Determination Analysis of House Units Selling Price at Citra Kencana Residential, Bogor City

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ABSTRACT

The need of people to live in continue to increase from year to year. Statistical data stated that the backlog figure (shortage of houses) in 2014 reached 15 million. One of the areas that is being developed to be used as a residential area is Tanah Sareal District, Bogor City. It is located only 30 minutes from Bogor City Hall. With a very strategic location, the developer adjusts the type of house to be built in accordance with the facilities and advantages of the Tanah Sareal area to become a luxury but affordable cluster type of housing. In preparation for this final project, the author took a case study of a Citra Kencana Residential Area, located on Kencana Village, Tanah Sareal District, Bogor City. The construction of this housing is carried out in two stages. In the first phase to be built is the Amarossa type (36/72) with a total of 5 units and a Rossalia type (40/72) with a total of 17 units. Based on the results of the analysis, the selling price of a house that matches the demand curve for the Amarossa type is Rp. 2,896,025,813.00 and for the Rossalia type is Rp.2,627,957,575.00. Assuming a margin of 10%, the price of an Amarossa type house is Rp.3,185,628,394.00 and the price of a Rossalia type house is Rp. 2,890,753,332.00. From the income diagram, it is known that the income of people who are interested in buying a house is between fifteen and twenty million per month. So that the number of monthly installments for fifteen years for the Amarossa type is Rp. 13,237,451.00. and for Rossalia type houses Rp. 12,044,805.00. Then the price that has been set above is stated in accordance with the buyer's income.

Keywords: backlog, housing, price, demand, income

INTRODUCTION

Indonesia is a country with high population density and growth. This makes the community's need for a place to live increasing from year to year. According to data from the Central Statistics Agency, the shortage of houses in 2010 reached 13.6 million and became 15 million in 2014. Tanah Sareal District in Bogor City is one of the alternative areas that consumers are looking for as land settlement. In addition to the fact that the house in Bogor is considered quite strategic, there is a suggestion that the Tanah Sareal area will be planned to become an independent city. The location of the Tanah Sareal area, which is only 30 minutes from the Bogor Palace, has access to the BORR (Bogor Outer Ring Road) toll road, making this area one of the targets for developers to make residential land. With the average income of the people of Bogor city, the developer must adjust the type of house to be built according to the needs and abilities of the community.

In determining the selling price of residential units, two methods are used, namely the cost analysis method and market demand analysis. The cost analysis method uses the break-even point analysis method which brings together the demand curve and the cost curve, while the market demand analysis method is obtained through direct surveys, or by using a questionnaire addressed to prospective buyers. Break - even point analysis is one of the most popular analyzes in engineering economics used especially in labor-intensive industrial sectors. A break-even point can be interpreted as a point or situation where the company does not make a profit and does not suffer losses in its operations. In other words, in that case the profit or loss is zero. In order to obtain this break-even point, it is necessary to find the cost and revenue functions. When the two functions meet, the total costs and revenues are equal. (Mulyadi, 1993). When the two functions meet, the total cost equals total revenue. In carrying out break-even analysis, it is often assumed that the cost function and income function are linear with respect to production volume. (Pujawan, 2009).

Research that has carried out at the Puncak Permai Apartment unit, Surabaya (Hutomo, 2010), at Grand Meridian Housing, Manado (Josep, 2013), Taman Tasik Madu Indah housing, Malang (Wardani, 2007). Soka Park Housing Complex, Bangkalan. (Puryanto, 2009), have in common method in setting the selling price, namely the method of analysis of the break-even point and market demand, but have differences in the object studied.
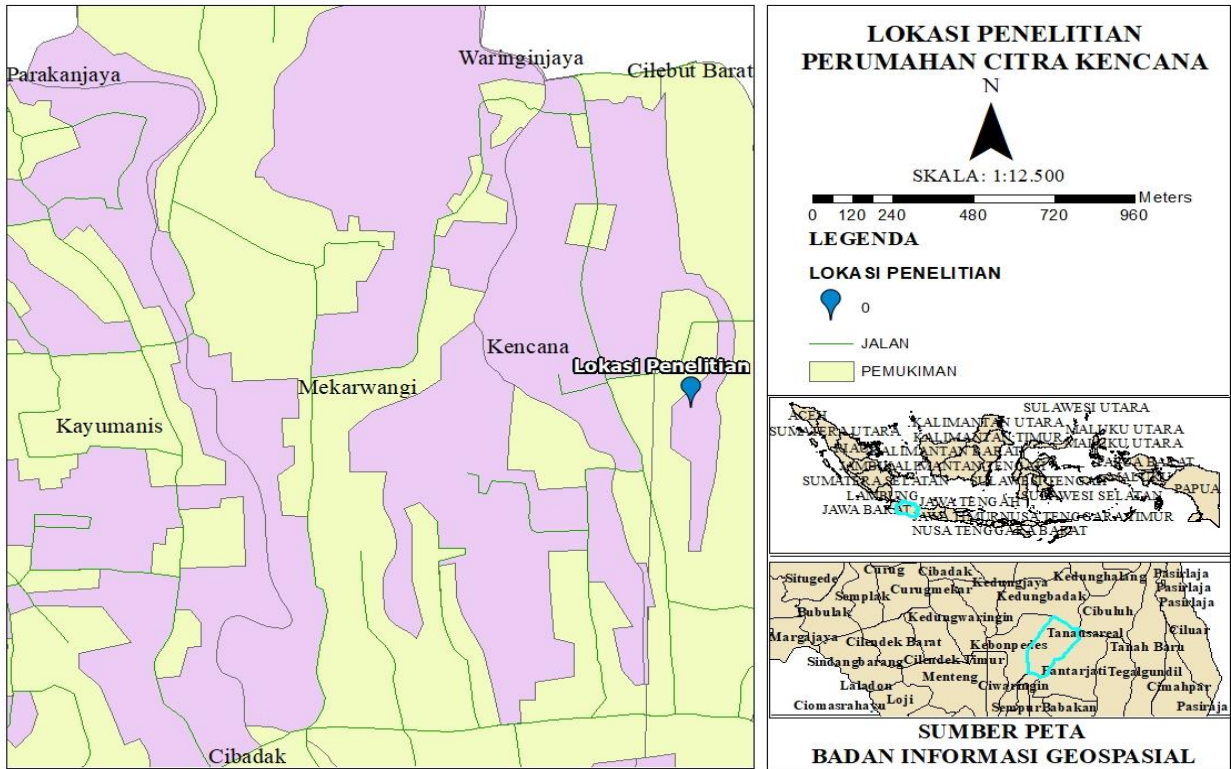
Figure 1. research location (Source: BIG, 2022)

The analysis was carried out to determine costs and demand with using marginal analysis on the pricing of housing units in Lumajang, based on the costs that have been incurred, namely fixed costs and variable costs, (Anggi , 2003). The method has been used in several cities in Indonesia, such as in South Tangerang City (Hardyoko & Namara, 2021), Bekasi City, (Natasasmita et al, 2020), City of Bogor (Hayati & Lugi, 2022), City of Manado (Sengetang et al, 2019), Gresik City (Setiantoro, 2015) and Makassar City (Bahar, 2016).

RESEARCH METHOD

The research was conducted at Citra Kencana Housing, Tanah Sareal District, Bogor City. The study was conducted within 3 months, from 1 August 2021 until October 30, 2021. This time includes site survey activities and field testing. Meanwhile, data processing activities include data processing, Pre-*Site Planning* to *Site Plan* calculation of the Cost Analysis Plan, and the creation of a DED (*Detailed Engineering Design*). The research location map is presented in Figure 1. The research flowchart is presented in Figure 2 below.
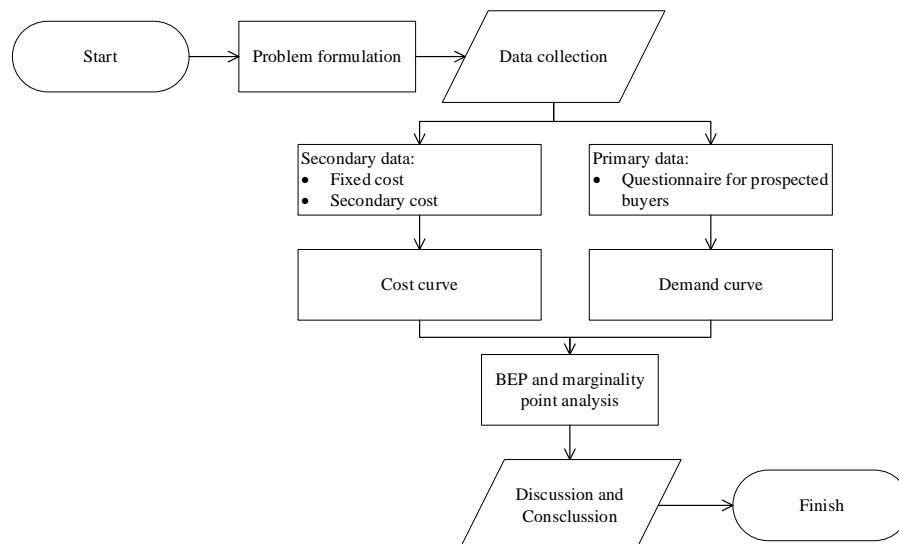

Figure 2. Research flowchart

RESULTS AND DISCUSSION

There are two types of data in this study, namely primary data and secondary data. Primary data is in the form of housing environmental conditions, community responses, marketing targets, return on investment targets, other housing competitors, sales constraints, as well as the results of a questionnaire conducted on 40 respondents who planning to buy a house. While secondary data, namely housing brochures, pictures of housing projects, house budget plans, shop budget plans, etc. One of the factors in determining the price is the demand curve which is obtained from the results of a survey of people's willingness to buy houses in cooperative housing. The table below is the result of the survey.

Table 1. Questionnaire survey results House type 36/72 (Amarossa)

Price type Amarossa	Certain buy	Want to buy	Possible Buy	No Want to	Certain No	Total
200,000,000	27	8	4	1	0	40
220,000,000	19	14	6	1	0	40
240,000,000	14	14	11	0	1	40
260,000,000	7	11	12	7	3	40
280,000,000	5	9	13	7	6	40
300,000,000	4	3	10	12	11	40
320,000,000	3	2	8	11	16	40
340,000,000	3	0	8	11	18	40

(Source: Results analysis)

Table 2 . Questionnaire survey results House type 40/72 (Rosalia)

Price type Rossalia	Certain buy	Want to buy	Possible buy	No Want to	Certain No	Total
220,000,000	33	6	1	0	0	40
240,000,000	29	10	1	0	0	40
260,000,000	23	9	7	1	0	40
280,000,000	15	12	7	3	2	39
300,000,000	9	11	12	5	4	41
320,000,000	2	10	15	7	6	40
340,000,000	2	5	9	15	9	40
360,000,000	2	4	7	13	14	40

(Source: Results analysis)

The data above is then multiplied by the probability value. According to Arsyad, 1999., the probability values for each level of demand are: definitely buy (1), want to buy (0.75), maybe buy (0.5),
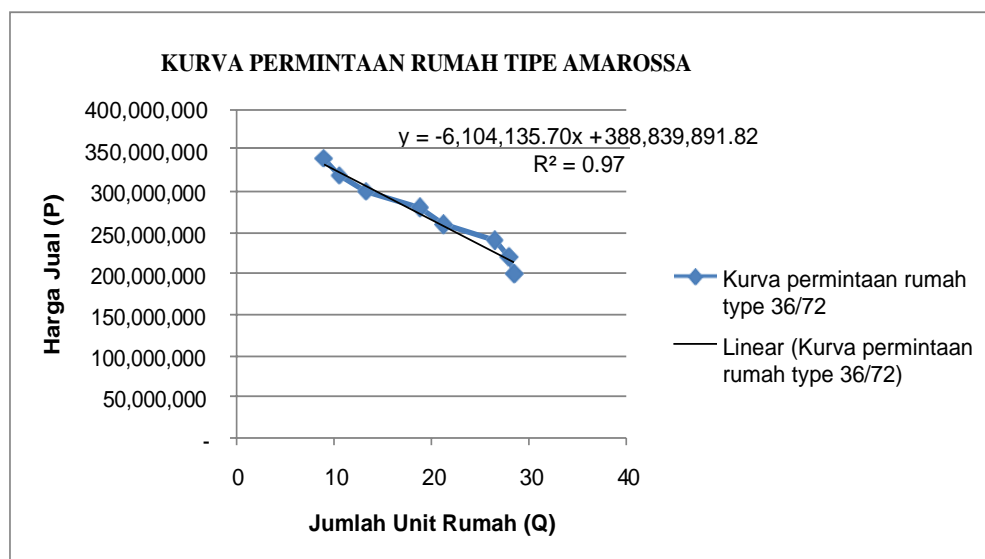

Figure 3. Graph of demand curve for Amarossa type houses

KURVA PERMINTAAN RUMAH TIPE ROSSALIA

$P = -6,685,121.11Q + 417,908,304.50$

$R^2 = 0.96$

Kurva permintaan rumah type 40/72

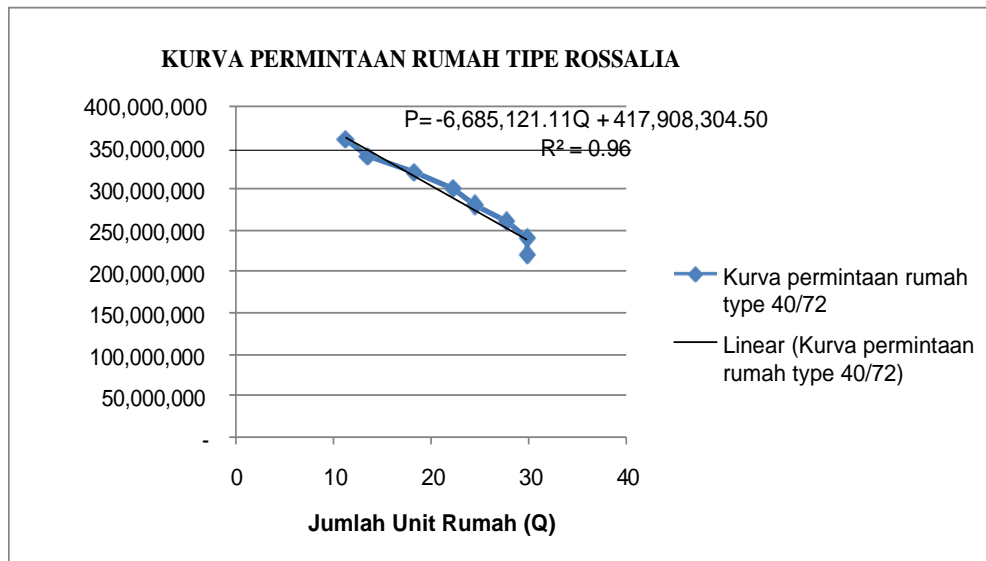Linear (Kurva permintaan rumah type 40/72)

Jumlah Unit Rumah (Q)

Figure 4 . Graph of demand curve for Rossalia type house

From the graphs above, the equation for setting the selling price of the house type Amarossa is: $P = -6,104,135.70Q + 388,839,891.82$ and the equation for setting the selling price for the type Rossalia is $P = 6,685,121.11Q + 417,908,304.50$. Based on this equation, the selling price for the Amarossa type is Rp. 230,132,363.62 with an optimum number of sales of 5 units and for the Rossalia type, Rp. 250,780,276.75 with an optimum number of sales of 17 units. The total fixed costs, namely land costs + housing facilities costs + design costs + marketing costs, are IDR 16,834,892,836.00. The fixed costs for each type of house are the same, namely Rp. 126,578,141.62. From the budget plan, the variable cost for the Amarossa type house is Rp. 73,633,584.00 and for the Rossalia type, it is Rp. 85,070,130.00. So, the total cost for the Amarossa type is IDR 200,211,725.62 and the Rossalia type is IDR 211,648,271.62. From the results of the questionnaire, data was also obtained in the form of a diagram of the average income of the community (40 correspondents) per month, namely three million to five million per month. In this calculation the author takes the example of a loan to Baitul Maal wat Tamwil (BMT). Assuming that the profit taken by the BMT is 20% of the selling price and a down payment (DP) of 20%.

The number of installments per month is Rp.244,803,301.00 for 180 months, or Rp.1,360,018.00/month. BMT requires the number of installments to be 40% of income. Then the total consumer income per month is at least IDR 3,400,045.00. Then the prices set above are stated in accordance with the income of the community. Meanwhile, installments for the Amarossa type per month are 266,767,519.00 for 180 months, or IDR 1,482,041.00 monthly, and a minimum monthly consumer income of IDR 3,705,104.00. Then the prices set above are stated in accordance with the income of the community.

CONCLUSION

Based on the results of calculations and analysis, it can be concluded that the total cost for building the Amarossa type house is Rp. 200,211,725.62 and the Rossalia type is Rp. 211,648,271.62. While the house determination equation for each type is Amarossa type is $P = -6,104,135.70Q + 388,839,891.82$ and Rossalia type is $P = -6,685,121.11Q + 417,908,304.50$. The selling price for type 36/72 houses according to market demand is IDR 264,652,218.00 with optimum sales of 26 units while the selling price for Rossalia type houses is IDR 288,397,318.00 with optimum sales of 25 units. Using the example of calculating installments to sharia cooperatives, it is found that the installments for 15 years (flat installments) for the Amarossa type unit are IDR 1,360,018.00 with a minimum monthly income of IDR 3,400,045.00. while for the Rossalia type it is IDR 1,482,041.

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