

THE ROLE OF ACTOR-NETWORK-THEORY IN SELF-HELP HOUSING: A CASE STUDY OF THE AUTHOR'S HOUSE

Article History:

First draft received:
29 April 2022

Revised:
10 Juli 2022

Accepted:
5 Agustus 2022

First online:
12 September 2022

Final proof received:
Print:
20 Oktober 2022

Online
20 Oktober 2022

Jurnal Arsitektur ZONASI
is indexed and listed in
several databases:

SINTA 4 (Arjuna)
GARUDA (Garda Rujukan Digital)
Google Scholar
Dimensions
oneSearch
BASE

Member:

Crossref
RJI
APTARI
FJA (Forum Jurna Arsitektur)
IAI
AJPKM

Putra Bagus Khalis¹

¹Department of Architecture, University of Indonesia, Indonesia

Email: putra.bagus@ui.ac.id

Abstrak: Tulisan ini bertujuan untuk memahami proses rumah swadaya melalui pendekatan Actor-Network-Theory dengan menggunakan rumah penulis sebagai studi kasus. Teori yang mendasari dalam tulisan ini adalah Actor-Network-Theory yang dikemukakan oleh Latour (2005), bagaimana aktor dan jaringan dalam sosial, dan rumah swadaya yang dikemukakan oleh Turner (1976), bagaimana penghuni membangun rumahnya sendiri. Tulisan ini menggunakan pendekatan naratif, bagaimana penulis dan pemilik rumah terlibat langsung dan menceritakan keterlibatan mereka dalam studi kasus untuk mengeksplorasi peran Actor-Network-Theory dalam rumah swadaya penulis. Temuan penelitian ini adalah bahwa di rumah swadaya penulis terdapat peran penting antar aktor sehingga tercipta jaringan yang diperkuat dengan adanya objek. Tiga aktor tersebut, pemilik rumah, arsitek, dan pekerja konstruksi membentuk jaringan yang disebut trinitas dalam arsitektur, yaitu klien, arsitek dan pengrajin (Fathy, 1973). Suatu jaringan sosial dapat terbentuk jika ada aktor yang bertindak atau bertindak satu sama lain dengan aktor lainnya. Tindakan atau tindakan aktor pertama akan mempengaruhi tindakan aktor selanjutnya. Pengambilan keputusan pada setiap tahap proses swadaya tergantung pada diskusi antar aktor. Pertukaran ide inilah yang menjadikan proses ini sebagai pelajaran bagi aktor masa depan.

Kata Kunci: actor-network-theory, rumah swadaya, sosial, tindakan

Abstract: *This paper aims to understand the process of self-help housing through the Actor-Network-Theory approach using the author's house as a case study. The underlying theory in this paper is the Actor-Network-Theory proposed by Latour (2005), how actors and networks in social and self-help housing proposed by Turner (1976), how residents build their own houses. This paper uses a narrative approach, how the author and the owner of the house are directly involved and tell their involvement in a case study to explore the role of Actor-Network-Theory in the author's self-help housing. The finding of this study is that in the author's self-help housing there is an important role between actors so as to create a network that is strengthened by the presence of objects. Three such actors, homeowners, architects, and construction workers form a network called the trinity in architecture, namely the client, the architect and the craftsman (Fathy, 1973). A social network can be formed if there are actors who act or act with each other with other actors. The actions or actions of the first actor will affect the actions of subsequent actors. Making decisions at each stage of the self-help process depends on discussion between actors. The exchange of ideas is what makes this process a lesson for future actors.*

Keywords: actor-network-theory, self-help housing, social, action

1. Introduction

The house is a basic need of every living being in the world, even the UN committee on economic, social and cultural rights has underlined that the right to a house must be seen as the right to live somewhere in secure and peace. According to the Minister of Public Works and Public Housing No. 13/PRT/M/2016, Self-help housing is a collection of houses built on the initiative and efforts of the community, both in urban and rural areas, equipped with infrastructure and public utility facilities. The concept of self-help housing is to increase community initiatives and efforts with an approach to empowerment (socialization and counseling), mentoring, preparing the community as the main actor in development (funding, training and other facilities),

as well as government intervention in the form of facilitation. The self-help housing emphasizes the importance of self-help housing and how the community has helped the government in providing housing. The government should also be aware of its position as a supporting factor that also has a responsibility in providing housing for its citizens. The provision of self-help housing is process-based, involving the community. Not only physically building, but the most important thing is that the community has adequate technical skills to be able to be self-reliant optimally. Of course, in the process of self-help housing, there are several actors who have important roles so that the construction of self-help housing can be created. To find out what actors play a role, this paper is expected to produce knowledge in the self-help home process which is supported by the innovation of the actors and add theory to be understood in conveying ideas, arguments and ideas in an academic environment as well as the application of concepts in a practical environment. This paper will discuss self-help houses from the perspective of Actor-Network-Theory, in order to reach an understanding of the relationship between owners and actors and other objects in the construction of houses. Actor-Network-Theory is a theory that discusses how a person is not only involved with other people in a social network, but an object can also be involved in it. The basic theory of Actor-Network-Theory is used to see the reciprocal relationship between humans and objects in social networks. At the end, the author will make a conclusion that contains the entire paper briefly and clearly, as well as several points that became the main idea of the author's self-help house.

1.1. Self-Help Housing

The urgency of the urban housing problem, presenting the concept of self-help and do-it-yourself housing which is currently growing as a new housing policy that supports low-income communities, by actively supporting residents in building their own housing initiatives and reducing the burden on the government in housing provision. According to Turner, self-help enables people to use their initiatives in action to build their own homes, and to mobilize their savings and resources (Turner, 1976). According to the Regulation of the Minister of Public Housing No. 6 of 2013 concerning Guidelines for the Implementation of Self-help Housing Stimulant Assistance Article 1 Paragraph 5, Self-help housing are houses built on the initiative and efforts of the community, either independently or in groups, which include repair, expansion, or construction of new houses and their environment. Meanwhile, Ntema added that self-help housing is defined as a process that allows the community to act as the main decision maker in project planning, design, management and implementation, while the government only provides land, regulation and supervision during project implementation (Ntema, 2011). In general, self-help housing means building one's own house, either independently or in groups, with the homeowner as the main actor and government assistance as the supervisor and limitations in building (regulations). The main objective of self-help housing transformation is to establish formal and permanent status in terms of legal rights and to promote economic, social and cultural viability (Tunas & Peresthu, 2010). There are three different forms of self-help housing. First, institutionalized self-help housing, refers to the implementation of self-help housing through community-based institutions such as cooperatives or self-help groups (Ntema, 2011). Second, laissez-faire self-help housing, defined as a self-help process in which the government does not play any role (Ntema, 2011). Usually experienced by middle or high income households, or occurs in informal settlements where the government does not provide any assistance. As long as the households have the control, it is still considered as self-help housing (Mungkasa, 2013). Third, aided self-help housing *bredenoord*, defined as a program (Ntema, 2011), in which facilities, infrastructure and utilities play an important role (Mungkasa, 2013), with the government being responsible for providing basic services, and individual households being responsible for building the unit, their own house. Referring to the definition, purpose and three types of self-help housing, as long as the main character is still controlled by the residents as homeowners, and even though the homeowners create groups in the self-help housing process, such as by asking the help of architects and craftsmen (construction workers), then this is still classified as self-help housing, because the government does not play any role in this process, either in terms of finance or the construction process, only as a provider of facilities and infrastructure.

Self-help housing activities are becoming more of a social process that involves many actors. Involvement is the key word for the effectiveness and sustainability of self-help housing outcomes. Connected social networks have created massive human interactions and have an impact on social dynamics (Ekomadyo & Yuliar, 2015). This social network is commonly found in architecture, it can be said as a trinity in architecture, namely the owner, architect and craftsman (Fathy, 1973). To understand the extent to which these actors play a role in a social network, the Actor-Network-Theory theory is deemed necessary as a basis for understanding.

1.2. Actor-Network-Theory

Latour (2005), a philosopher, anthropologist and sociologist from France, argues that sociologists understand social as something that already exists. He believes that social is something that must be formed. He suggested that social is something we can study and encouraged social scientists to ask questions about how social actually happens. According to Latour (2005), social occurs through networks. Social is about connections and relationships, but not in the typical sociological sense, which views social too narrowly, excluding non-human agents or actors. He wanted to see sociology recognized as the science of coexistence or collections of nature. Re-expanding social meaning to apply more than just humans and modern society. Corals, trees, bees, ants, and whales are also social creatures. This is perhaps the most controversial element of Actor-Network-Theory. In the Actor-Network-Theory (ANT) there are actors and networks. Actors are all elements that are connected in the system which will later form a network (Latour, 2005). Actors are networks, closely related to networks of other actors. The concept of Actor-Network-Theory is a discourse that discusses entities, whether those entities are human or non-human. Actor-Network-Theory talks about the relationship between humans and the environment (non-human), actor network theory that focuses on actor networks consisting of a network of both technical and non-technical elements, not only focusing on the social relations of human actors, but also covering non-human actors, including nature and the environment. The first feature of the social world is the constant exploration of boundaries by people over others. It is not the group that must be studied, but how the group is formed and disbanded. There will be no group, if there is no action. Latour explains how groups are formed based on the traces left behind from group formation. First, to describe a group, no matter if it has to be created from scratch or just a refresher, the group must have spokesperson who speak for the existence of the group, and are sometimes very chatty. Second, when a group is formed, there must be an anti-group. When a new group is formed, other groups that have been formed will be considered empty, obsolete, and so on. So for every group that is formed, then an anti-group is formed as well. Third, when groups are formed or re-formed, spokesperson will look for ways to eliminate their problems. Fourth, among the many spokespersons that allow the longevity of a group, they must include someone who has a role in the formation of the group. It is the diversity within the group that makes the group durable. There are not only humans (actors), but how there are humans acting (action). Action is important for ANT because it doesn't only see the person, but sees the action. Humans cannot be united without action. A person's actions do not just appear instantaneously, but there are other actions that affect him and he will affect other actions. Although we can never know for sure who and what makes us act, there is a list of features of what has happened in humans as acting actors. Agency is always presented as always doing something, then if agency is considered as a thing, then the depiction of humans is considered a figuration. Every human action is impure, there must be something false, ancient, absurd, irrational, artificial or illusory, and the actor will definitely build his own theory of action.

In human action there is always an object. It is at this point that the definition of 'social' is significantly expanded: from 'only human' to 'all objects that can be attributed' (Latour, 2005). Objects become the need for association in the network. It shows the special role that objects play i.e., they stabilize the network between actors, to make the user (human) behave in a defined way. We do not live in a society, but collectively, made up of humans and non-humans. Latour explains how he sees the situation as an object activity that will play a role in social relations. First, study innovations such as in craftsmen's workshops, engineer design departments, laboratories, homes, and others. At this site objects have lived diverse and complex lives through meetings, plans, sketches, rules, and trials. The process of site formation can be said as an object that has agency in social relations between humans. This object is a reason why humans are related to each other, if there is no object, humans may not be socially related. Second, studying distance, namely distance in time as in archeology, distance in space as in ethnology, and distance in skills as in learning. Third, are phenomena such as accidents, damage, and disasters. Suddenly man took a great action. Fourth, when the object has become history, this allows humans to learn it from archives, documents, museum collections, and others.

The Actor-Network-Theory approach understands the design process not as an effort to create a product, but as a process to reassemble social networks (Ekoadyo & Yuliar, 2015). The strategy in self-help houses forms a social network as a result, not only architecturally. This paper is based on the practice of self-help houses in responding to networks between actors in society. Then what is the role of Actor-Network-Theory in self-help housing? This paper is designed to understand the process of self-help housing through the Actor-Network-Theory approach using the author's house as a case study. The Actor-Network-Theory approach is appropriate to use because it can explain the process of self-help housing through social networks.

2. Methodology

This paper uses a narrative approach. The narrative method is an important methodological tool and strategy when conducting research and evaluation in social networking practices (Lilja, Larsson, Braun, & Sjoblom, 2013). Narrative is understood as an oral or written text that provides an explanation of a phenomenon or series of phenomena that are connected chronologically (Creswell, 2007). The procedure for carrying out this research consisted of focusing on the study of one or two individuals, collecting data through collecting their stories, reporting on the experiences of the individuals, and chronologically ordering the meaning of those experiences. The author and the owner of the house share stories about how the development of self-help houses has experienced. From this story then arranged in chronological order so that the integrity of the story is obtained. The theory that underlies this paper is used as the main point related to the story so that roles can be found related to the author's self-help house. Narrative strategies can be important in developing knowledge about the phenomena experienced by individuals and describe the many dimensions involved in self-help homes. Listening to stories well from resource persons can produce an understanding of individual characteristics and individual experiences related to a phenomenon as well as knowledge to answer research questions. The component that is of concern in this study is the process of self-help houses for resource persons from buying and owning a house until the house is built according to the wishes of the homeowner. Data collection is done by interview. Interviews were conducted on Saturdays and Sundays, considering that the resource persons did not have much time on weekdays because they were busy, by speaking directly or using cellphone instruments. Interviews with mobile phones are traditionally considered a data collection method of last resort, only used for convenience when face-to-face interviews are not possible (Haslerig, 2021). With the development of advanced technology, it is possible for resource persons and researchers to share the same note on the application on each mobile phone so that both resource persons and researchers can change and read the same note. This technique of collecting information through mobile phones makes it easier for resource persons to share stories, with little time they have. This also allows resource persons to feel relaxed and able to disclose information that may be sensitive, but the quality of the data can be said to be low (Novick, 2008), therefore face-to-face interviews should still be conducted.

3. Results and Discussion

It has been 11 years since the owner of the house and his family have lived in this house in Puri Nirwana 3 Cibinong, previously the owner of the house lived together in the Citayam area, which is not too far from his current home. At that time, homeowners felt the need to move to find a wider location with greater road access, and closer to the location of educational facilities. After looking at several housing locations, finally decided to choose a house at Puri Nirwana 3 Cibinong, of course with many considerations, the main ones are road access, land area and financial ability. The selection of the house is not based on the type that has been provided by the developer because the homeowner thinks that the house can be renovated. The goal of homeowners in remodeling is to achieve the desire to have an ideal home from its current condition. At least the owner of the house and their family can live more comfortably and according to their common needs. After the house is legally owned, the renovation process begins. The owner starts the renovation process by designing his own targets that need to be achieved as follows:

1. The master bedroom must be on the ground floor with a large enough area.
2. There are 2 children's bedrooms on the top floor because the owner has 2 children.
3. Have 1 additional room for grandmother who lives together.
4. The bedroom of the Household Assistant although small, must exist.
5. Bathrooms upstairs and downstairs, as well as an additional bathroom for the master bedroom that can be accessed directly.
6. A drying area located on the top floor so that the drying area is not seen by neighbors.
7. Car garage that can accommodate 2 vehicles.
8. Family room, dining room and kitchen.

The next step in the home renovation process is to study the original house plans and drawings provided by the developer as the basis for the renovation to be carried out. Home renovations are carried out in stages to take up to two years. Construction takes quite a long time because there are only two construction

workers working and the effective work of construction workers is carried out for three months and is interspersed with a period of rest and returning home for one or two months after the work period.



Figure 1. Author's Self-help House Before and After the Design Process

Source: (Khalis, 2022)

Figure 1 above explains how the condition of the house before and after going through the design process. The initial condition of the house is only a one-level house consisting of several rooms such as, living room, dining room, kitchen, two bedrooms, bathroom and garden. However, due to the large number of family members that require more space, a house is built to cover the lack of space, the house has a lot of additional space to accommodate the needs of homeowners such as a family room, children's bedroom and a drying area. The house can be said to be a self-help house because it has gone through the process of remodeling and adding space independently by the homeowner. The process of designing a house is fairly fast because all the wishes of the homeowner are clearly conveyed through the achievement targets, which are then realized by the architect. The architect's job here is only to design drawings, then the homeowner begins to build with the help of construction workers.

Renovation and construction starts from dismantling certain points to build foundations. After that, a concrete structure was built as a support for the upper floor and casting was carried out on the upper floor. Then the renovation was carried out by increasing the area of the ground floor rooms, and utilizing the remaining land at the back. Figure 2 below is an illustration of the process of building a house structure made with *SketchUp* software.

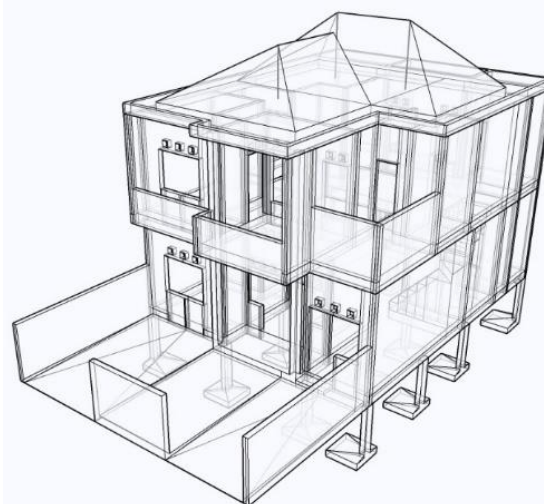


Figure 2. Structure Construction

Source: (Khalis, 2022)

Referring to the process during construction, the foundation has a role as an object that can influence other objects to appear. The formation of this object is present in the social gradually starting from the bottom of the house to the top. The presence of this object is also inseparable from the role of the actor as the creator, in accordance with Latour's (2005) opinion about how actors behave properly in creating objects. In other

words, objects can act as those that determine the actions or actions taken by actors. The choice of building materials or materials is left to construction workers, only building structural materials such as cement, sand, wood, iron, etc., while interior and exterior materials are chosen by the home owner, such as flooring, paint color, and others (Figures 3 & 4).



Figure 3. Structure Construction
Source: (Khalis, 2022)



Figure 4. Interior View
Source: (Khalis, 2022)

Here the role of the actor can be seen from the suitability of the relationship in the network. Construction worker actors have a strong role in determining whether an object can be built, or can be said to be decisive in building a house structure. Meanwhile, the actor who owns the house has a strong role in creating the aesthetics of an object, as residents who will later enjoy the object. This formation process can be regarded as an object that has agency in social relations between humans (Latour, 2005).

There are several actors involved in self-help houses, the first is the household. Households are the main actors in the construction of self-help houses who are obliged to build their own houses. Households will build houses according to the benefits and functions required by households in achieving optimal efficiency. Homeowners see that excess land at the rear is inefficient if it is not optimized for space requirements, therefore, additional space is needed to accommodate the number of families. An efficient house is a house that has the amount of space and space that suits the needs of the occupants. At the time of the first purchase of a house, the space and facilities provided by the developer did not accommodate the needs of the family, therefore households build and renovate their houses to meet these needs. The motivation of homeowners in building is strongly driven by the desire to have a home that is comfortable and in accordance with the need for space. Actions taken by household actors arise because of the actions of developer actors who provide houses with minimal space or only provide primary space. At this stage there is a relationship between humans, namely users and developers. In this process, of course, households must be prepared with financial commitments. Pure finance comes from household income, without any assistance from the government or related financial institutions. Funds and financial capacity in the household affect how the household builds a self-supporting house. In addition to household actors, there are other actors involved, namely architects. The architect here serves as a designer to produce a self-help house in accordance with the hopes and desires of the homeowner. Then the architect must also produce detailed design drawings that function as objects in conveying the results of their designs to the homeowner. It is at this stage that a relationship occurs between humans and non-humans, namely architects, drawings and homeowners. After going through the design process to produce drawings, then the homeowner must cooperate with the government in the legalization process and other legal matters to issue a Building Permit, so that homeowners can realize their self-help housing needs. To realize the development of self-help houses, of course, it requires other actors who act as labor assistance, namely construction workers. The quality of the house to be built depends on the help of construction workers, the better the quality of the construction workers, the better the quality of the house they build. The speed and length of the construction process also depends on the number and work ethic of the construction workers, the more and diligently they work, the sooner the house will be built. Design drawings also function as objects that help construction workers, making it easier for them to work and build houses according to the wishes of the homeowner. Referring to the whole process of self-help housing, from buying a house to house renovation, and Actor-Network-Theory, a diagram of the relationship between actors and objects that triggers the development of the house can be made as follows:

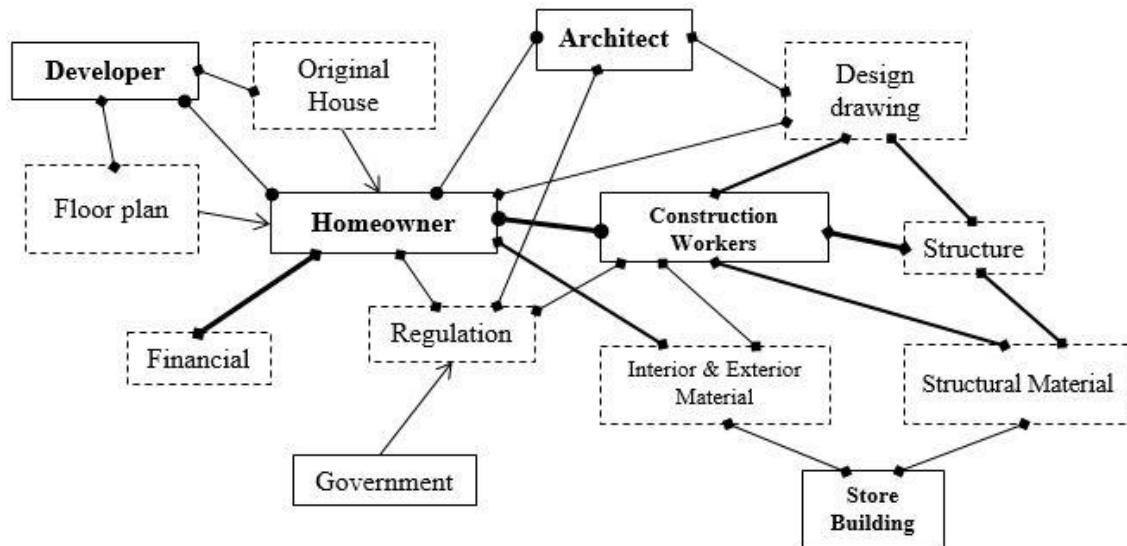


Figure 5. Network Diagram in Self-Help House
Source: (Khalis, 2022)

Figure 5 above illustrates how social networks are formed in the process of self-help houses. The picture of the box with the line is the actor who plays the role, while the picture of the box with the dotted line is the object that plays the role. The thicker the connecting line between actors, actors and objects, the more significant it is. The first actor who started this social network was the developer as a provider of house objects and house plans. Then the house was bought so that it became property. The homeowner's dissatisfaction with the house provided by the developer has made the homeowner take the initiative to carry out renovations and construction. Because this development is carried out independently, the homeowner's finances become the object of determining how the house will be built. Homeowners cannot build their houses alone, other actors are needed, such as architects. Architects began to design houses that match the targets and needs of homeowners, of course with reference to the regulations that have been implemented by the government. After the design process is complete, the architect can publish the design drawings to the homeowner as a design plan. The next actor who can help homeowners is construction workers. Workers must be able to build houses based on the design drawings that have been made. All types of structures, both structural materials and interior and exterior materials, are obtained from building shop actors, so it can be said that this material object connects homeowners with other actors. Referring to Figure 5 above, the connectedness of actors and objects can trigger the development of self-help housing development, in other words the Actor-Network-Theory approach can explain how social networks can be formed in the process of self-help housing.

4. Conclusion

Three such actors, homeowners, architects, and construction workers form a network called the trinity in architecture, namely the client, the architect and the craftsman (Fathy, 1973). The participation of three actors is very important in the self-help housing process, and if one of the three actors releases their responsibilities, the self-help house cannot run properly. The network of these three actors also cannot be separated from object agency which strengthens the network and stabilizes the network so that the actors behave in their own way. The author's self-help house belongs to the form of laissez-faire self-help housing, where the main role is the household itself, without government assistance in the financial aspect, but only as a regulator in the legal aspect and legalization. So it can be said that in this self-help housing process, house construction is the root in a network, actors act as those who take action in forming a network group and are strengthened by the presence of objects. This paper shows that the self-help house process is a process of developing a social network in several stages. The actors involved vary in each step and the social power changes according to the context of each stage. The actions or actions of the first actor will affect the actions of subsequent actors. Making decisions at each stage of the self-help process depends on discussion between actors. The exchange of ideas is what makes this process a lesson for future actors.

5. References

- Creswell, J. W. (2007). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. London: Sage Publications, Inc.
- Ekomadyo, A., & Yuliar, S. (2015). Social Reassembling as Design Strategies. *Procedia - Social and Behavioral Sciences*, pp 152-160.
- Fathy, H. (1973). Reestablishment of the "Trinity": Owner, Architect, and Craftsman dan Vernacular Architecture of Old Gourn. In *Architecture for the Poor*. Chicago and London: The University of Chicago Press.
- Haslerig, S. J. (2021). Phone it in: Reflections on the use of phone interview methods with college athletes. *Journal for the Study of Sports and Athletes in Education*.
- Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. New York: Oxford University Press Inc.
- Lilja, J., Larsson, S., Braun, T. v., & Sjoblom, Y. (2013). Chapter 14. Discussion About Narrative Methods as a Strategy for Investigating and Understanding the Use and Misuse of Alcohol and Drugs. *Substance Use & Misuse* , 1438-1446.
- Mungkasa, O. (2013). Perumahan Swadaya: Konsep, Pembelajaran dan Praktek Unggulan.
- Novick, G. (2008). Is There a Bias Against Telephone Interviews in Qualitative Research? *Research in Nursing & Health*, 391-398.
- Ntema, L. J. (2011). *Self-help Housing in South Africa: Paradigms, Policy and Practice*. Bloemfontein : Faculty of The Econodmic and Management Sciences.
- Tunas, D., & Peresthu, A. (2010). The Self-help Housing in Indonesia: The Only Option for the Poor? *Habitat International*, 315-322.
- Turner, J. F. (1976). *Housing by People: Towards Autonomy in Building Environments*. ew York: Pantheon Books.