

## SUBSIDIZED HOUSING DEVELOPMENT STRATEGY IN A GREEN AND SUSTAINABLE INDONESIA

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### Abstract

*The development of green and sustainable housing is the main goal in preserving the environment and nature. The number of subsidized housing developments that increase from year to year will have a significant impact on sustainability. For this reason, the awareness of all stakeholders to make it happen is very important. A precise strategy is needed in stimulating and forcing developers to carry out sustainable housing development by ranking them according to their capital capacity and the availability of skilled workers.*

*Keywords: Strategy, Awareness, sustainability*

### Abstrak

*Pembangunan perumahan yang hijau dan berkelanjutan merupakan tujuan utama dalam melestarikan lingkungan dan alam. Jumlah pembangunan rumah bersubsidi yang meningkat dari tahun ke tahun akan berdampak signifikan terhadap keberlanjutan. Untuk itu, kesadaran seluruh pemangku kepentingan untuk mewujudkannya menjadi sangat penting. Diperlukan strategi yang tepat dalam mendorong dan memaksa pengembang untuk melaksanakan pembangunan perumahan berkelanjutan dengan memeringkatnya sesuai dengan kemampuan permodalan dan ketersediaan tenaga kerja terampil.*

*Kata kunci: Strategi, Kesadaran, keberlanjutan*

### INTRODUCTION

Housing development is one way to meet the community's need for housing in big cities due to urbanization, in 2020 56.7% of Indonesia's population lives in urban areas and is increasing from year to year and in 2035 it is expected to reach 66.6 % percent (Central Bureau of Statistics (BPS)). It is estimated by the World Bank that by 2045, as many as 220 million Indonesians will live in urban areas. Along with the increase in urbanization, it will lead to an increase in the need for housing in urban areas, this also causes an increase in housing development which in turn will also increase the need for the availability of natural material sources. With this situation, sustainability must be made the main goal in every housing development project.<sup>1</sup> this is needed to ensure that the use of natural resources can still be used effectively to achieve sustainable housing development and serves as the main catalyst for achieving economic sustainability.

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<sup>1</sup> D Özkaynak, B., Devine, P., & Rigby, "Operationalising Strong Sustainability: Definitions , Methodologies and Outcomes.," *Environmental* Vol 13 (2014): 279–303.

According to the World Bank, the projected increase in population in big cities in Indonesia will result in an increase in housing needs, in order to meet the needs of new households which reach 780 thousand houses per year until 2045.<sup>2</sup> With the number of housing needs from year to year which is always increasing, this will require an increase in natural resources as well, so that the use of natural resources must be managed effectively so that it can actually fulfill the principle of maximum benefit without compromising sustainability.

The housing development process is a complicated job, which takes a long time, and requires no small amount of capital, involving many parties, both the government, developers and the user community as well as the community around the housing being built and multi-disciplinary. This condition causes the development of sustainable housing to be full of challenges.<sup>3</sup> Sustainable housing does not mean just building “green buildings” but more than that, because sustainability cannot be separated from 3 aspects, namely the environment, social culture and economy. The process of sustainable development is strongly influenced by the involvement of people, their activities affect the environment and social injustice.<sup>4</sup>

With 7 x 8 matrix theory try to describe how complex housing development starts from the planning and construction stages such as: *land banking, land packaging, land development, building development, building operations, building renovation and redevelopment stage* , and from the economic and social stages, namely: *acquisition, financing, market analysis and marketing strategies, environmental issues, approvals and permits, physical improvements, transportation/accessibility and sales and disposition*.<sup>5</sup> Kohlhepp defines the real estate development process as the process of adding economic value to a real estate company, going through various stages of development. With the addition of "green" the concept of Kohlhepp's 7 x 8 matrix will become more complicated, so with the addition of the concept of "green" in housing development, borrowing Kohlhepp's theory, this definition changes to: "Real estate development is the process of adding sustainable economic value to development companies through various stages of environmentally friendly development".

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<sup>2</sup> World Bank, “Kajian Belanja Publik Indonesia : Belanja Untuk Hasil Yang Lebih Baik,” 2020, 1–393.

<sup>3</sup> Daniel B Kohlhepp, “The Real Estate Development Matrix Revisited An Update,” in *The American Real Estate Society Meetings*, 2016, 1–22.

<sup>4</sup> Gro Harlem Brundtland, “Our Common Future: The World Commission on Environment and Development” (New York: Oxford University Press, 1987).

<sup>5</sup> Daniel B Kohlhepp and Kimberly J Kohlhepp, *Real Estate Development Matrix* (Routledge, 2018).

<b>Development Matrix</b>	1. Land Barking	2. Land Packaging	3. Land Development	4. Building Development	5. Building Operation	6. Building Renovation	7. Property Redevelopment
I. Acquisition	I.1	I.2	I.3	I.4	I.5	I.6	I.7
II. Financing	II.1	II.2	II.3	II.4	II.5	II.6	II.7
III. Market analysis and marketing strategies	III.1	III.2	III.3	III.4	III.5	III.6	III.7
IV. Environmental issues	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7
V. Approvals and permits	V.1	V.2	V.3	V.4	V.5	V.6	V.7
VI. Physical Improvements	VI.1	VI.2	VI.3	VI.4	VI.5	VI.6	VI.7
VII. Transportation/Accessibility	VII.1	VII.2	VII.3	VII.4	VII.5	VII.6	VII.7
VIII. Sales and Disposition	VIII.1	VIII.2	VIII.3	VIII.4	VIII.5	VIII.6	VIII.7

Figure 1 Housing Development Matrix.<sup>6</sup>

Development as social change with all its impacts, good or bad, by bringing about significant and patterned changes in technology, engineering, infrastructure, and/or related forms of life of a place or person. In this definition James assumes that not all development has a positive impact, even James does not guarantee that good development must be sustainable.<sup>7</sup>

*Our Common Future* Report, better known as the Brundtland Report, defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.<sup>8</sup> This definition is still valid and applied for various purposes. To ensure that future generations can continue to meet their own "needs" cannot be separated from what the current generation is doing for sustainability. Arbitrary actions by the current generation on natural, socio-cultural and economic resources will clearly have a negative impact on sustainability.

In the process of sustainable housing development starting from identifying development opportunities, land preparation and planning, site clearing, financial acquisitions, organizing construction, organizing infrastructure, marketing and managing housing, this is in accordance with his 7x8 housing development matrix theory.<sup>9</sup> However, the current phenomenon in Indonesia in housing development, especially subsidized housing carried out by private developers, does not reflect the existence of sustainable development. This can be seen from the

<sup>6</sup> Kohlhepp and Kohlhepp.

<sup>7</sup> Paul James, *Urban Sustainability in Theory and Practice* (Routledge, 2015).

<sup>8</sup> Brundtland, “Our Common Future: The World Commission on Environment and Development.”

<sup>9</sup> Patsy Healey, *Urban Complexity and Spatial Strategies: Towards a Relational Planning for Our Times*, 1st ed. (London: Routledge, 2007), <https://doi.org/10.4324/9780203099414>.

beginning of the developer doing housing development. The average developer who builds subsidized housing starts not by conducting a survey to find suitable, feasible and affordable land locations, and based on the results of a survey of the level of consumer needs in the area, but subsidized housing developers with small capital. start developing housing based on an invitation to develop housing by land owners with a profit sharing system, so it does not require large capital in the development process. Site selection in this way will certainly not consider sustainability as the main goal. Sometimes the land that is collaborated is not feasible when viewed from the feasibility of the location, spatial plan, contours and drainage, but in various ways, both technically and administratively, so that what was originally not feasible becomes "appropriate", this process involves several stakeholders, both from the consumer side and from the government side.

There are at least 3 main stakeholders, including the Government, development companies and the community as consumers and communities around the development area who are involved in the housing development process. The process of land preparation and planning which is usually carried out in the housing development process is carried out by first selecting and appointing a qualified planning consultant. ask for help from officers who process permits, while for building planning drawings they sometimes follow the standard drawings of subsidized house buildings according to Kepmenkimpraswil 403/KPTS/M/2002 or use pictures from other housing by modifying the appearance. In addition, the house standards set in the Kimpraswil regulations when viewed in more depth, have not shown a sustainable and environmentally friendly design, this can be seen from the use of natural materials that are quite a lot and not green. The use of wood materials in subsidized housing without clear specifications/standards tends to use low-quality wood, obtained by felling trees from nature, and without considering sustainability. In addition, the wood used is on average young and without a logging process that follows standard tree felling techniques, without drying and preservation processes, so the wood produced is not feasible. In addition, the use of other natural materials such as stone and sand is also mined illegally, so that the impact of environmental destruction is very large. The next process of housing development is in accordance with Healey's theory, namely site cleaning, financial acquisition, organizing construction, organizing infrastructure, marketing and managing housing. For this process, the development of subsidized housing is not much different from the process of building real estate housing, which is very different in terms of marketing and managing housing. In subsidized housing, housing marketing is mostly done by group sales through cooperation with cooperatives and direct retail sales to consumers. What is most different is in the process of managing the final product, in real estate housing housing management is usually carried out continuously throughout its useful life, namely by way of the

developer or resident community forming an environmental management agency, while in subsidized housing the formation of an environmental management agency is almost rarely done. If the environmental management in subsidized housing is carried out by the Rukun Tetangga (RT) and the Rukun Warga (RW) and on average only functions to manage environmental waste collection, while supervision of building development is not carried out at all. Supervision of the building is left entirely to the local government. This is different from real estate, which is very strict in supervising building changes/developments. The lack of supervision over the development of buildings is one of the contributing factors to the poor environmental conditions in subsidized housing, which seem congested and slum.

With the above phenomena, this study aims to discuss the 3 stakeholders involved in the construction of subsidized housing, namely the government, developers and consumers or the community, examine the perceptions of each party towards subsidized housing and their behavior in realizing sustainable and environmentally friendly subsidized housing. . The study was conducted on several literatures that discuss sustainability, sustainable development, developer and consumer behavior and the construction of subsidized housing so as to get the right answers and strategies in developing green and sustainable subsidized housing in Indonesia

## **RESEARCH METHODS**

The research method used is a type of literature review method, Depending on the purpose of the review, the researcher can use a number of strategies, standards, and guidelines developed especially for conducting a literature review. Then, when should a literature review be used as a research method? For a number of research questions, a literature review may be the best methodological tool to provide answers. For example, reviews are useful when the researcher wants to evaluate theory or evidence in a certain area or to examine the validity or accuracy of a certain theory or competing theories. This approach can be narrow, such as investigating the effect of or relationship between two specific variables, or it can be broader, such as exploring the collective evidence in a certain research area. In addition, literature reviews are useful when the aim is to provide an overview of a certain issue or research problem. Typically, this type of literature review is conducted to evaluate the state of knowledge on a particular topic. It can be used, for example, to create research agendas, identify gaps in research, or simply discuss a particular matter. Literature reviews can also be useful if the aim is to engage in theory development. In these cases, a literature review provides the basis for building a new conceptual model or theory, and it can be valuable when aiming to map the development of a particular research field over time. However, it is important to note that depending on the goal of the literature review, the method that should be used will vary.

## **RESULTS AND DISCUSSION**

Green and sustainable subsidized housing should be the main goal of the government in meeting the need for housing for low-income people in Indonesia. The government with its various regulations has made many regulations to achieve a beautiful, green and sustainable environment. Since the beginning of the process of developing subsidized housing, developers have been required to comply with quite complex regulations, and some of them even took a long time to complete the requirements in these regulations. The non-transparent and convoluted rules made by the people in charge of implementing these government regulations have become an open secret. This is what causes high costs and does not even reflect a green government. It is as if regulations can be bought and changed at will by the authorized stakeholders.

In addition, the regulation of Kepmenkimpraswil 403/KPTS/M/2002 does not reflect the construction of green and environmentally friendly buildings, the use of natural materials that do not require green as a specification causes many materials to become damaged quickly in use, such as wood that is easily weathered and porous.

Subsidized housing developers who want to keep production costs as low as possible have a big enough share in not achieving green development and sustainability goals. The selection of materials, especially natural materials such as wood, sand and stone is done with the principle of cheap, not with the principle of green and sustainability. The use of wood materials for formwork and single-use scaffolding causes a high waste of natural products. In addition, the use of wood materials obtained from illegal logging in nature causes environmental damage which will eventually lead to landslides and floods. Such wood material is also used for roof construction as well as frames and door and window leaves which are susceptible to termites and easily weathered, this shortens the life of the building.

Consumers who use subsidized housing also contribute to the creation of a beautiful and green environment. The desire of consumers to fulfill their need for adequate space in their homes has led to the development of buildings so that many of them cover almost the entire plot of land, resulting in a very significant change in KDB, which in turn will reduce the absorption of land to rainwater. Eventually this water will run off and cause flooding. The lack of supervision by the local government on the development of this house is one of the causes. This is different from residential real estate, where the developer is very strict in monitoring by establishing an environmental management agency. The character of consumers of subsidized housing who are low-income people is more difficult to obey the rules

## CONCLUSION

From the literature review, the development of green and sustainable subsidized housing in Indonesia has actually been adequately regulated, what is needed now is the attitude and awareness and strategies of all stakeholders in implementing it. The only drawback is that the use of green materials has not been regulated in the construction of subsidized housing. In order to upload the developer's awareness in building green houses, it is necessary to dispensate to reduce taxes or other levies if the developer carries out the construction of his house using green materials. Supervision of the use of green materials can be done through the SIPETRUK application.

The availability of land banks and the ease with which small developers can obtain and access them will have a positive impact. So far, many small developers have obtained land on the basis of cooperation with land owners, so that the location selection is " given " not based on a thorough feasibility study and suitability for spatial planning.

The registration of the developer in SIRENG does not guarantee that the developer will prioritize sustainable development. SIRENG is just an administrative requirement, there is no rating for developers in associations, there is no difference between obedient developers and naughty developers, also between developers with small capital and developers with large capital. There is no rating given based on the availability of skilled and expert workforce owned by the developer.

It is necessary to conduct further research on the behavior of subsidized housing developers, consumer behavior of subsidized housing and also the behavior of the government which has a function as a supervisor in the development of subsidized housing, to obtain, know and understand the factors that influence them in building green and sustainable subsidized housing.

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