

The 3rd International Conference on Sustainable Future for Human Security
SUSTAIN 2012

Mass housing sustainability based on community cohesion (A case study at Sendangmulyo, Indonesia)

Farah Rara Dipta Said^a, Nany Yuliasuti^{b,*}

^b*Department of Urban and Regional Planning, Diponegoro University, Semarang 50275, Indonesia*

Abstract

Housing has an important role in the process of human resources development. Housing is also a form of manifestation of an orderly social environment through the internal social interactions. There is a general understanding that the housing sector is one of the sectors that is particularly important with regard to sustainable development. This is because housing embodies social, environmental, as well as economic dimensions. Environmental problems can affect the environmental quality of residential housing. This study aims to assess the level of environmental quality of Sendangmulyo mass housing. The methods of analysis used are quantitative descriptive analysis tools with a frequency distribution and Likert scale. The development of mass housing problems tends to experience a decrease in the quality of the housing environment that may affect sustainability. It has attracted concerns and community involvement in carrying out maintenance and management of residential environment. The results of this research show that the community cohesion in Sendangmulyo depends on social interaction, sense of belonging and community engagement.

© 2013 The Authors. Published by Elsevier B.V. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).
Selection and peer-review under responsibility of SUSTAIN conference's committee and supported by Kyoto University; (OPIR), (GCOE-ES), (GCOE-HSE), (CSEAS), (RISH), (GCOE-ARS) and (GSS) as co-hosts.

Keywords: Housing Quality; Sustainable Mass Housing; Community Cohesion

1. Introduction.

Residential neighborhood is one of the main factors having a direct influence on the social and environmental aspects in a community development [1]. Therefore, the problems of housing environment can affect the quality of residential neighborhoods. Catanese [2] reveals that the problems of quality in

* Corresponding author. Tel.: +62-811-276602; fax: +62-24-7460054.
E-mail address: n.yuliasuti@undip.ac.id.

the residential neighborhood include several things, namely, “the quality of the physical environment, the complete system of municipal services and the presence of anti-social behavior”.

Based on this, the complexity of the environmental quality of housing is not only seen from the physical aspect, but also from the social aspect. Therefore, the community’s participation to maintain the quality of residential neighborhoods is substantial, as part of the social aspects. The community involvement in the maintenance of a residential neighborhood can establish strong community cohesion and hold an important role in the sustainability of housing. Community cohesion is the quantity and quality of interaction among individuals in a society that can be seen from the level of their concerns for their neighbors and their involvements in community activities [3]. The role of community cohesion in a residential area is closely related to how to build a strong relationship to respect plurality within the community with the concept of equality and diversity, in which the whole society recognizes that every individual has equal rights, such as the right to access public services, like health, education, etc.[4].

Semarang city’s rapid growth towards the south of the city has an impact on the increased demands for housing in a large scale; one occurs in the District of Tembalang. This condition has urged the government to issue a policy of mass housing development to meet the needs of the people. One form of mass housing development policies by the Government of Semarang is Sendangmulyo Housing development, with middle class society as the target. Sendangmulyo housing was built in 1993 – comprising 2020 houses and occupied by 1828 families with an area of 537.49 ha (see Figure 1). However, there is a tendency of environmental degradation caused by the lack of care and maintenance of facilities and environmental infrastructure by Perumnas (Social Housing Development Company). The environmental issues happened in Sendangmulyo are damaged roads in several locations, poorly maintained drainage, lack of waste services and inadequate residential facilities. In some cases, it was found that environmental problems affect the quality of the residential housing. Residential neighborhoods play an important role to serve as the community forum for developing the sense of belonging among individuals and to the environment. Sense of belonging of the environment, individuals concern of each other and society involvement, regardless the diversity of backgrounds, influence the quality and sustainability of Perumnas Sendangmulyo. Therefore, this paper will explain how community cohesion in mass housing with its conditions and insufficient infrastructure, however, can be sustained. The study focuses on the environmental quality of housing conditions in terms of social aspects (community cohesion) and the physical aspects (facilities and infrastructure). This paper consists of four sections; the first comes with introduction, the second is the review of literature on community cohesion, the research methodology as the third part, and the last part is the final findings about the important role of community cohesion on mass housing in Sendangmulyo.

2. Housing Quality and Community Cohesion.

The review of literature is needed to facilitate an understanding of the research focus. Turner [15] mentions that a house should be associated with the man who occupies it and the house cannot be seen as a result of complete physical, but it is an evolving process and related to socio-economic mobility of its inhabitants.

Cochran in [7] states that community cohesion is the quality and quantity of interactions between individuals in the society, indicated by the level of awareness of each other in the neighborhood and the level of individual involvement in community activities. Similarly, [4] state that community cohesion can be described as the society’s ability to grow together in harmony, rather than in conflicts. Social cohesion at the community level can be obtained from the forms of social interaction and its quality at the local level [5]. Brown et al. [4] mention that a strong and positive interaction among individuals in a society of different backgrounds and conditions is one indicator of the community cohesion assessments in a

society. In other words, the society backgrounds and the interactions among the members can affect community cohesion. According to them, in a cohesive society, common vision and sense of belonging to all members from different backgrounds and conditions are well appreciated and positively valued. However, the sense of belonging itself is not only happened among individuals in the community but also between the individual and his environment. Sense of belonging as part of community cohesion is about how an individual feels connected to the housing environment, the area where he lives, and a sense of ownership to the place and to the people living there [5]. With this point, it can be concluded that the sense of belonging in a cohesive society can be used to assess the level of “connectedness” between people and their community, also between community and the environment. The application on community cohesion can be seen on how everyone is involved in the community and able to work together in the community to form cohesion [10]. Furthermore, they figure out about the relationship between residential neighborhood and community cohesion, that the house and the neighborhood are the main keys of how people know each other, which makes housing an important component of the environment. Community cohesion holds a role in improving the quality of life in the neighborhood because the people living in the neighborhood are able to appreciate differences and develop a better understanding through a shared balance to create a desirably comfortable environment. It is as said by [7] that the direct value of community cohesion is reflected in the people’s needs to have a safe, comfortable and friendly environment.

3. Methodology

This study, in general, uses quantitative method by using qualitative and quantitative descriptive analysis and Likert scale. The assessment in this study uses three categories: good, fair and poor, according to the predetermined criteria. The valuation of each variable will result in the value of the benchmark index which represents the quality of the variables. Then, the values obtained by weighting the results of each analysis are used to clarify the results of the analysis.

The data collection techniques include primary and secondary data surveys. Primary data survey is conducted through observation, questionnaires and interviews. The sampling technique used is simple random sampling. The number of respondents in this study is 95, for each represents one household. There are 1,828 households across 6 RWs (neighborhood units) in Sendangmulyo housing (see Figure 1). Random sampling is used because Sendangmulyo housing occupants are homogeneous in a sense that their socio-economic level is similarly in the lower-middle class.



Figure 1: Housing lay-out of Sendangmulyo Mass Housing (Google Earth,2010)



Figure 2 : (a) Type 45 house unit; (b)Type 36 house unit

4. Findings

4.1. The quality of community interactions

The quality of community interaction in Sendangmulyo housing happens well with the index value of 1.99 with the scale of 1 to 3. In each neighborhood unit (will be referred to as RW afterward, while neighborhood association as RT) in Sendangmulyo housing, there are many social activities for people to interact with each other. Social activities are carried out by a joint agreement that the community is actively involved in. For example, women are involved in an activity called Family Welfare Education or the PKK (see Figure 3b). The high quality of the interaction can be seen from the intensity of the well-established interactions among people in a neighborhood unit (RTs/RWs). Interactions among people

happen all the time – daily, weekly or monthly. The interaction is held in the evening after work or weekends. This type of interaction is often done in PKK gatherings, meetings in children's health control, congregational prayers and community services to maintain environmental infrastructure, casual discussions and greetings, trading, etc. However, the interactions with people outside the neighborhood unit (RTs) are less intensive. Nevertheless, some RTs that are located closely to each other make use of the neighborhood open space and play yard for their members to interact.

This condition is caused by certain social activity, i.e. sport, children play, that happens more frequently in an RT (one RT consists of 30-40 households); that is able to affect the intensity of the interaction. The social activities at RTs and RWs level can maintain the interactions with the neighbors outside a particular RT. Good social interaction is proven to be able to build a positive kinship among people, regardless of their heterogeneous backgrounds in terms of employment and education. The level of communication in Perumnas Sendangmulyo society is well-established that they can discuss about social and environmental issues openly. Therefore, the quality of social interactions is proven to be able to promote harmony and to avoid conflicts among neighbors. Interaction and communication show the existence of community cohesion in the neighborhood. The social cohesion level may be obtained from the forms of social interaction and its quality at the local level, such as RTs. Good quality social interaction is able to increase people's understanding and awareness of the condition of the environment where they live.

4.2. The quality of sense of belonging to the environment

The quality of the sense of belonging to a residential neighborhood is in good category. The comfort level of people's environmental infrastructure is quite high, although there are some conditions in which the housing has inadequate infrastructure, such as, damaged roads and improper water supply; however, these conditions still have the ability to support a quite comfortable residential neighborhood to live in. The resident's comfort level of public facilities is also high, as cafes, shops, field, mosque, pharmacy and public health centers are available and easily accessed. Sendangmulyo housing is at a good level of a security; they support the environmental security by doing night guards or night watch, installing streetlight in front of every house, and building security gates in every RT.

Sense of belonging to the community is also seen in the high level of public awareness of the neighborhood. Community members gather to plant trees and flowers in each house and the residential neighborhood. They also make Family Herbal Plants Garden in vacant grounds around the neighborhood as a form of green residential initiative. In addition to that, the good level of environmental awareness is shown by providing trashcans, cleaning the drainage regularly and participating in the collective 'general cleaning' of the neighborhood. They put some attempts to make the quality of their residence better. The high level of the "connectedness" in the community shows that people in Sendangmulyo housing have a very good environmental awareness.

4.3. Community involvement in infrastructure maintenance

The quality level of community involvement in the maintenance of residential infrastructure is scored by 2.17 in the scale of 1 to 3. Neighborhood maintenance activities are conducted through community service activities that are scheduled and held in each RW and RT. The activities in the RW and RT are performed regularly at least once in a month. The voluntary activity that is routinely undertaken by the community has the potential to improve the quality of residential neighborhood. Moreover, the involvement is not limited to fathers, but also to mothers and teenagers. They also contribute to the success of community service activities. The high level of public participation is also reflected in the

voluntary work in the neighborhood ‘general cleaning’. People are willing to give time and energy to participate in the community activities, showing a good awareness of maintaining their residential neighborhood. It also proves that the need of a quality residential neighborhood which is comfortable to live in leads people to participate in any environmental maintenance, shaping a community engagement (see Figure 3a).



Figure 3: (a) Community engagement; (b) Women social interaction

4.2. The role of community cohesion in Sendangmulyo mass housing.

The index of the role of community cohesion in realizing sustainable residential environment is 2.07. This is calculated from the positive aspects of community cohesion, such as: (1) social interaction, (2) sense of belonging and (3) the level of community involvement in housing maintenance activities. The social interaction is able to bring out the public awareness about condition and issues of the residential neighborhood. The sense of belonging level of the residential community (can be seen from the level of comfort and security and the level of public awareness on the condition of facilities and infrastructure) and the community involvement level are also high. Overall, the quality of mass housing in Sendangmulyo is good with the highest index value (2.17) on the quality of community involvement in the maintenance of residential neighborhoods. However, further efforts are still needed to improve and maintain the residential neighborhoods for a better future.

Table 1 Scoring Analysis on the Environmental Quality Assessment of Housing.

Variable	Weight	Index	Total
Quality social interaction	0,33	1,99	0,66
Quality sense of belonging	0,33	2,05	0,68
Quality community involvement	0,33	2,17	0,72
Total			2,07

Source: Authors' Analysis, 2012.

The roles of community cohesion in realizing sustainable mass housing in the Sendangmulyo are: (1) Creating harmonious life of Perumnas Sendangmulyo society through kinship ties and a well-established communication which improve people's understanding of the condition of residential neighborhoods; (2) Playing a significant role in making a clean, comfortable, safe and harmonious housing through the

“connectedness” of the individuals with the society and the society with residential neighborhoods. People become attached to one and another and responsive to conditions and problems of the neighborhood; (3) Establishing a better physical quality of the environment through activity of the maintenance of roads, drainage, etc., since the preservation is based on the principle of common interest or need.

5. Conclusion

Mass Housing in Sendangmulyo, with limited infrastructure and maintenance funding from the government, has shown a positive performance and is able to overcome the mass housing environmental problem due to the close relationship among the residents, supported by the existence and proximity of the neighborhood units (RTs and RWs).

Community cohesion in Sendangmulyo housing is formed by the presence of positive social interaction in the social activities in the neighborhood units (RTs and RWs) through the use of neighborhood facility as a place to interact, by the good sense of belonging of the neighborhood and by the community involvement in the maintenance the infrastructure. The aspects of community cohesion need to be improved for the quality and quantity of community engagement and to be a vital social tool to provide a better future for Perumnas Sendangmulyo, particularly, and for a sustainable mass housing, generally.

The good community cohesion in Sendangmulyo mass housing proves that the aspect of togetherness, community engagement and social cooperation within RTs and RWs is important to the sustainable community. It can help to achieve the sustainable mass housing under the circumstances of limited household income and lack of government funding for infrastructure maintenance.

Acknowledgements

The highest gratitude is given to the residents of Sendangmulyo housing and the heads of the neighborhood association of RTs and RWs for their time and dedication during the survey. Also, to the Faculty of Engineering, University of Diponegoro for the research grant.

References

- [1] Roseland, Mark et al. “Toward Sustainable Communities.” Kanada: New Society Publishers; 1998.
- [2] Catanese, Anthony J. Pengantar Perencanaan Kota. Jakarta: Erlangga; 1996.
- [3] Litman, Todd. “Community Cohesion As A Transport Planning Objective”. British Columbia: Victoria Transport Policy Institute; 2010.
- [4] Brown, Chris et al. “*Community Cohesion: Seven Steps*” London: Home Office; 2005.
- [5] Budiharjo, Eko. *Sejumlah Masalah Permukiman Kota*. Bandung: Alumni; 1998.
- [6] Fookes, T.W. Education Based on Theory and Practice to Enable Action for Sustainable Humane Habitats.dalam http://www.ekistics.org/ERU/ICHH_TF_Education%20based%20on%20Ekistics.htm diakses pada tanggal 6 Februari 2012; 2008.
- [7] Forrest, Ray dan Ade Kearns. “Social Cohesion, Social Capital and The Neighbourhood,” dalam *Journal Urban Studies*, Vol. 38, No. 12, 2125–2143. Pennsylvania: Sage Publication; 2001..
- [8] Kuswartojo, Tjuk. Perumahan dan Permukiman di Indonesia Upaya Membuat Perkembangan Kehidupan yang Berkelanjutan. Bandung: Penerbit ITB; 2005.
- [9] Lynch, Kevin. *Site Planning*. London: MIT Press; 1984.
- [10] Monografi Kelurahan *Sendangmulyo*; 2011.

- [11] Perry, John and Bob Blackaby. "*Community Cohesion And Housing: A Good Practice Guide.*" London: Chartered Institute of Housing and the Housing Corporation; 2007.
- [12] Rapoport, Amos. "*Environmental Quality, Metropolitan Areas and Traditional Settlements.*" Australia: Habitat International; 1983.
- [13] Sastra, Suparno M dan Endi Marlina. *Perencanaan dan Pengembangan Perumahan.* Yogyakarta: Penerbit Andi; 2006.
- [14] Soetomo. *Strategi-Strategi Pembangunan Masyarakat.* Yogyakarta: Pustaka Belajar; 2008.
- [15] Thurner, John. *Housing by People.* London: Morrion Boyar Publication Ltd; 1972.
- [16] Undang – Undang Republik Indonesia Nomor 1 Tahun 2011 tentang Perumahan dan Kawasan Permukiman.