifestyle, and productivity (Asante & Ehwi, 2022). The world community through the United Nations (UN) has determined this issue to be a global issue that must be met. This issue is emphasized as one of the seventeen agendas of the sustainable development goals (SDGs) precisely on goal-11 namely cities and settlements that are inclusive, quality, safe, resilient, and sustainable (Filyushina *et al.*, 2023; Gusakova *et al.*, 2023; and Hasddin *et al.*, 2022a).



Issues that have been widely discussed and become material for criticism by researchers and practitioners are regarding the provision of housing and the affordability of the community in obtaining housing. Some recent researchers who are concerned with analyzing this problem include Lee *et al.* (2022); Lorga *et al.* (2022); Galster & Lee (2021a); Galster & Lee (2021b); Haffner & Hulse (2021); Kim *et al.* (2021); Seitz (2021); Reyes (2021); Izar & Mtwangi-Lumbumba (2021); Gibbs (2021); Whitehead & Goering (2021); Dawkins (2021); Wetzstein (2017); and Deidda (2015).

Some of the studies above state that the issue of housing provision or affordability occurs in all countries, both developed countries, and especially developing countries. Lee *et al.* (2022) specifically mention that globally is currently facing a crisis of urban housing affordability, because housing development is increasingly inaccessible to low-income households, including the middle class. The same fact was also revealed by Galster & Lee (2021b); Haffner & Hulse (2021); OECD (2021); Gabriel & Painter (2020); Anacker (2019); Been *et al.* (2019); and Wetzstein (2017). Cases like this also occur in the United States and the United Kingdom which are marked by an increase in the selling value of houses, poor households (rent) are also experiencing difficulties where 50% of their income is spent on renting a house McClymonds (2022) to an imbalance (proportion) in the distribution of home ownership, especially blacks (Desmond, 2018).

Fulfilment of decent and affordable housing is a pressure for the government, especially in urban areas, because those (individuals and households) who do not own a home give rise to many negative consequences inclusively to environmental problems. Anderson *et al.* (2016); and Newman & Holupka (2016, 2015, and 2014) reported that household inaccessibility to housing causes family members, especially children, to suffer from diseases resulting from bad health, which implications for education. When aggregated from a number of households that experience the same thing, this creates macroeconomic problems Kim *et al.* (2021); and Seitz (2021), urban disorder (slums), and environmental degradation, especially in housing locations that are not suitable. The same report submitted by Reyes (2021); Hsieg & Moretti (2019); and Lee & Painter (2013) confirmed the result.

There is still a gap between the provision of housing and the affordability (ownership) of housing, especially for those with irregular incomes. This condition is a serious concern because urbanization is increasing. This triggers inequality in the provision of mortgages. Because of this, the issue of providing affordable housing for



low-income people continues to be discussed, especially in countries that have a poor population composition such as developing countries (including Indonesia).

The decent and inexpensive housing development is generally carried out in one stretch. Concepts like this in Africa are built with the architect's model of matchbox houses or box houses (areas) in which there are stacked houses. Tonder (2022) in his study, models such as matchbox houses in Africa are also called “matchbox” housing. The drawback of this model (uniform housing) is that if it is specifically intended for low-income people, without being followed by regulations to regulate the comfort and harmony of the environment it can cause many problems as reported by Tonder & Rwelamila (2022); Reyes (2021); Hsieg & Moretti (2019); and Lee & Painter (2013).

Tonder (2022) reveals the problem of cheap housing from the physical building (architecture). The results of his study indicate that low-cost housing is redesigned with two models, namely restoration while maintaining the initial model (existing design generators) and changes to new designs (emerging design generators). The next focus of discussion (analysis) suggested by Tonder (2022); Mayboroda & Spirin, (2023) is that events (architectural changes) occur because there is a transition (vacancy) of supervision/regulation from the government as a provider to a housing provider.

Some of the studies reviewed above report that low-cost housing for low-income people (MBR) in developing countries (including Indonesia) will be increasingly challenging because developing countries still have a fairly high poverty rate compared to developed countries. Then the occupant's practice of renovation (transformation), if it is not controlled will give birth to many consequences. Chakraborty *et al.* (2015) stated that if uncontrolled residential transformation, it is feared that it will exceed the limits of the land's capacity, and pay less attention to the balance and harmony of the surrounding environment. Residential transformation often ignores residential space plans, violates building coefficients and ground floors, building boundaries, and the conversion of public spaces and green open spaces (Yuliasuti & Sukmawati, 2016).

This study tries to examine important facts related to the problem of providing housing for low-income people (MBR), which are suspected to have undergone a lot of residential changes or transformations. The aim of this research is to produce important issues (state of the art) as well as strength (novelty) that are useful as an initial basis for starting further research.



2 LITERATURE REVIEW

From the point of view of the meaning of the word, housing comes from the word "house" which is given the affix "pe and an". Housing/house is a noun or noun, which means a collection of several houses, or houses as a place to live. Operations regarding housing in Indonesia are regulated through Law Number 4 of 1992 concerning Housing and Settlements, as amended into Law no. 1 of 2011. This Law states that a house is a building that functions as a place to live and a means of fostering a family. As a place to live, the house is also interpreted as a residence.

According to John F.C Turner, 1972 in his book entitled *Freedom to Build*, he said that the house is an integral part of the settlement, and is not a mere physical result, but is a process that continues to develop and is related to the socio-economic mobility of its inhabitants in a period of time (Mukono, 2000). The same view is expressed by Azwar (1996) in Mukono, (2000), home is a place to unwind, a place to mingle, and foster a sense of kinship among family members, a place to protect the family and store valuables, and the house is also a social symbol status.

Physically, a house (in one area is housing) describes a building. Technical knowledge, house building is defined as a building that is planned and used as a residence by a family or more, as a means of fostering a family. According to Sumiarto (1993) in Luthfiah, (2010) that the house is a place or space where humans: a) use most of their time for activities, apart from work, education, recreation and other daily activities; b) Carrying out routine activities and communicating between family members, in this case the house is a means of interaction between individuals in the household group; c) There is a process of regeneration and human development; d) Feeling safe, protected from climate disturbances and disturbances from creatures that can disturb and attack; and e) Become a container for all human life activities that live in it.

The use of housing in the international world refers to the word "to settle" which means to occupy or inhabit, then develops into a continuous process, namely settlements that are not settled, semi-settled with temporary or seasonal settlements (Sastra dan Marlina, 2006). Law No. 1 of 2011 states that housing is a group of houses that function as a residential area or residential area equipped with environmental infrastructure and facilities. Experts define housing as one side of the house that is united in a residential area, inside there are sub-elements of houses with all facilities (facilities and infrastructure), people live in groups and socialize with one another (Sastra dan Marlina,



2006).. Departing from this understanding, it can be explained that housing is an environment consisting of a collection of several or a number of housing units as a place to live, as an environment, there is social interaction between residents, and equipped with social, economic, cultural and service infrastructure as a whole.

It is important that housing is different from settlement. Housing as the object of this research analysis refers to the reviews above. Settlements have a wider meaning than housing, settlements have characteristics that cover wider area boundaries. Settlements exist because of the formation of unity between humans and the environment.

Provision of affordable and/or low-cost housing as a state requirement as mandated in the 1945 Constitution as stipulated in Article 28H paragraph (1) with an emphasis on that everyone has the right to a decent and healthy place to live. Its implementation came out Law no. 4 of 1992 as replaced by Law no. 11 of 2011 concerning Housing and Residential Areas. Its derivatives serve as guidelines for the implementation of adequate housing provision through Government Regulation No. 14 of 2016 concerning Implementation of Housing and Residential Areas. Government Regulation No. 14 of 2016 requires the construction of a livable house as a decent place to live for every citizen, both in terms of family development facilities, reflecting the dignity of the inhabitants and as an asset for the owner.

Arrangements for implementing the provision of decent housing under the subsidized model for MBR are regulated through the Minister of Public Works and Public Housing Regulation No. 20/PRT/M/2014 concerning Housing Financing Liquidity Facilities for Low-Income Communities. Article 2 paragraph (1) states that the Housing Finance Liquidity Facility (FLPP) aims to support credit/financing for simple healthy home ownership (KPR-RSH) for those who are categorized as MBR. Subsidies are payments made by the government to companies or households to achieve certain goals that enable them to produce or consume a product in larger quantities or at lower prices. Economically, the purpose of subsidies is to reduce prices or increase output.

Housing and settlement arrangements are carried out by the Government as a regulator, and involve third parties (private) as housing providers, in this case developers and financial institutions (Sirait *et al.*, 2022; Herlina *et al.*, 2022; Fanny *et al.*, 2020; and Jamaluddin, 2019). Both of them are tasked with ensuring resources (budget) and carrying out house construction (developer), specifically for low-income citizens (MBR), so a subsidy pattern is agreed upon. The government provides housing subsidies in the form



of down payments with agreed mechanisms and processes. It is clear that the construction of housing for low-income people (MBR) is part of the constitutional mandate, and ensures the function of the state in protecting the need for housing to fulfill the functions of housing for the lives of all Indonesian people, including those in the MBR category.

The program in building housing and/or settlements is the implementation of the three main obligations of the state, namely fulfilling basic needs, developing the household economy, and developing regions (Jamala, 2021). The implementation of housing development for MBR is adjusted to the nature of national development which is based on: 1) Harmony, harmony, balance and complete unanimity in all development activities. Development is for humans and not vice versa humans for development. In today's development, the human element, the socio-cultural element, and other elements must receive balanced attention; 2) Development must be evenly distributed for all people and throughout the territory of the country; 3) The subjects and objects of development are Indonesian people and society, so that development must also have Indonesian characteristics; 4) Development is carried out jointly by the community and the government. The community is the main actor of development and the government is obliged to direct, guide and create a supportive atmosphere. Community activities and government activities must support each other, complement each other, and complement each other in a single step toward achieving national development goals (Sirait *et al.*, 2022). Observing this review, it is closely related to the concept of inclusive housing as has been reviewed.

Fulfillment of MBR housing is still quite a lot and will continue to increase in line with population growth. The Ministry of Public Works and Public Housing reported that the number of inadequate houses in 2016 was around 2.51 million units. In 2019 the government then earmarked for the construction of 1 million MBR houses, leaving 1.51 million houses unfit for habitation (Sirait *et al.*, 2022). This target has not been achieved when referring to data on uninhabitable houses (RTLH) in 2020, it is estimated at around 2.36 million, meanwhile in 2020 alone the Government will provide 1 million RTLH houses, leaving 1.38 million more houses in the next budget (2021).

Low-Income Communities (MBR) in research using the definition stated in Government Regulation of the Republic of Indonesia Number 64 of 2016 are citizens who have limited purchasing power and therefore need to receive government support to obtain a place to live. This means that those (citizens) who are low-income are those who



have limited purchasing power, need to receive government support and are entitled to obtain a place to live. This definition is also used by Putri *et al.*, (2022) in analyzing the availability of MBR houses.

The Ministry of PUPR classifies MBR into three categories as stated in PUPR Ministerial Regulation (Permen) No.5/Permen/M/2007 which regulates the procurement of housing and settlements using the support of housing subsidy facilities through Subsidized Micro KPRS/KPRS. The three MBR groups are; Group I: people who earn more based on Rp. 1,700,000 and less based on Rp. 2,500,000. Group II: people who earn more based on Rp. 1,000,000 and less based on Rp. 1,700,000. Group III: people with less income based on Rp. 1,000,000 (Putri *et al.*, (2022).

3 METHODOLOGY

This study uses a review study approach and descriptive explanation. This study involved around 100 reputable journals with a focus on studies of decent and inexpensive housing, and the transformation of residential spaces. The majority of journals are based on Scopus-indexed international journals and national (Indonesian) journals as reputable supporters of the Sinta index. Relevant studies outside of the index are ignored.

The analysis is carried out systematically, explicitly, and reproducibly to identify, evaluate, and synthesize published scientific works. The review study form was compared with the meta-analysis, resulting in important issues as state-of-the-art keywords for future studies. The points then become the basis of research findings.

The stages of the study were carried out by determining the topic and scope/limitation of the study, namely the provision of low-cost housing for those with low incomes and spatial transformation. The second is identifying relevant and credible sources. The third is to do a literature analysis, and the last is to make conclusions and interpretations.

4 RESULT AND DISCUSSIONS

We have reviewed the issue of providing low-cost housing for low-income people (MBR) and have made important points. Among them is that it is imperative for every country in the world to provide cheap housing. Scheme with the form of subsidized housing and flats. Each country is still struggling with allocating funding, while population growth continues (McClymonds, 2022). The same study was reported by



Haffner & Hulse (2021); OECD (2021); Galster & Lee (2021a); Galster & Lee (2021b); Gabriel & Painter (2020); Been *et al.* (2019); Anacker (2019); Desmond (2018); and Wetzstein (2017). The emphasis going forward is to explore the phenomenon of spatial transition in developing countries.

4.1 LOW-INCOME HOME RESIDENTIAL TRANSFORMATION

The results of a literature study (review) focusing on residential transformation analysis starting from 2009 to 2021 (presented in Table 1 of previous research). Among them are Asante & Ehwi (2022); and Avogo *et al.* (2017) in Ghana; Mukiibi & Machyo (2021) in Uganda; Aduwo & Ibem (2017); and Aduwo *et al.* (2013) in Nigeria; Egercioğlu (2016) in Turkey; Gunathillaka & Coorey (2014) in Sri Lanka; Omar *et al.* (2012) in Malaysia; Makachia (2011) in Kenya; and Ombeni & Deguchi (2009) in Tanzania. Studies taking cases in Indonesia include Sunarti *et al.* (2019); Aryani *et al.* (2015), and supported by other studies (presented in Table 1).

Table 1: State of the Art Research Results of Literature Review

Researcher	Transformation Study Object	Object Suggestions and Blanks
(Asante and Ehwi, 2022)	Entire Building Become a rental house	a. Arrangement of transformation activities. b. Setting, the threshold for carrying capacity. c. Provision of interaction space. d. Control to accommodate the interests of all occupants. e. Changes that are sustainability, viability, and availability. f. The object of transitional space analysis is still common: this study focuses on the transition space at the front of the house.
(Mukiibi and Machyo, 2021)	Causal factors and processes	
(Darmayanti and Bahauddin, 2020)	All buildings (indoor) Causative factor	
(Sunarti <i>et al.</i> , 2019)	All spaces, causal factors (100% behavior and ownership)	
(Lissimia and Nur'aini, 2019)	Physical building Territory space (transition)	
(Susanti <i>et al.</i> , 2018)	Territory space (transition)	
(Aduwo and Ibem, 2017)	Typology of the whole space Causative factor	
(Avogo <i>et al.</i> , 2017)	Causative factor	
(Pongai <i>et al.</i> , 2017)	Residential Causative factor	
(Syahri <i>et al.</i> , 2017)	Physical building (inner space) and non-physical (layout) Causative factor	
(Egercioğlu, 2016)	Process and typology	
(Yuliasuti and Sukmawati, 2016)	Process or form/pattern of change (not yet leading to a physical typology) Causative factor Availability of public spaces and green open spaces	
(Aryani <i>et al.</i> , 2015)	Pattern or shape (typology)	
(Sesotyanyingtyas <i>et al.</i> , 2015)	The causal factor is from the cultural aspect	
	Space function	



(Gunathillaka and Coorey, 2014)	Social interaction	
	Housing services	
(Aduwo <i>et al.</i> , 2013)	Transformed space type	
(Agnes, 2017)	Physical building (non-transition)	
	Causative factor	
(Omar <i>et al.</i> , 2012)	The transformed (inner space) configuration	
(Makachia, 2011)	Causative factor	
(Ombeni and Deguchi, 2009)	Entire Building	

Source: Author (2023)

As presented in Table 1, there are six important issues that will be discussed in future studies. The six issues are: a) Arrangement (intervention) of transformation activities; b) Setting, the threshold for carrying capacity; c) Provision of interaction space; d) Control to accommodate the interests of all occupants; e) Changes that are sustainability, viability, and availability; and f) The object of transitional space analysis is still common: this study focuses on the transition space at the front of the house.

It was found that the objects of the previous study's residential transformations were still general in nature at the area (territory) scale, and in the housing unit objects (front, side, and rear). Then studies conducted specifically on certain spaces such as transitional spaces are currently only carried out in middle-class housing, flats, and apartments. Finally, it was found that previous studies had not specifically addressed any part of the building or the transition space for residential transformations in MBR housing. Transitional space transformations are common but the patterns of change are not explained in detail, so there is a "void" that needs to be analyzed further, namely the transitional space transformation with a focus on the front of the house in MBR houses.

Several studies emphasize follow-up studies on several aspects that need to be analyzed related to social interactions between occupants, their relation to the availability of open spaces or public spaces as well as to the carrying capacity of the environment; next is the determination of thresholds (for public and private spaces including median roads and spaces), residential transformation with attention to housing that is socially inclusive, viability and availability (Yuliasuti & Sukmawati, 2016; Gunathillaka & Coorey, 2014; and Makachia, 2011). The idea of providing an inclusive interaction space is an interesting thing to discuss. In particular, Asante & Ehwi (2022) suggest that local-level policy “intervention” is needed to regulate these matters.



4.2 CONSTRUCTION OF TRANSITION SPACE TRANSFORMATION THEORY IN LOW-INCOME HOUSING COMMUNITIES

4.2.1 Housing Theory Relation to Residential Transformation

The description of occupancy theory includes using the occupancy theory presented by Turner and Fichter. Quoted from Susanti *et al.* (2018), the theory advanced by Turner and Fichter leads to "housing as a process", that "occupancy is a process" related to time. Turner's theory then develops into an explanation of determining choices or priority aspects in meeting the need for housing to reach low-income communities (MBR). Turner briefly mentions the priority factors in building a house, or operational in the case of (wanting) home ownership. There are three priority reasons for someone to build or own a house as referred to by Turner (Luthfiah, 2010) is opportunity factor, safety factor, and identity factor.

Turner's theory then becomes the basis for applying house values and changing the function of space as well as shifting territories that conceptualize the relationship between culture and the built environment. From the perspective of this research, the theory of housing as a process by Turner and Fichter (1972) is directed at the transformation of housing, especially in transition spaces (Luthfiah, 2010).

Another theory relevant to this study is the human ecology theory. This theory explains housing in relation to architecture, that housing is an architectural work of the human inhabitants, then housing is an environmental system that has a dependency and balance between the eco-system (environmental system) and the social system (social environmental system). Ecosystems consist of biotic and abiotic elements that contain the physical and physiological conditions of the environment in a standard to achieve physical and physiological comfort and satisfaction. The social system contains elements of the human soul as personal and social which have the will to fulfill psychological needs in activities and behaving with their environment. The interpretation of the theory of human ecology in the world of residential architecture is expressed that residential architecture is a manifestation/form of the existence of residents to take refuge, forge experiences, move, create, think and tell stories about life and their livelihoods.

One of the emphases of the theory of human ecology is that housing is an environmental system so experts develop and relate this to the theory of human settlements known as human settlement theory. The theory of human settlement was first expressed by Doxiadis around the 1960s. Human settlement theory explains that housing



(housing) is a part of the area (place) where settlers live, take part in work and business activities, relate to fellow settlers as a community, and fulfill various human life activities. Shelter as an environmental system then reflects the theory of human ecology, both of which emphasize the balance and dependence between the environment (ecosystem) and social (social system).

The two theories above (human ecology theory and human settlement theory) imply that the physical housing (transformation) of a dwelling is part of the fruit of thought and creates (actions) the shape of a house in accordance with the needs that describe its identity. Next, the act of transforming a dwelling (this study is in a transitional space) becomes a person's choice, but then there are two things to consider, namely environmental aspects (ecosystem) and social interaction between occupants (social system).

4.2.2 Maslow's Theory of Needs in Residential Transformation

Maslow theory in his book makes a model of the hierarchy of needs into five types and levels of needs. Then Maslow's theory of needs is referred to and explained by several experts to explain the human paradigm in actualizing their needs. The five types and levels of Maslow's needs as quoted from Tay & Diener (2011) are: physiological needs, safety needs, social needs and/or love and belonging, self-esteem or ego needs, and self-actualization needs(Figure 1).

Figure 1: Maslow's hierarchy of needs model





Maslow's theory of needs can be used to generalize human needs into the housing context including the transformation itself. Physiological needs are the most basic needs of humans so that they can survive. One of the basic needs to stay alive (protect) is the need to own (build or buy) a house (Luthfiah, 2010). The need for a sense of security (safety needs) in the perspective of home transformation is that the house is not only for rest (safe) but at the same time to get (fulfill) a sense of comfort and peace including from other factors (external, such as disturbance by wild animals, rain, and others). The need for social relations in the perspective of transformation can be explained that every human need recognition of ownership (home), and requires social contact in his environment, especially in housing. The home and housing environment must be supported by environmental conditions that are able to carry out the function of social interaction to get to know each other and need each other. It is important that in residential transformation one must pay attention to the layout of the house, the shape of the house, the pattern of space, and other environmental equipment that supports the social aspect (interaction). The fourth level is the need for self-esteem because every human being needs recognition for himself. This is closely related to the third need (social relations or social needs) so that someone who owns a house will integrate exclusive values in order to get recognition for his choice. The practice can be seen from the internalization of the shape of the house based on values or private identity (such as community customs and culture) which will show the character of the owner.

4.2.3 Behavior Theory in Residential Transformation

The theory of planned behavior was first proposed by Icek Ajzen around the 1960s. The theory was born as a development of the previous theory, namely the theory of reasoned action or the theory of reasoned action by Martin Fishbein around the 1960s. Ajzen & Fishbein, (2005) the view that in developing (a critique of the theory of reasoned action) is directly expressed in his writings that the theory of reasoned action ignores the importance of social factors which in real life as determinants for individual behavior.

The theory of planned behavior has been widely used to explain planned behavior in the world of architecture and housing, including in the area of residential transformation. This theory is still related to the theories reviewed previously (housing as a process, human ecology theory, and human settlement theory), namely the physical housing environment. Then there is a person's motivation for attitudes towards the



physical condition of the residential environment, up to the choice of action to carry out residential transformation.

Rapoport continued that behavior setting (planned) or behavior setting is an interaction between an activity and a more specific place. The behavior setting contains elements of a group of people who carry out the activity, the place where the activity is carried out, and the specific time when the activity is carried out. Behavior settings are of two kinds. The first is the system of settings, as a series of physical or spatial elements that have certain relationships and are related so that they can be used for a particular activity. The second is the system of activity, as a series of behaviors that are deliberately carried out by one or several people (Luthfiah, 2010). The linkage of these four theories has previously been revealed by Rapoport in Luthfiah (2010). Rapoport's view is that human behavior will influence and shape the physical setting of the environment. Environmental influences on behavior can be grouped into three types, namely environmental determinism, environmental possibilism, and environmental probability.

4.2.4 Transition Space

Space in the science of architects by researchers tends to use Aristotle's opinion, that space is a place (topos) or a place of belonging which refers to the location where the physical elements tend to be or exist. This definition of space is widely referred to by scientists to explain space from an architectural perspective. The point is space is a form, so in the context of architecture and houses, it is grouped into indoor and outdoor spaces, or another opinion micro space and macro space (Imriyanti *et al.*, 2018). These two spaces were born because of their function, the inner space has the main function, while the outer space is a support which is commonly known as the transitional space.

Transition space in the perspective of Science Architecture gives special emphasis as different from "space" in the perspective of other sciences. Understanding the transition space, the author refers to what is meant by Alanbaki & Almoqaram, (2021); and Kray *et al.*, (2013) namely the process changes from one form, state, force, or place, which means the process of change from one form, state, style, or place to another. This understanding is widely used by other researchers (experts) in the world in interpreting the transition space, namely referring to the position or place as a liaison with the access point (Alanbaki & Almoqaram, 2021). Departing from the definition of the word transition, experts then define transitional space as a space that undergoes a process of change from

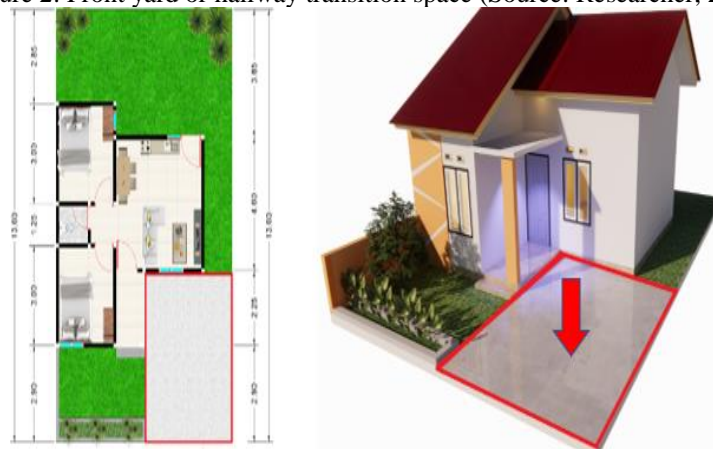


one condition to another, is located between the outer space and inner space in an environment, and acts both as a buffer space and a physical link, besides be functional as a circulation route for buildings (Nassar & Samaty, 2014). Transitional space is also interpreted as a place that has control over privacy, and movement, and protects space from outside views (Asadi *et al.*, 2015).

Transition spaces are an integral part of every public building and occupy a sizeable volume of buildings. Social interaction that occurs in spaces where people meet is an important issue in architectural programming and the performance of architectural design results (El-Nassar & Samaty, 2014). This means that the transitional space is no longer seen only as an intermediary space, but also as a result of the interpretation of social interaction between humans. There are several sections or types that represent transitional spaces such as aisles or front yards, backyards, terraces, halls or lobbies, gardens, voids, and indeterminate spaces. The types or types of transitional spaces are visually shown in the description below (Figures 2-8).

- a. Yard or hallway in front of the house,

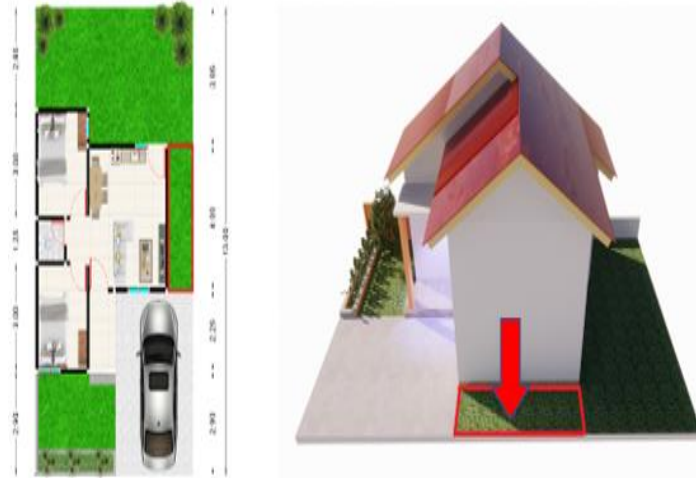
Figure 2: Front yard or hallway transition space (Source: Researcher, 2023)





b. Transition Space in the courtyard (hallway) next to the house in figure 3

Figure 3: Side Hall transition space (Source: Author Analysis 2023)



c. Backyard Transition Space visually shown in Figure 4

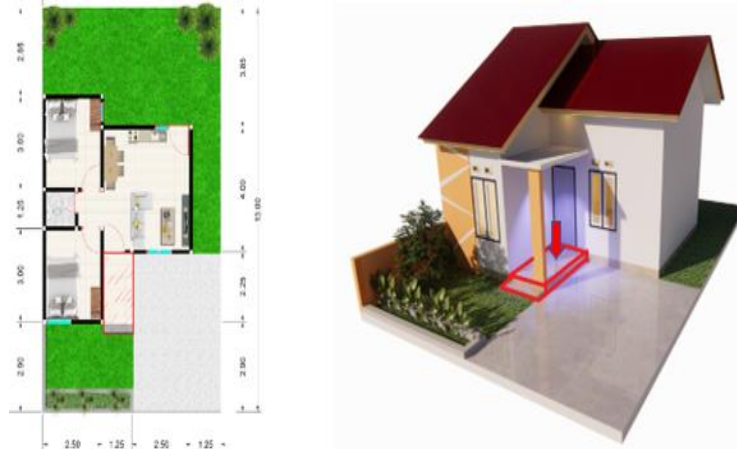
Figure 4: Backyard transition space (Source: Author Analysis 2023)





d. Terrace, visually shown in figure 5

Figure 5: Terrace transition space (Source: Author Analysis 2023)



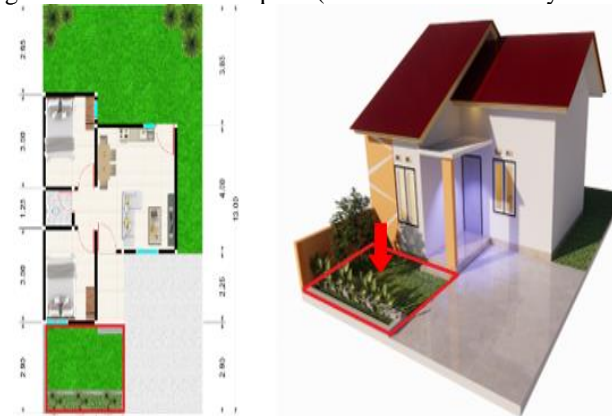
e. Hall or Lobby, visually shown in Figure 6

Figure 6: Hall or lobby transitional space (Source: Author Analysis 2023)



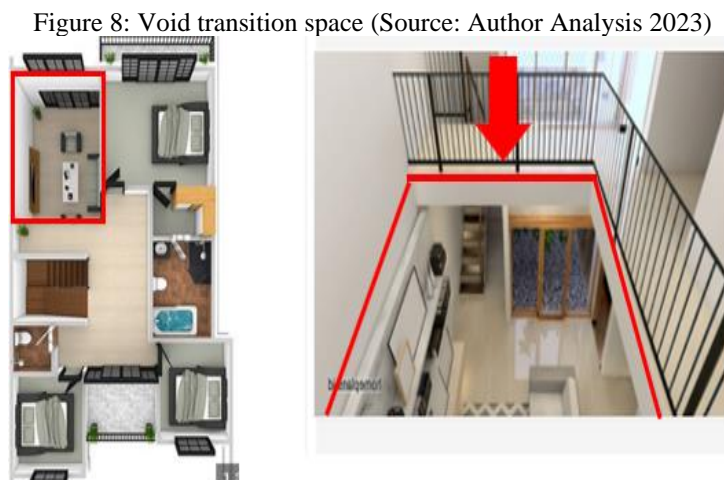
f. Park, visually seen in Figure 7 below

Figure 7: Park transition space (Source: Author Analysis 2023)





- g. Void (free space), visually seen in figure 8,



Some of the reviews of the types or typologies of transitional space above found several points that have in common, namely the purpose of their designation which leads to beauty (aesthetics) and the utilization of the remaining space. Second, the transitional space is not the main part of a house building, and whether or not a transitional space is very much influenced by the availability of space (the rest of the land from the main building).

4.2.5 Residential Transformation

Transformation has a similar meaning to alteration, change, conversion, revolution, renovation, and makeover. Which has the same meaning as change and renewal (Susanti *et al.*, 2018). Indonesian Dictionary Transformation is a change in form (shape, nature, function, and so on) whereas according to Longman's Contemporary English Dictionary, transformation means a complete or partial change, usually into something with a better or damaged appearance or use. Transformation is synonymous with words such as change, adjustment, modification, and improvement and change.

Residential transformation as a change or expansion that involves construction activities using locally available materials and technology. Describe transformation as a remodeling of a completed building that results in a change in the appearance or character of the building envelope components. Popkin *et al.*, (2012) also describe residential transformations to include activities ranging from internal furniture rearrangement and



painting of rooms to structural amendments such as adding more rooms or even demolition of some housing units.

When referring to the views in Susanti *et al.*, (2018) it is found that transformation is equated with the process of changing a form into a new form that takes into account aspects of space and time which are undertaken gradually, where the new form becomes the final stage of the change process. The point is that it leads to physical changes in the building (house). Physical changes are influenced by non-physical change factors in the form of changes in the culture of the inhabitants of the community itself, social changes, and economic and political changes. The meaning of transformation is linked to the process, namely the gradual change from one form to a new form that is influenced by physical and non-physical factors, namely in the form of cultural, social, economic, and political changes by considering aspects of space and time.

State that transformation is defined as a change in form, and a form can reach its highest level by responding to external and internal influences, in other words, transformation is a change from one form to another. This statement is in line with Aduwo (2013) specifically define residential transformation as a change in shape or configuration of space by occupants to suit the needs and expectations of users. It is clear that housing transformation can be said as a change in the original shape and spatial configuration of a residential unit by its occupants to meet current needs and expectations.

The residential transformation in question can be in the form of moving furniture to build renovations that involve structural changes. Residential transformation is common throughout the world, not only in urban areas but also in rural areas, to coastal communities (Asmal & Amri, 2018). Cases of residential transformation are commonly found in urban areas, including in Kendari City, Southeast Sulawesi Province, usually carried out on the personal initiative of the homeowner according to the owner's needs and wishes.

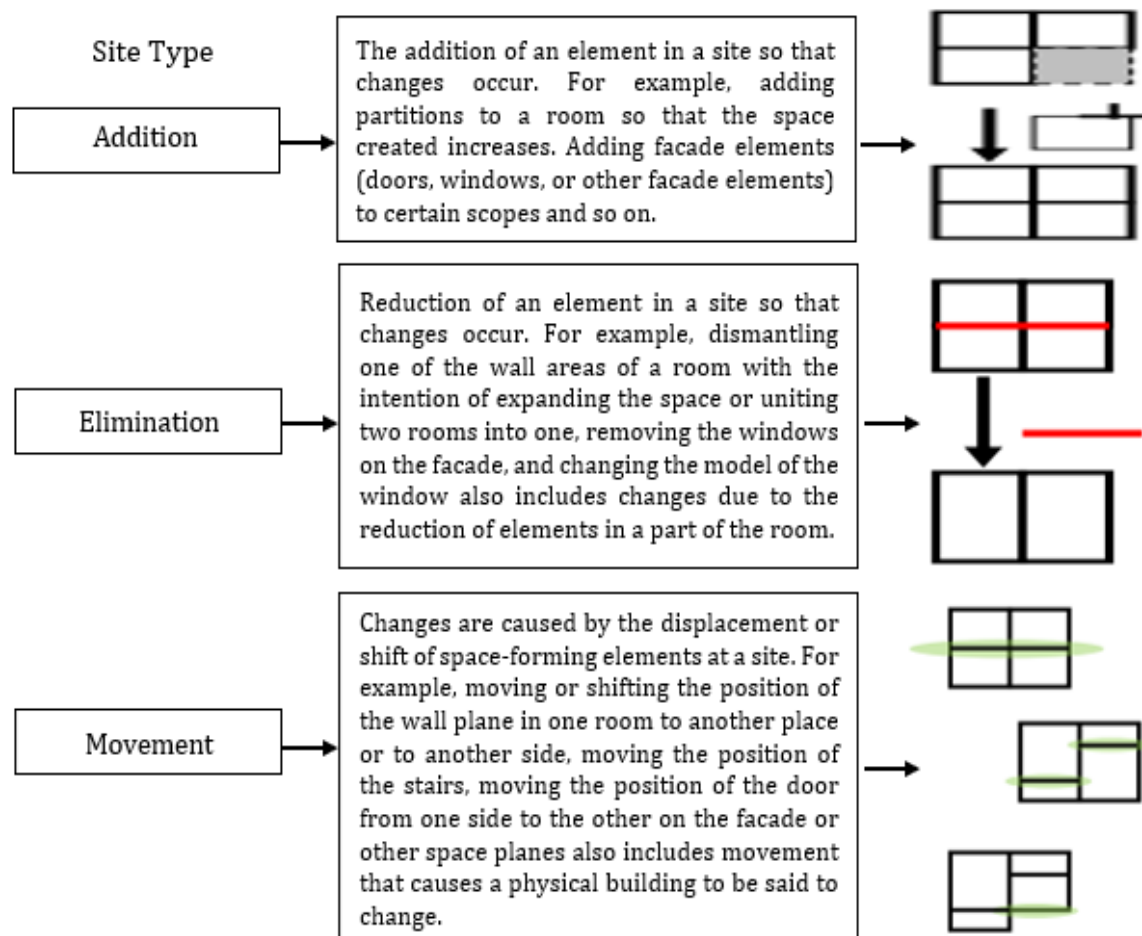
4.2.6 Residential Transformation Typology

Typology from the meaning of the word is defined as the study of types, meaning that the typology of the house is discussing the type of house. The origin of the word typology comes from the Greek words "typos" and "logos" (Setiawan & Utami, 2016). Typos mean root while logos is science. In language, typology is a study related to the type of several objects that have the same type. Typology is a field that classifies, and

explains, basic characteristics into certain types by sorting out the forms of diversity and similarity of types. Aspects that can be classified are function, form, and style.

The description of the theory of change in relation to the addition of space/building which in this study is called residential transformation began. Dibner's view was that the addition of space was then divided (typology) into seven types, namely: horizontal expansion, continuous expansion, vertical expansion, modular expansion, natural expansion, internal expansion, and scope expansion. Specifically for the expansion aspect, Dibner classifies it into site type, aesthetics, structure, network, and interior circulation (Luthfiah, 2010). Dibner's view then developed, that the form and physical changes and residential space of a house is a manifestation of the social and environmental aspects with all the amenities. Therefore, Habraken classifies the aspects that are used as a measure in viewing the physical changes (transformation) of dwellings included in the unitary system (housing) into three aspects as shown in Figure 9 (Luthfiah, 2010).

Figure 9: Site model indicative of residential transformation by Habraken (Luthfiah, 2010)





4.2.7 Causative Factors and Residential Transformation Process

Discussion of residential transformation in research begins with the opinion in Makachia (2011); and Syahri *et al.*, (2017) that the occurrence of transformation as strict control from the government regarding housing extensions and modifications turned out to be unsuccessful because of the many violations, but behind that, it turned out that the way residents carry out housing transformations is a guide for planning housing developments in the future by looking at current changes. Based on Shiferaw's opinion, then Makachia (2011) argues that residential transformation in housing occurs as a reflection of occupant values adapted to economic, social, and physical goals, changes that are not well calculated that ignore basic functional needs can have an impact on the physical and social conditions of housing.

In line with the above view Pongai *et al.*, (2017); and Lissimia & Nur'aini (2019) in a study stated that one of the factors influencing transformation is the location and residential environment. These factors are translated into physical environmental conditions, quality, and environmental accessibility. Pongai *et al.*, (2017) in their study found that residential transformation in Indonesia occurs at the initiative of owners (private funds), tends to be illegal (without permission), and informal (designed and built by themselves).

The transformation process cannot be separated from several factors that influence it. According to Habraken as quoted by Susanti *et al.*, (2018) stated that the factors that influence transformation are: 1) The need for identity and self-existence in their environment; 2) Changes in lifestyle (lifestyle), which are influenced by allusions to other cultures; 3) The use of new technology, where modern technology has started to enter to affect changes in the physical environment; and 4) the emotional presence of the community to keep up with the times or follow the fashion, where changes will occur very quickly because something that can still be used has been forced to be changed in order to follow the fashion even though what used to be still usable.

Other factors that influence transformation according to Rosi (1982) in Susanti *et al.*, (2018) are: (a) Social changes, (b) Cultural changes, (c) Economic changes, and (d) Political changes. In many cases, the transformation process has different characteristics which are generally categorized into four things, namely: (1) Transformation is topological, meaning that the change that occurs is a change in space-forming components that have the same spatial function; (2) The transformation is grammatical (ornamental),



meaning that the changes that occur reflect the cultural values of the community; (3) The transformation is a reversal, meaning that changes that occur are made by reversing the image of the object to be transformed; and (4) Transformation is distortionary, meaning that changes are made by giving the designer freedom to change an object. Many factors affect the physical changes in the house, including> a) There is an increase in the need for family growth or an increase in the number of family members (children and other members), b) As a reflection of identity due to the desire of residents to have a house that is different from the houses around it, and c) Culture and the environment in which humans live (Syahri *et al.*, 2017).

Residential transformation is also related to the characteristics of tenants/house owners. Yuliasuti & Sukmawati (2016) found in their research that aspects related to economic and social characteristics in quality of life are basically interrelated and influence respondents in making physical changes to the house they own. These aspects are income level, education level, number of families, and motivation. The aspect of the type of work has very little influence and is not even related to the physical changes in the housing that occur in the housing complex. If sorted from the largest to the smallest level of influence on housing transformation motivation, number of families, income level, and level of education. The level of influence of physical changes is related to the transformation of the house, such as changes in shape and space, changes in function, and changes in the elements of the house.

4.2.8 Provision of Space for Social Interaction

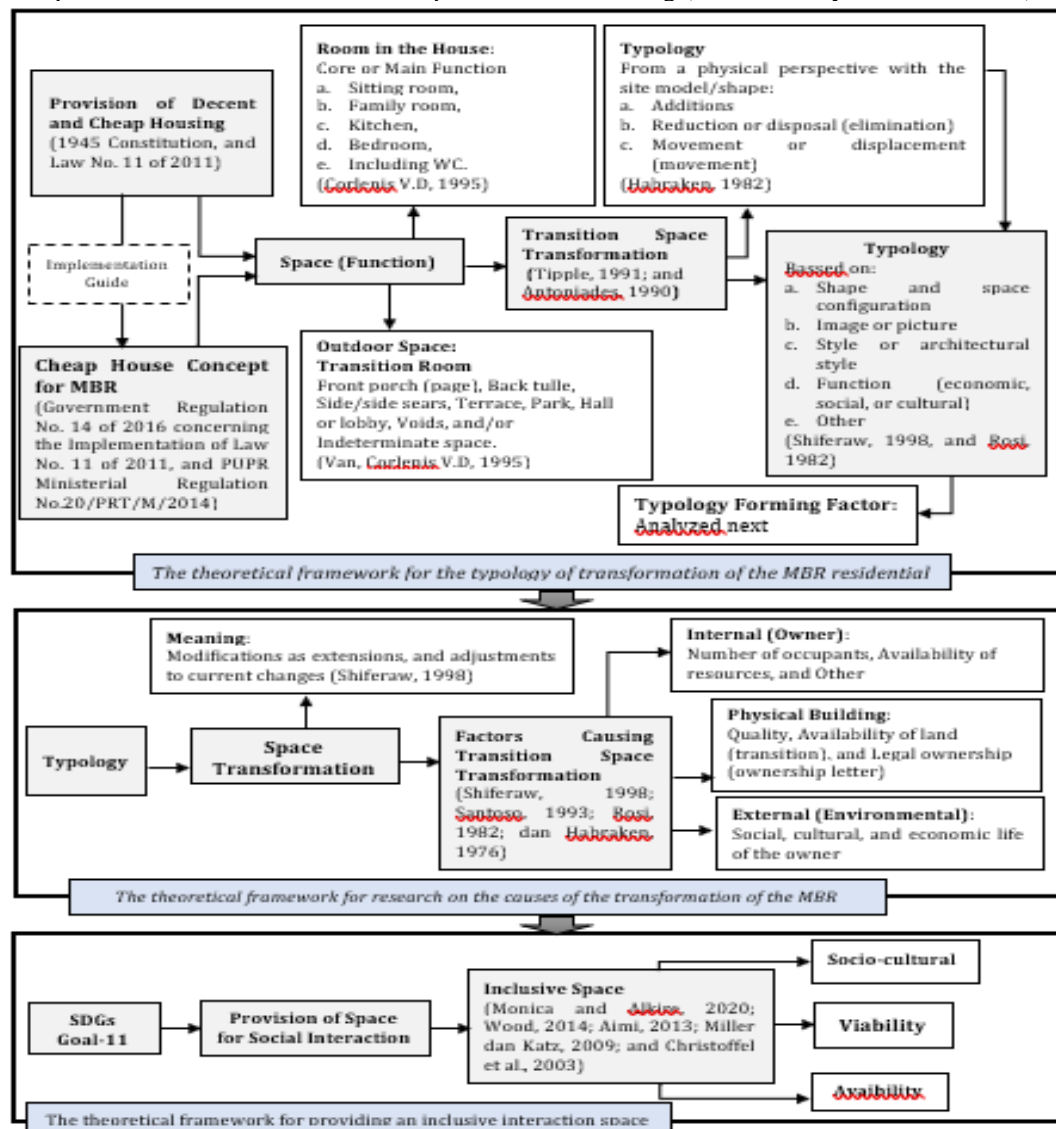
The theoretical basis for using space for social interaction in housing in this study is the direction for sustainable development goals (SDGs) specifically for goal-11, namely inclusive sustainable housing (Hasddin *et al.*, 2022). Sustainable settlement or shelter in Indonesia is not new, this issue has been popularized since 2010 on the basis of an approach to the area (land) status, environmental protection, and entity-based (Siradjuddin *et al.*, 2018). As a tropical area, the concept of housing that is inclusive (in which there are sustainable aspects) in Indonesia is important because the sunlight is relatively long compared to other parts of the world so the sun's heat and humidity are quite high, rainfall, wind movement, and so on (Samsuddin *et al.*, (2017), from time to time it becomes a problem if the architectural transformation and approach do not lead to adaptation of such things. On this basis, in the context of residential transformation, it can



only be carried out as long as it fulfills these elements. The second emphasis in this research is that inclusiveness is placed on the provision of inclusive public space so that in the process of providing it integrates principles including the socio-cultural aspects, viability, and availability referring to the composition of the area as quoted from Pinilla-Roncancio and Alkire (2020); and Hamraie (2013).

Not much has been discussed about residential development, especially regarding the "pressure" of space availability and transitional space transformation. This research will provide information (uncover phenomena) related to the composition of the provision of space for social interaction as a social need in the midst of occupant activities that transform special spaces in MBR dwellings (Figure 10).

Figure 10: Concept framework and research roadmap for the typology of transformation of transitional spaces, causal factors, and the concept of inclusive housing (Source: Analysis Results, 2023)





5 CONCLUSION

Talks about the fulfillment of decent and cheap housing are found in all countries, not only in developing countries but also in developed countries. Challenges are increasingly complex due to urbanization and urban population growth. Some of the policy approaches taken to meet housing needs for low-income people are the subsidy model, namely mortgage down payments.

The next thing that is widely discussed is the transformation of housing into special homes for low-income people (MBR). Based on the results of these studies, there are three important issues that need further study to reflect the position of further research. The first is the study of spatial transformation typologies, with a focus on (emptiness) analysis of the transition space. The second is the factor driving the transformation of the transitional space. Third, the provision of spaces for inclusive social interaction (social, viability, and availability).

Theories used to construct future research in uncovering the transformation of residential transitional spaces in MBR houses include the "housing as a process" theory by Turner and Fichter; human ecology theory (eco-system and social system); and human settlement theory. The theory that specifically discusses transformation (causes) uses the need theory proposed by Maslow; and the theory of planned behavior by Icek Ajzen.

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