



Risk Identification for Subsidized Housing Developers in Bali

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Abstract. One of the government's efforts to overcome the housing backlog for low-income people (MBR) is by launching housing financing subsidies, namely the Housing Financing Liquidity Facility, Interest Difference Subsidy, and Down Payment Assistance Subsidy. In Bali, subsidized housing is limited to 6 (six) districts: Tabanan, Jembrana, Singaraja, Karangsem, Bangli, and Klungkung. In procuring subsidized housing, housing developers will face risks at the pre-, construction, and post-construction stages. The housing industry is widely considered to have more risks than other industries. This research aims to identify risks to subsidized housing developers in Bali. The method used in this research is a literature study and interviews with subsidized housing developers who are members of the DPD REI Bali. The results of this research show that the risk for housing developers in Bali is most significant during the construction stage, namely 49,45%, with details of 8,9% from a social perspective, 44,4% from a technical risk, 24,4% from economic risk, 4,4% from political risk, 6,67% from environmental risk and 11,11% from legal risk. The risk in the pre-construction stage is 41,76%, and post-construction is 8,79%. The findings of this study may be used for the risk analysis to find the significant risk for the subsidized housing developers in Bali.

INTRODUCTION

According to Law Number 1 of 2011 (1) concerning housing and residential areas, article 1 number 2 reads: housing is a group of residential houses as part of a settlement, either in urban or rural areas, which is equipped with infrastructure and facilities as well as public utilities as a result of efforts to provide adequate housing for habitation. In the 2020-2024 National Medium Term Development Plan (RPJMN), the development strategy includes basic service infrastructure, access to decent, safe and affordable housing and settlements, land and drinking water, and adequate and safe sanitation. The 2020-2024 RPJM targets that by 2024, 70% of households will have occupied sufficient housing, with all residences having adequate drinking water and 90% having access to adequate sanitation.

The housing backlog is the gap between the number of residential houses needed and the residential houses built, or in other words, the backlog is the difference between the amount of housing demand and supply (2). To overcome the backlog for Low-Income Communities (MBR), the government has launched housing financing subsidies, namely the Housing Financing Liquidity Facility, Interest Difference Subsidy, and Down Payment Assistance Subsidy (3). The government helps people to own subsidized housing by assisting with part of the installment and down payment through PUPR Ministerial Decree No.42/PRT/M/2015. The government also helps subsidized housing developers by reducing taxes such as income and value-added tax through Minister of Finance Regulation No. 113/PMK.03/2014 (4). Risk is an uncertain event resulting in losses (5). Business companies, especially housing developers, face many changes and uncertainties from various perspectives, including technical, political, economic, marketing and management. The housing industry is widely considered to have more risks than other industries. Various kinds of risks occur during the housing production process, which not only harm housing developers but also affect the interests of different stakeholders (6).



Like other products, the risks of providing housing products to developers include financial, technical, construction, management, etc. Risk management is used to balance impacts against losses and avoid mistakes (7).

SIGNIFICANT RESEARCH

Housing development has several stages, including the pre-construction stage, the planning and licensing stage, the land acquisition stage, the land development stage, the construction (development) stage and the post-construction stage (marketing, sales and maintenance) (8). During the housing provision stage, various problems will arise that give rise to uncertainty about what developers will face in their efforts to provide subsidized housing in Bali.

This research aims to identify various possible risks that will be faced by subsidized housing developers in Bali at the pre-construction stage, construction stage and post-construction stage.

LITERATURE REVIEW

Risk

Risk is the chance of a bad event, depending on the circumstances. The impact of a risk can be measured as the probability of certain undesirable events and undesirable consequences or losses occurring (9).

Risk is defined as an uncertain event. If a risky event occurs, it will cause losses (5). Risk is the possibility of harmful or detrimental consequences, such as loss, injury, fire and so on (10).

In general, risk can be defined as an adverse event, or risk is a deviation of the results obtained from those expected. Risk includes at least two aspects, namely the probability/possibility aspect and the loss or impact (11).

Risk Identification

Risk is the expected consequence of an event and the probability that the event may occur. All risks have two related components. According to (12) risk identification determines what could affect the project organization's goals and how those might happen. The risk identification process must be comprehensive because risks that have not been identified cannot be assessed, and their emergence later can threaten the project's success and cause unpleasant surprises. The process should be structured using key elements to examine risks systematically. The brainstorming method of identifying risks is the most flexible and will produce suitable and varied risks if appropriately structured. Information used in the risk identification process can include historical data, theoretical and empirical analysis, and informed opinions from the project team, experts and stakeholders. The results of risk identification are a complete list of possible risks to project success.

Identifying the source and nature of risk is the first step in risk identification. Risk identification involves the source and type of risk. Detected risks are no longer risks but management problems (13).

The risk management process begins with risk identification, namely, finding all risks of loss and potential losses carefully and systematically. This process starts with carrying out a survey. It means that identification is related to the risk management methods that are available or that are being used for each loss or that are being used for each casualty or potential loss. Potential losses in risk management are called loss exposure (10).

Risks for Subsidized Housing Developers

Risks in housing in developing countries relate, during the project life cycle, to the event that the project is not implemented as planned due to various risk factors. Generally, every event is related to the project's time, cost and quality, leading to project productivity questions (14). Housing construction projects are characterized as a series of activities within a limited time with a specific allocation of resources to produce products with the criteria outlined in the contract document. Therefore, during construction, developers will be burdened by various situations of uncertainty resulting from risk (15).

Many risks are involved in housing projects, including risks related to environmental, construction, political, legal, management, financial, material and economic impacts, project delays, bureaucracy, contractual disputes between developers and owners, management weaknesses by inexperienced developers, and very high financial crises (16).

According to (17) there are several significant risks identified that influence the success of housing development projects in Nepal, such as compliance with technical specifications, planned budget, quality, time, contract risks, financial and economic risks, safety, health and environmental risks, leadership and organizational risks.



Research conducted by (18) on the relationship between institutions, economics, society and the environment towards sustainable housing development shows that policy instability is the highest obstacle to implementing sustainable housing development in Ghana. Institutional obstacles are causal obstacles that affect multipliers in the social economy and the environment.

The risks of providing housing products for developers, like other products, include financial risks (such as the use of funds from investments and loans), legal risks (such as permitting land use rights and ownership), political risks (such as government policy in the housing sector, political stability), technical risks (such as construction failure, quality assurance, inappropriate work methods), management risks (such as price increases, material scarcity), sales risks (uncertainty in demand and business competition), natural risks (such as natural disasters) (19).

METHOD

The method used in this research is qualitative. Initial data was collected by conducting a literature review on the risks housing developers face in subsidizing housing. Several studies have identified the risks developers face in providing subsidized housing with various sources of risk. This research was conducted by taking a sample of subsidized housing developers in Bali. Apart from the literature review, this research was conducted with interviews with subsidized housing developers in Bali. Based on a review of some literature, sources of risk were taken to identify risks for subsidized housing developers in Bali: Social, Technical, Economic, Environmental, Political and Legal (STEEPEL). Risk identification is carried out at each construction stage (Pre-Construction, Construction and Post-Construction).

The object of this research is housing developers who are members of DPD REI Bali and take on subsidized housing projects.

RESULT AND DISCUSSION

Based on a literature review and interviews with subsidized housing developers in Bali, the identified risks for developers taking on subsidized housing projects in Bali are as follows:

Risk Identification for Pre-Construction Stage

TABLE 1. Risk Identification for Pre-Construction Stage

No	Source of Risk	Risk identification	Reference	Percentage
1	Social	1. Difficult land acquisition conditions 2. Cultural conditions and customs of the community around the project location	(15)(20) (15)	5,3%
2	Technical	1. Technical Standards/Regulations are not clear 2. Designs that do not meet the required specifications 3. Supplier selection errors 4. Land boundaries have not been completed 5. The land for the PSU construction is not ready/clean	Interview (20) (20) (3) (3)	13,15%
3	Economic	1. Product selling power is lacking 2. Decreased developer productivity 3. Decrease in demand for housing 4. Increase in bank interest rates and taxes 5. There is an increase in building materials 6. Not paying attention to unexpected costs (contingencies) 7. Inaccuracy of cost estimates 8. Poor coordination with subcontractors	(19) (7) (7) (19)(20) (19) (15)(20) (20) (20)	42,1%



No	Source of Risk	Risk identification	Reference	Percentage
		9. Decrease in people's purchasing power	(19)	
		10. The availability of cheap land near the city center is limited	(3)	
		11. The maximum amount of down payment issued by debtors for subsidized housing that the government has determined is too small	(3)	
		12. Developers do not receive proportional cash advances from debtors because most of the Down Payment Assistance Subsidies are from the government	(3)	
		13. High land preparation and development costs due to poor access roads	(3)	
		14. Marketing Strategy Mistakes	(3)	
		15. The government does not provide PSU assistance	(3)	
		16. Late submission of PSU assistance proposal	(3)	
4	Political	1. Political instability in the country	Interview	10,5%
		2. Changes in government policy	(19) (7)	
		3. Thugism and community demonstrations	(19)	
		4. Change of Officials	(19)	
5	Environment	1. Environmental regulations hinder construction	(7)Interview	7,9%
		2. There are development obstacles related to AMDAL	Interview	
		3. Technical aspects of building and environmental planning are not met	(3)	
6	Legality	1. Changes in government policy	(15) (7)	21,05%
		2. There are problems with licensing	(15)	
		3. Not registered as a member of the developer association	(3)	
		4. The local government does not prepare funds for the maintenance and construction of other housing supporting the PSU	(3)	
		5. The land is in dispute	(3)	
		6. The land boundary has not been completed	(3)	
		7. Minimum document requirements are incomplete	(3)	
		8. Some parts are not in accordance with the General Spatial Plan	(3)	
Total		38		100%



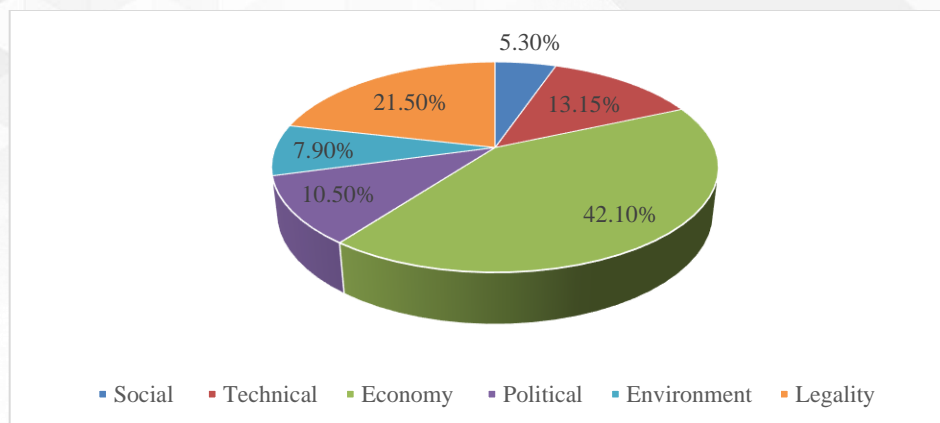


FIGURE 1. Risk Identification for Pre-Construction Stage

Based on Table 1 and Figure 1, the risks identified for subsidized housing developers in Bali at the pre-construction stage originate mostly from economic risks, namely 42,10% and the minor risks arise from political risks, amounting to 5,30%.

Risk Identification for Construction Stage

TABLE 2. Risk Identification for Construction Stage

No	Source of Risk	Risk identification	Reference	Percentage
1	Social	1. Demonstrations and illegal levies on project locations/extortions occurred	(15), interview	8,9%
		2. Riots/riots occur	(15)	
		3. There was a strike	(15) (7)	
		4. There is sabotage	(15)	
2	Technical	1. Changes in Construction Methods	(15)	44,4%
		2. Difficulty implementing new/special technology	(15)	
		3. Lack of project infrastructure and technology	(15)	
		4. Lack of communication and coordination between parties involved in the project	(15)	
		5. Lack of supervision of contractors and suppliers	(15)	
		6. Lack of control over the work implementation schedule	(15)	
		7. Delay in delivery of materials	(15) (7)	
		8. Excess use of material (waste material)	(15)	
		9. Damage to building materials and structures	(15)	
		10. Changes in Design and scope of work	(20)	
		11. Lack of workforce in the field	(20)	
		12. Lack of worker discipline	(20)	
		13. Disputes between workers	(20)	
		14. Inappropriate work methods	(20)	
		15. High worker rotation	(20)	



No	Source of Risk	Risk identification	Reference	Percentage
		16. Testing of materials that do not meet specifications	Interview	
		17. Incomplete designs/drawings	(20)	
		18. Material theft occurs	(7)	
		19. Use of used materials	(7)	
		20. Poor occupational health and safety (K3) procedures	(15)	
3	Economic	1. Lack of building materials/materials on the market	Interview	24,4%
		2. Changes in monetary policy	Interview	
		3. Changes in money exchange rates	Interview	
		4. Increase in material prices	(15) (19)(20)	
		5. The payment method is not timely	(15)	
		6. Inaccuracy of cost estimates	(15)	
		7. Fluctuations in bank loan interest rates	(15)(20)	
		8. Cash flow bottlenecks	(15)	
		9. Enormous 'coordination' costs with residents around the project	(3)	
		10. The maximum amount of down payment issued by the debtor for the subsidized housing that has been determined by the government is too small.	(3)	
		11. The maximum amount of down payment issued by the debtor for the subsidized housing that has been determined by the government is too small	(3)(20)	
4	Political	1. Political instability in the country	Interview	4,4%
		2. Changes in government policy	(7) (15)	
5	Environment	1. Environmental regulations that hinder construction	(7)	6,67%
		2. Pollution and environmental pollution	(7)	
		3. Force majeure (earthquakes, landslides, fires and floods)	(7)(20)	
6	Legality	1. Disagreement in evaluating contract price revisions	(15)	11,11%
		2. Breach of contract	(15)	
		3. There is a dispute in the contract	(7)	
		4. Delay in resolving contract disputes	(7)	
		5. Splitting Certificate and Splitting IMB are late in the initial period of the project.	(3)	
Total		45		100%



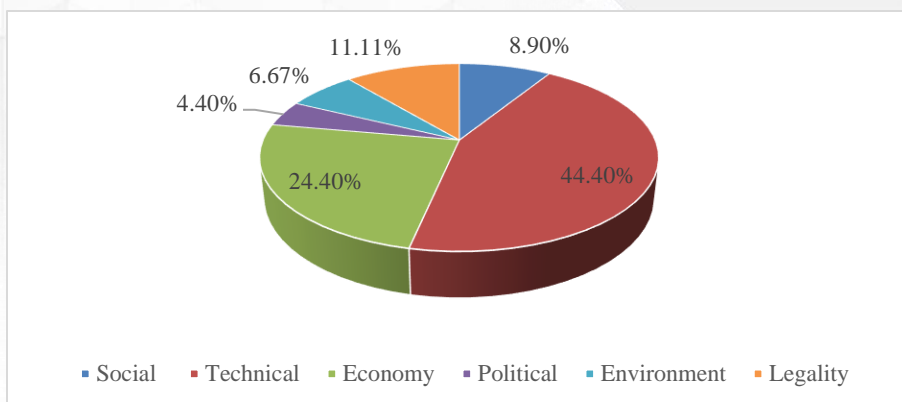


FIGURE 2. Risk Identification for Construction Stage

Based on Table 2 and Figure 2, the risks identified for subsidized housing developers in Bali at the construction stage originate mainly from technical risks, namely 44,4 % and the minor risks arise from political risks, amounting to 4,4 %.

Risk Identification for Post-Construction Stage

TABLE 3. Risk Identification for Post-Construction Stage

No	Source of Risk	Risk identification	Reference	Percentage
1	Social	1. Disharmony in the relationship between consumers and developers, causing difficulties in development for the next stage	interview	25%
		2. Disharmonious relations between the consumer community and the native community around the housing complex	interview	
2	Technology	1. Construction failure occurs due to not meeting the specified technical specifications	interview	12,5%
3	Economy	1. Construction maintenance costs and housing facilities seem to be the responsibility of the developer forever	interview	12,5%
4	Political	1. Obstacles in the delivery of fasos (Social Facilities) and Fasum (Public Facilities)	interview	12,5%
5	Environment	1. Environmental pollution due to uncontrolled disposal of residential waste	interview	12,5%
6	Legality	1. Project permits are not completed due to possible violations of residential land use	interview	25%
		2. Unresolved consumer certificates due to land disputes (example: land/land held by bank)		

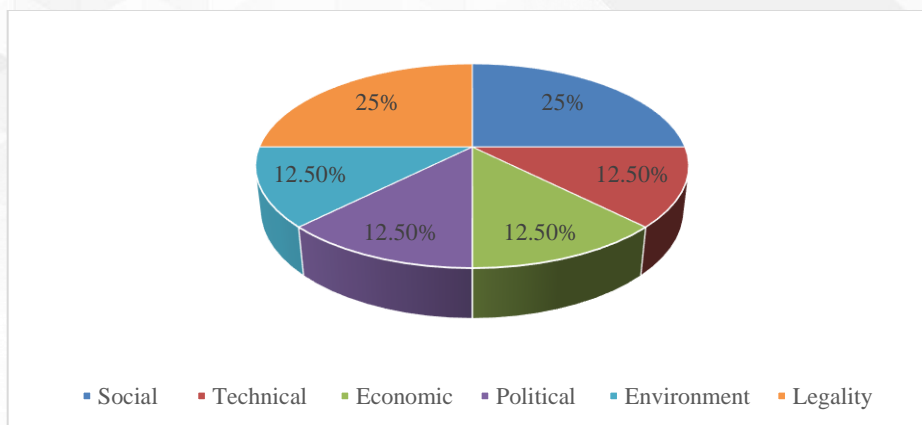


FIGURE 3. Risk Identification for Post-Construction Stage

Based on Table 3 and Figure 3, the risks identified for subsidized housing developers in Bali in the post-construction stage originate primarily from social and legal risks, namely 25%, and the minor risks arise from technical, economic, political and environmental risks, amounting to 12,5 %.

CONCLUSION

Procurement of subsidized housing for Low-Income Communities (MBR) in Bali will pose a risk for housing developers. Risks can occur at the pre-construction, construction and post-construction stages. Based on the results of literature studies and interviews with the head of DPD REI Bali, the risk for housing developers in Bali is greatest at the construction stage, namely 49,45%, with details of 8,9% risk from a social perspective, 44,4% from technical risk, 24,4% of economic risk, 4,4% of political risk, 6,67% of environmental risk and 11,11% of legal risk. The risk in the pre-construction stage is 41,76%, and post-construction is 8,79%. The results of this research can be used for risk analysis to find the main risks for subsidized housing developers in Bali.

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