

## Review of Open Space Green Luxury Housing in the City Makassar

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**Abstract:** Green open space is needed to address issues such as the occupancy of the greenhouse effect, global warming, water catchment areas, air pollution control, playground as well as a provider of good quality air. This is a qualitative study aimed to determine the extent of green open spaces that serve as a neighborhood park in Zone Luxury Housing in Makassar. Data collection tool used is the site plan, the Global Positioning System (GPS) and a camera. The data analysis technique used in this study is a comparative analysis which compares theory/ISO standards 03-1733-2004 (Standard Housing in Urban Environmental Planning) with the reality on the ground. Based on the results and discussion, it is known that the area of green open spaces in the area of luxury housing in the city of Makassar in general are not in accordance with the provisions of an area of green open space required in ISO standards (SNI 03-1733-2004).

**Key words:** Green open space, environment luxury housing, collection, analysis, air pollution

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### INTRODUCTION

Green Open Space (RTH) according to the instructions of the Minister of Interior of the Republic of Indonesia No. 14 of 1988 on the arrangement of open space in urban areas is 60% for the needs of the building and 40% for green areas. Provision of green open spaces regulated in the Regulation of the Minister of Public Works of the Republic of Indonesia No. 5/PRT/M/2008 on Guidelines for the Provision and Use of green open space in urban areas and are also regulated by Decree of the Minister of Interior of the Republic of Indonesia No. 1 Year 2007 on Spatial Planning of Urban Green Open which in detail stipulated in SNI 03-1733-2004 (Standard Housing in Urban Environmental Planning), sets the standard green open space which is based on the percentage of land area and the population of a region that mention about 40% of the total area concerned should be an open area which consists of roads, utilities and greening or green open space (RTH). Provisions for RTH itself, set for every 250 inhabitants of the parks at the same time it takes children's playground with an area of at least 250 m<sup>2</sup> or a standard 1 m<sup>2</sup>/resident. This location is sought such that a binding factor and for every 3,000 residents provided a playground and sports area of 1500 m<sup>2</sup> with a standard 0.5 m<sup>2</sup>/resident. This provision, it can be assumed that the minimum area of green open space of at least 10-30% of the total area.

According Budihardjo (1999), the open space is part of a space that has a definition as a container which can accommodate the specific activity of the community in an environment that has no cover in physical form. Another theory supports the notion of open space is a space

dominated by the natural environment outside as well as inside the city in the form of garden, courtyard, city recreation areas and green line (Trancik, 1986). Open space is also one important element in the establishment of a regional environment (Shirvani, 1985). Similarly, disclosed Mangunwijaya (1988).

“Everything that is intimate or sacred called Dalem (In) and the outside, hanging out with people named the Court or Njaba (Home Affairs). In the courtyard there was a dialogue (association) between residents of the palace with the outside community. In this place was built pavilion which means additional buildings”. According to Carr (1999), public space must be responsive, democratic and meaningful. Means responsive public space should be used for a wide range of activities and interests. Meanwhile, according to Scruton (1984) every public space have the following meanings: a minimal design any location has great access to the surrounding environment, a meeting place for users of public space and the behavior of people who use public spaces from each other to follow the norms in force local.

Physical space associated with this form morphologically space and how space is used and influence the perception of users. Social space is the spatial implications on the various social activities. Waiver of the provision, maintenance, control and functions of open space as public space is now making the community more difficult to enjoy the open space function as a public space. The existence of open space in this area is needed, especially in terms of comfort and functionality, among others to support the activities of people such as sports facilities, socialize and also recreation.

The relationship between physical space and social space or between form and function by experts in the era of modern architecture has given rise to a theory form follow function by Sulamayo (1997) which means that every form of physical space should follow the characteristic function. However in the era of “post-modern” relationships tend to be ignored and more emphasis on the importance of physical space.

In general, green open space is an important part in determining urban city environment and quality of life of its people. With the green open space, the available oxygen is good for the local community needs and also contribute to global oxygen demand, created a new ecosystem for living beings like birds perched around the park as water catchment areas as windbreaks, improve water quality soil, prevent flooding, reduce the temperature of cities, reducing air pollution. In general, would lead to comfort, well-being and welfare for the people, the quality of the balance of supporting the continuity of the functions of life.

The government of the Republic of Indonesia recognizes the interests and apply the provisions of the provision of green open space in the city by 40% of the area of the city. Provision of green open space that should be done at the design stage area, not only in urban areas but also residential neighborhoods. Availability of green open spaces in the luxury housing in Makassar, also an effort to realize the settlement with impartial residential neighborhood. One example of green open space in a residential neighborhood is a neighborhood park is a natural element found in residential and residential complex. Aside from being a place to interact, also serves provides greening especially for water absorption. However, the implementation of the provision of green open space neighborhood parks in particular are sometimes not in accordance with the provisions that have been defined.

## MATERIALS AND METHODS

This study intends to see to what extent the rules (SNI 03-1733-2004) implemented by the housing developers to build luxury housing in the city of Makassar. This study population is the whole luxury housing in the city of Makassar, the amount is <20 residential complexes. Samples were randomly assigned as many as six residential complexes. Data were collected with a survey to measure the area of housing which is spacious and wide open spaces awakened or not awakened. Data analysis technique used was to compare qualitative alalysis extensive green open space that

should be in accordance with the rules and the vast green open space in every luxury residential complex sampled in this study.

## RESULTS AND DISCUSSION

The survey results showed that all luxury housing sampled in this study, not yet fully implemented SNI 03-1733-2004. More can be served by housing sampled as follows:

**Condition green open space Mutiara Permata housing:** Based on the measurement results, the data obtained by land area and wide open spaces in housing Mutiara Permata as follows:

- The total area = 63,000 m<sup>2</sup>)
- The land area awakened = 30,960, m<sup>2</sup>)
- The area of green open space = 1,957.96 m<sup>2</sup> (Fig. 1)

### Analysis:

- Broad open space = (63000-30960) m = 32,040 m<sup>2</sup>
- Wide open spaces should = m = 25,200 m<sup>2</sup>
- Wide open spaces = 32,040 m<sup>2</sup> >25,200 m<sup>2</sup> (meets standard)
- Vast green open spaces that exist = 1,957.96 m<sup>2</sup>

$$= \frac{1,957.96}{63.000} \times 100\% = 3.11\% < 10-30\% \text{ (not standard)}$$

With a total area of green open space 1,957.96 m<sup>2</sup> <30, 960 m<sup>2</sup> area woke unit, obtained by percentage area of green open space = 3.11%. Very far from the standard or what is stipulated in SNI 03-1733-2004.

**Condition green open space Anging Mamiri housing residence:** Based on the measurement results, the data obtained by land area and wide open spaces in housing Anging Mammiri Residence as follows: the total area = 170,000 m<sup>2</sup>; the land area awakened = 155,291 m<sup>2</sup>; the area of green open space = 2,394.5 m<sup>2</sup>:

- Broad open space = (170000-155291) m = 14,709 m<sup>2</sup>
- Wide open spaces should = m<sup>2</sup> = 68,000 m<sup>2</sup>
- Wide open spaces = 14,709 m<sup>2</sup> <68,000 m<sup>2</sup> (not standard)
- Vast green open spaces that exist = 2,394.5 m<sup>2</sup> (Fig. 2)

$$= \frac{2,394.5}{170.000} \times 100\% = 1.41\% < 10-30\% \text{ (not standard)}$$



Fig. 1: Site plan Mutiara Permata Housing; PT: Sari Citra Cemerlang (2014)

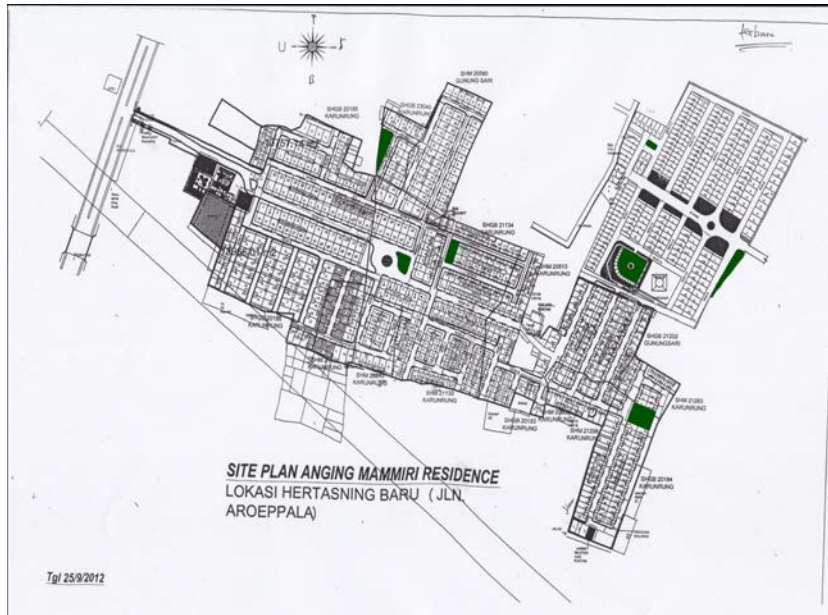


Fig. 2: Site plan Housing Anging Mammiri Residence; PT: Nusasembada Bangunindo (2014)

With an area of green open space overall 2,394.5 m<sup>2</sup>, spacious units awakened 155,291 m<sup>2</sup>, obtained by percentage area of green open space = 1.41%. Very far from the standard or what is stipulated in SNI 03-1733-2004 (Fig. 2).

**Condition of Green Open Space Makassar Metropolitan Housing Residence:** Based on the measurement results, the data obtained by land area and wide open spaces in

housing Makassar Metropolitan Residence as follows: the total area = 78,000 m<sup>2</sup>; the land area awakened = 35,320 m<sup>2</sup>; the area of green open space = 2,832 m<sup>2</sup> (Fig. 3):

- Broad open space = (78000-35320) m = 42,680 m<sup>2</sup>
- Wide open spaces should = 40% × 78,000 = 31,200 m<sup>2</sup>
- Wide open spaces = 42,680 m<sup>2</sup> > 31,200 m<sup>2</sup> (standard)
- Vast green open space that is = 2,832 m<sup>2</sup>



Fig. 3: Site plan Makassar Metropolitan Housing Residence; PT: Nusasembada Bangunindo (2014)



Fig. 4: Site plan Housing Bumi Tirta Nusantara Gardenia; PT: Mega Buana Nusantara (2014)

$$= \frac{2.832}{78.000} \times 100\% = 3.63\% < 10-30\% \text{ (not standard)}$$

With a total area of green open space 2,832 m<sup>2</sup> < 35,320 m<sup>2</sup> area woke unit, obtained by percentage area of green open space = 3.63%. Very far from the standard or what is stipulated in SNI 03-1733-2004.

**Condition Green Open Space Earth Housing Tirta Nusantara Gardenia:** Based on the measurement results, the data obtained by land area and wide open spaces in housing Earth Tirta Nusantara Gardenia as follows: the total area = 28,000 m<sup>2</sup>; the land area awakened = 16.200 m<sup>2</sup>; the area of green open space = 354.78 m<sup>2</sup> (Fig. 4):



Fig. 5: Site plan Housing Earth Aroepala; PT: New shoots Sulawesi (2014)

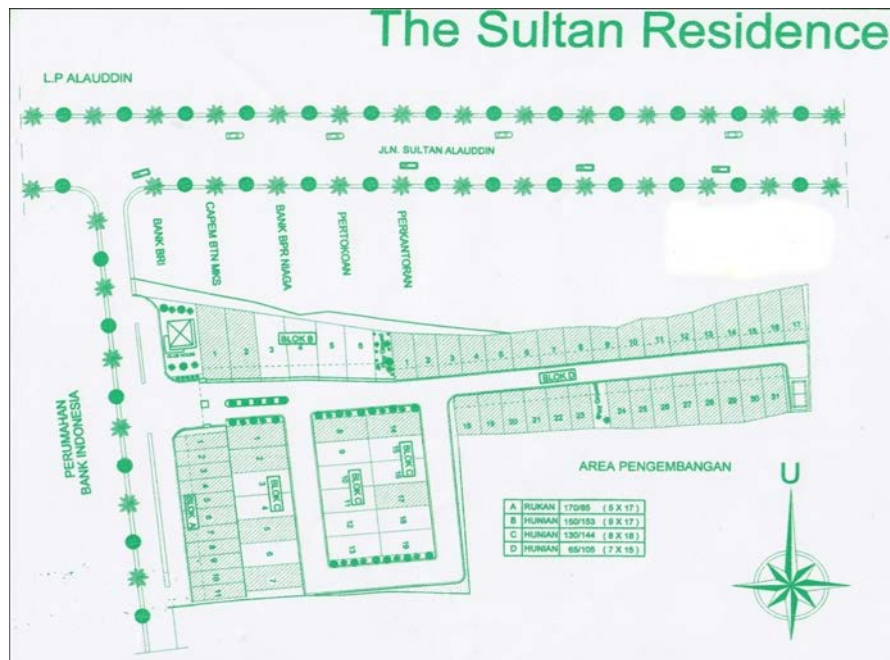


Fig. 6: Site Plan Housing The Sultan Residence. Documentation Research (2014)

- Broad open space = (28000-16200) m = 11,800 m<sup>2</sup>
- Wide open spaces should = 40% × 28,000 = 11,200 m<sup>2</sup>
- Broad open space = 11,800 m<sup>2</sup> > 11,200 m<sup>2</sup> (standard)
- Vast green open spaces that exist = 354.78 m<sup>2</sup>

$$= \frac{354.78}{28.000} \times 100\% = 1.27\% < 10-30\% \text{ (not standard)}$$

With a total area of green open space 354.78 m<sup>2</sup>, spacious unit woke 16,200 m<sup>2</sup>, obtained by percentage area of green open space = 1.27%. Very far from the standard or what is stipulated in SNI 03-1733-2004.

**Condition Green Open Space Earth Housing Aroepala:**  
Based on the measurement results, the data obtained by

land area and wide open spaces in housing Earth Aroepala as follows: the total area = 200,000 m<sup>2</sup>; the land area awakened = 108,207 m<sup>2</sup>; the area of green open space = 9,530.5 m<sup>2</sup> (Fig. 5):

- Broad open space = (200000-108207) m = 91,793 m<sup>2</sup>
- Wide open spaces should = 40% × 200,000 = 80,000 m<sup>2</sup>
- Wide open spaces = 91,793 m<sup>2</sup> > 80,000 m<sup>2</sup> (standard)
- Vast green open spaces that exist = 9,530.5 m<sup>2</sup>

$$= \frac{9,530.5}{200,000} \times 100\% = 4.77\% < 10-30\% \text{ (not standard)}$$

With an area of green open space overall 9,530.5 m<sup>2</sup>, spacious units awakened 108,207 m<sup>2</sup>, obtained by percentage area of green open space = 4.77%. Very far from the standard or what is stipulated in SNI 03-1733-2004.

**Housing Condition Green Open Space the Sultan Residence:** Based on the measurement results, the data obtained by land area and wide open spaces in housing The Sultan Residence as follows: the total area = 40,000 m<sup>2</sup>; the land area awakened = 8,660 m<sup>2</sup>; the area of green open space = 528 m<sup>2</sup> (Fig. 6).

- Broad open space = (40000-8660) m<sup>2</sup> = 31,340 m<sup>2</sup>
- Wide open spaces should = 40% × 40,000 = 16,000 m<sup>2</sup>
- Wide open spaces = 31 340 m<sup>2</sup> > 16,000 m<sup>2</sup> (standard)
- Vast green open spaces that exist = 9,530.5 m<sup>2</sup>

$$= \frac{528}{40,000} \times 100\% = 1.32\% < 10-30\% \text{ (not standard)}$$

With a total area of green open space 528 m<sup>2</sup>, spacious units awakened 8,660 m<sup>2</sup>, obtained by percentage area of green open space = 1.32%. Very far from the standard or what is stipulated in SNI 03-1733-2004.

Based on data obtained in the field, then analyzed qualitatively by comparing vast green open space with an area that is supposed to existing green open space, it was found that: Basic Building Coefficient (KDB) and a coefficient of 60% Green Elementary (KDH) 40%, from 6 luxury residential complex sampled, five of which meet the standards and the only one that is housing Makassar Metropolitan Residence did not meet the standards. Conditions of green open space (RTH) of housing

were observed, it was found that: Housing Gem Pearls with wide open spaces green = 3.11%, Housing Anging Mammiri Residence = 1.41%, Housing Makassar Metropolitan Residence = 3.63%, Housing Bumi Tirta Nusantara Gardenia = 1.27%, Housing Earth Aroepala = 4.77% and Housing The Sultan Residence = 1.32%. Of 6 luxury residential complex sampled, none of these are standards that meet or what is stipulated in SNI 03-1733-2004.

SNI 03-1733-2004 the Indonesian authorities, aims to keep the urban environment remain stable as a container which can hold community activities and social relationships and is an important part in determining urban city environment and quality of life of its people as well as contributing to the availability needs global oxygen, reducing the temperature of the city so that global warming can be reduced.

## CONCLUSION

Based on the results and the above discussion in general it can be concluded that based on the results of this study, green open space (RTH) in the luxury housing in the city of Makassar has not met the standard SNI 03-1733-2004. Therefore, it is recommended to relevant authorities, particularly the Department of Spatial Planning Makassar to further tighten supervision and giving firm sanctions against rogue employers and field properties that do not comply with the rules of law that apply in this country.

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