

HANDLING OF UNLIVABLE HOUSES IN COASTAL SLUM AREAS OF BATU BARA DISTRICT

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Abstract

This study aims to explore the management of uninhabitable housing in coastal slum areas of Batu Bara Regency. The main focus of this study is to identify the factors causing the high number of uninhabitable housing and the efforts that have been made by the local government and community to address it. The research findings indicate that the main obstacles in managing uninhabitable housing are budget constraints, land ownership issues, and low community participation. Furthermore, existing government assistance programs are still insufficient to cover all homes in need of repair. This study proposes several strategies to improve the effectiveness of uninhabitable housing management, including increasing the budget, empowering communities, and improving coordination between the government, the private sector, and the community. With a more holistic and coordinated approach, it is hoped that the condition of uninhabitable housing in coastal slum areas of Batu Bara Regency can be improved sustainably.

Keywords: *Uninhabitable Houses, Coastal Slums, Housing Management, Community Empowerment and Batu Bara Regency*

INTRODUCTION

The problem of uninhabitable housing in coastal slum areas is a crucial issue that requires serious attention, particularly in Batu Bara Regency. As a developing coastal region, Batu Bara Regency faces challenges in providing adequate housing for all its residents, especially for low-income residents living in slum areas. Housing conditions that do not meet standard standards, such as fragile building structures, poor sanitation, and unhealthy environments, are factors that worsen the level of welfare of the local community. Uninhabitable housing not only impacts the physical and health aspects of residents, but is also closely related to the emergence of various social problems, such as high poverty rates, low quality of education, and vulnerability of the community to environmental disasters, particularly tidal flooding and coastal erosion. Dense and unorganized slum environments further worsen the quality of life, increase the risk of infectious diseases, and hamper local economic development.

The Batu Bara Regency government has launched various slum management programs, including rehabilitation efforts and the construction of habitable housing. However, the complexity of the problems in coastal areas demands a more holistic and sustainable approach. Addressing uninhabitable housing in this area goes beyond repairing the physical structure, but must also encompass basic infrastructure improvements, increasing access to clean water and sanitation, and empowering the community economically. Considering the importance of decent housing as a basic human need and as a foundation for improving quality of life, addressing uninhabitable housing in the coastal slums of Batu Bara Regency is a priority that must be implemented immediately. This effort is expected to not only improve the physical condition of settlements but also create a healthier, safer, and more productive environment for coastal communities, in line with efforts to achieve inclusive and sustainable regional development. In the coastal areas of Batu Bara Regency, uninhabitable houses are a common sight, reflecting the disparity in access to adequate housing. Many homes are built independently from available materials, such as rotting wood, used corrugated iron, and thin planks, without robust construction to withstand extreme weather conditions. Furthermore, dense housing in coastal areas results in buildings being tightly packed together without clear spatial planning, restricting access to roads, drainage, and other public facilities. This phenomenon is exacerbated by the low economic status of the local population, most of whom rely on fishing, daily labor, or

informal employment with unstable incomes. Financial insecurity makes it difficult for them to repair or build homes that meet standard standards. Poor environmental conditions, such as a lack of sanitation facilities, inadequate wastewater disposal systems, and a high risk of seawater inundation (rob), further exacerbate the situation. On the other hand, several improvement efforts by local governments and social assistance programs often do not fully reach all coastal slum areas equally. There remains a disparity between villages that have received interventions and those that have not. Furthermore, limited coordination between agencies, a lack of active community participation in improvement programs, and low awareness of the importance of healthy housing are factors that slow down efforts to address these issues. This phenomenon demonstrates that the problem of uninhabitable housing in the coastal areas of Batu Bara Regency is not merely a physical issue, but also reflects complex socio-economic issues that require integrative, sustainable, and community-based solutions.

Research on the management of uninhabitable housing in coastal slum areas of Batu Bara Regency is crucial and urgent given the increasingly concerning existing conditions. Housing is a basic need that plays a vital role in ensuring a decent, healthy, and safe life. In coastal areas, the presence of houses that do not meet standard standards not only threatens the socioeconomic well-being of the community but also increases vulnerability to natural disasters such as tidal flooding, coastal erosion, and sea storms. The urgency of this research lies in the need to formulate a more effective and sustainable management strategy, not only through physical repairs to buildings, but also through an integrated social, economic, and environmental approach. This research is expected to identify inhibiting factors in the process of managing uninhabitable housing, as well as explore the potential and participation of local communities in improving the quality of their settlements. Furthermore, the results of this study can serve as a basis for local governments in developing more targeted housing development policies and programs based on the real needs of coastal communities. With this research, it is hoped that future interventions will improve the community's quality of life, strengthen socio-economic resilience, and create a healthy, decent, and sustainable coastal settlement environment. Given the increasingly complex problems of coastal slum areas in Batu Bara Regency, this research is a strategic step to encourage the creation of innovative, inclusive, and long-term solutions to improve housing quality and overall community well-being.

Various previous studies have addressed the issue of uninhabitable housing and slum areas in various regions in Indonesia. For example, a study conducted by Sari (2020) on "Managing Slum Settlements in Coastal Areas of Semarang City" highlighted that government interventions in the form of housing improvement programs and the provision of basic infrastructure such as clean water and sanitation were successful in reducing slum levels. However, the study also revealed that the biggest challenges were budget constraints and low community participation. Another study by Pratama (2021) in the coastal areas of Gresik Regency showed that in addition to economic factors, low levels of education also affected the quality of their housing. This study emphasizes the importance of a community-based approach to improving uninhabitable housing to ensure more sustainable results and meet local needs. Meanwhile, research by Lestari et al. (2019) in slum areas of Makassar City found that a collaborative approach between the government, the private sector, and the community had a more significant impact in accelerating the slum rehabilitation process. They concluded that resolving the problem of uninhabitable housing requires multi-stakeholder synergy and cannot rely solely on government assistance. Unlike previous studies, which generally focused on large urban areas, this study takes the context of Batu Bara Regency as a coastal area with distinct socio-economic and geographic characteristics. Geographical conditions such as vulnerability to coastal disasters, limited infrastructure, and economic dependence on the maritime sector mean that the management approach requires more specific and adaptive strategies. Therefore, this study offers a new contribution by enriching the literature on handling uninhabitable housing in coastal areas of the regency, while also providing recommendations based on local needs and regional characteristics.

Identification of problems

1. Many houses in the coastal slum areas of Batu Bara Regency are in an uninhabitable condition, both in terms of building structure, sanitation, and the safety of the occupants.
2. The environmental conditions of slum settlements worsen the quality of life of the community, increase the risk of disease, and increase vulnerability to natural disasters such as tidal flooding and coastal abrasion.
3. Low levels of community income result in an inability to repair or build decent houses.
4. The limitations of government programs in reaching all slum areas evenly and effectively.
5. Lack of community participation in housing management programs.
6. The lack of an integrated approach between physical, social, economic and environmental aspects in efforts to handle uninhabitable houses.
7. Coordination between local governments, the private sector, and local communities in efforts to improve coastal slum areas is less than optimal.

Formulation of the problem

Based on the problem identification above, the problem formulation in this research is:

1. What is the existing condition of uninhabitable houses in the coastal slum areas of Batu Bara Regency?
2. What factors cause the high number of uninhabitable houses in the area?
3. How are the local government and community efforts in dealing with uninhabitable houses in the coastal slum areas of Batu Bara Regency?
4. What are the obstacles faced in efforts to handle uninhabitable houses in the area?
5. What strategies can be proposed to increase the effectiveness of handling uninhabitable houses in coastal slum areas of Batu Bara Regency?

LITERATURE REVIEW

2.1 Uninhabitable Houses (RTLH)

Uninhabitable housing (RTLH) is defined as housing that does not meet building safety requirements, minimum building area requirements, and occupant health requirements (Ministry of Public Works and Housing, 2021). According to Priyanto (2021), a house is categorized as uninhabitable if it has severe structural damage, inadequate sanitation facilities, and lack of access to clean water. This condition directly impacts the community's quality of life, especially in coastal slum areas that are prone to natural disasters and environmental degradation. In general, uninhabitable housing in coastal areas exhibits specific characteristics, namely the use of substandard materials, poor ventilation, and limited environmental drainage systems (Sari & Yuliani, 2022). The community's relatively low socioeconomic status also exacerbates the condition of houses that do not meet eligibility standards.

2.2 Coastal Slum Areas

Coastal slums are residential areas with high levels of physical and environmental damage, generally inhabited by low-income communities (Pratama & Nugroho, 2022). Based on the criteria of the Ministry of ATR/BPN (2021), slums are characterized by high building density, inadequate basic infrastructure systems, poor environmental quality, and limited access to basic services such as clean water, sanitation, and roads. The geographic conditions of coastal areas exacerbate the vulnerability of slums to abrasion, tidal flooding, and seawater intrusion. According to Harahap (2022), the dynamic characteristics of coastal areas require an adaptive approach to housing and settlement management to environmental changes.

2.3 Strategies for Handling Uninhabitable Houses

Strategies for addressing uninhabitable housing in coastal slum areas must consider social, economic, technical, and environmental aspects. According to the Ministry of Public Works and Public Housing (2022), the RTLH improvement program is implemented through two main approaches: (1) Self-Help Housing Stimulant Assistance (BSPS), which encourages home improvements through community empowerment, and (2) Integration with settlement infrastructure programs such as the provision of clean water, neighborhood roads, and drainage systems. Sari and Fauzi (2022) emphasize the importance of collaboration between the central government, regional governments, the private sector, and local communities in accelerating the improvement of uninhabitable houses. In addition, the use of local materials that are resistant to coastal conditions, as well as disaster-adaptive home designs, are essential parts of the sustainability strategy.

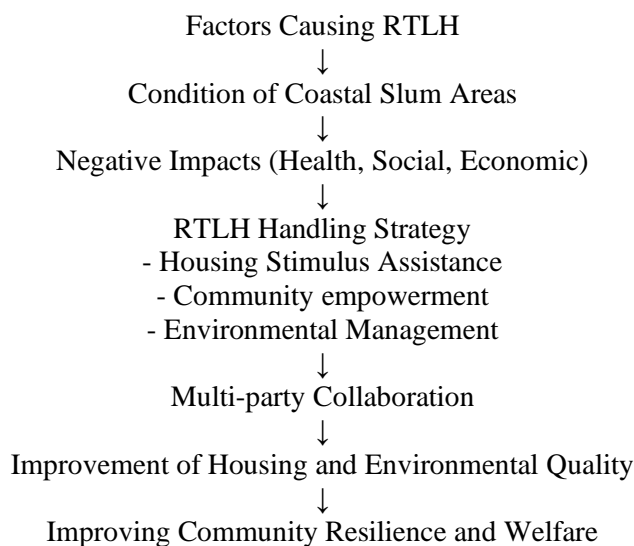
2.4 Principles of Improving the Quality of Slum Settlements

According to the Regional Infrastructure Development Agency (BPIW, 2021), improving the quality of slum settlements in coastal areas focuses not only on home renovations but also encompasses comprehensive environmental planning, community capacity building, and strengthening environmental resilience. Preventive measures such as controlling the growth of new slums through spatial planning regulations and empowering local economies are also integral to this strategy (Putri & Handayani, 2021).

2.5 Framework of Thought

Coastal slums are identified as areas with low environmental quality, inadequate basic infrastructure, and uninhabitable housing (RTLH). This condition is caused by several factors, such as poverty, limited land, the impact of climate change, and a lack of development intervention. According to the Ministry of Public Works and Public Housing (2021), RTLH is defined as residential buildings that do not meet safety, health, and adequate space requirements for occupants. In coastal areas, these homes are highly vulnerable to damage from tidal flooding, abrasion, and sea storms (Harahap, 2022). The management of uninhabitable housing in coastal slum areas refers to

improvement strategies based on community empowerment, housing incentive assistance, and environmental planning. Multi-stakeholder collaboration between the central and regional governments, local communities, and the private sector is also key to the success of this program (Sari & Fauzi, 2022). In the context of Batu Bara Regency, the management of uninhabitable housing requires consideration of local characteristics, including coastal geography, community income levels, and available basic infrastructure. Therefore, this study focuses on examining how strategies for managing uninhabitable housing are implemented in coastal slum areas of Batu Bara Regency, with the aim of improving housing quality, the environment, and community resilience to disaster risks.



RESEARCH METHODS

3.1 Research Approach and Type

This study employed a descriptive qualitative approach. The qualitative approach was chosen because it aimed to understand the phenomenon in depth from the perspective of the subjects involved, namely coastal slum communities and stakeholders involved in managing uninhabitable housing (Creswell & Poth, 2021). According to Sugiyono (2021), a qualitative approach is used to uncover meanings, understandings, and social experiences, making it highly appropriate for exploring strategies for managing RTLH in a local context such as Batu Bara Regency. This type of research is descriptive, because the main focus is to describe the social realities, strategies, constraints, and results of the program to handle uninhabitable houses based on the direct experiences of actors in the field (Moleong, 2021).

3.2 Research Location and Subjects

The research was conducted in coastal slum areas of Batu Bara Regency, specifically in villages or sub-districts with a high number of uninhabitable houses, according to local government data. Site selection was conducted purposively based on criteria representative of coastal slum conditions.

Research subjects include:

1. Residents who received the program to repair uninhabitable houses,
2. Local community leaders,
3. Relevant local government officials (Housing Service, PUPR Service),
4. Non-governmental organizations (NGOs) that accompany the program.

Informant selection was carried out using a purposive sampling technique, taking into account direct involvement and mastery of relevant information (Sandelowski, 2021).

3.3 Data Collection Techniques

Data collection techniques in this study include:

1. In-depth interview
Semi-structured interviews were conducted to explore experiences, perceptions, and challenges faced in addressing uninhabitable housing. According to Creswell (2021), semi-structured interviews provide flexibility to explore informants' responses more broadly.
2. Field observation

Observations were made of the physical condition of the house, its surroundings, and the process of implementing the improvement program. Observations played a crucial role in enriching contextual data (Miles, Huberman, & Saldaña, 2022).

3. Documentation study

Documentation was obtained from program reports, relevant agency data, activity photographs, and minutes of RTLH repairs. Documentary data was useful for validating interview and observation results (Bowen, 2022).

3.4 Data Analysis Techniques

Data analysis was conducted using thematic analysis techniques. The process includes the following stages:

1. Data reduction through information coding,
2. Presentation of data in the form of thematic narratives, and
3. Drawing conclusions based on patterns and relationships between themes (Miles, Huberman, & Saldaña, 2022).

According to Nowell et al. (2022), thematic analysis is suitable for systematically identifying, analyzing, and reporting patterns (themes) in qualitative data.

3.5 Data Validity Test

Data validity testing was carried out using source triangulation and method triangulation techniques.

1. Source triangulation was carried out by comparing interview data with observation and documentation data.
2. Method triangulation is carried out by combining the results from various data collection techniques to obtain the validity of the findings (Carter et al., 2021).

According to Sugiyono (2021), the use of triangulation can increase the credibility and trustworthiness of qualitative research results.

RESULTS AND DISCUSSION

How is community participation regarding uninhabitable houses (RTLH) in the coastal slum areas of Batu Bara Regency?

Community participation is a crucial component in the successful management of uninhabitable housing (RTLH), particularly in coastal slum areas like those in Batu Bara Regency. In this context, participation encompasses not only physical involvement or human resources in development activities, but also community awareness, initiative, and contribution at every stage of the settlement improvement process, from planning and implementation to maintenance. In Batu Bara Regency, coastal communities generally have strong social ties but face significant economic constraints. Nevertheless, community participation in addressing housing shortages has begun to emerge through various forms, such as self-help in home repairs, the use of locally available building materials, and community collaboration in building simple sanitation and water access. The role of community leaders and local groups, such as fishermen's groups, religious study groups, and youth organizations, also often triggers collective participation in addressing housing issues.

However, this level of participation is often suboptimal due to various challenges. One of these is low public literacy regarding livable housing standards and the importance of environmental sanitation. Many residents consider the condition of their uninhabitable housing units (RTLH) to be an unchangeable part of everyday life. Furthermore, financial constraints make many residents passive in the improvement process, believing that such efforts are entirely the government's responsibility. This situation demonstrates that community participation in managing RTLH is heavily influenced by awareness, economic capacity, and access to information and technical assistance. Without strengthening community capacity, RTLH improvement programs risk becoming merely unsustainable, top-down initiatives. Therefore, an empowerment approach is needed that positions communities as key actors of change, not merely recipients of assistance. Several government programs, such as the Self-Help Housing Stimulus Assistance (BSPS) and the Kotaku (Slum-Free City) program, have opened up opportunities for community participation through self-help mechanisms in home construction. However, the effectiveness of these programs still depends heavily on inter-agency coordination and direct community involvement in planning and implementation oversight. Therefore, future efforts should be directed at strengthening community institutions, increasing literacy on adequate housing, and creating incentive systems that can motivate communities to participate in RTLH improvement programs. Participatory approaches can also be encouraged through building skills training for local residents, facilitating community-based microfinance, and developing dialogue forums between communities and local governments. By encouraging active community participation, the process of

managing RTLH (living space) will be more contextual, targeted, and sustainable. This participation not only accelerates the settlement rehabilitation process but also strengthens a sense of environmental ownership, strengthens social solidarity, and builds resilience in coastal communities to the ecological and socioeconomic challenges they face. Therefore, within the framework of developing decent and humane coastal settlements in Batu Bara Regency, community participation is not merely a complement but a key factor in successfully transforming slum areas into dignified living environments.

What is the existing condition of uninhabitable houses in the coastal slum areas of Batu Bara Regency and the conditions before and after handling of uninhabitable houses (RTLH)?

The existing condition of uninhabitable housing in the coastal slums of Batu Bara Regency reflects a concerning reality and illustrates the low quality of life for some coastal communities. In several coastal villages, many houses are constructed impermanently, using makeshift materials such as used planks, bamboo, rusty corrugated iron, and plastic or tarpaulin roofs. The structures are generally fragile, lack strong foundations, and lack adequate lighting and ventilation. This makes the houses unable to withstand the sea breeze, heavy rain, and tidal flooding that frequently plague coastal areas. In addition to the poor physical condition of the buildings, the surrounding environment also exhibits the characteristics of a slum. Narrow, muddy access roads, the lack of an adequate drainage system, and piles of garbage around the houses are common sights. Many houses are built close together without proper spatial planning, resulting in poor sanitation and a high risk of disease transmission. Some houses even stand above water, on riverbanks or the coast, making living conditions even more vulnerable and unhealthy.

1. Conditions Before Handling

Prior to the rehabilitation, the coastal slums in Batu Bara Regency were in dire condition. Residents' homes were generally constructed independently from available materials, such as thin planks, rotting wood, and used corrugated iron, without meeting building standards. Many buildings lacked strong foundations and were vulnerable to damage from sea winds, rain, and the tidal flooding that frequently plagues coastal areas. In addition to the poor physical condition of buildings, residential areas are also extremely dense, unorganized, and lack open space. Roads between houses are narrow and muddy, drainage systems are inadequate, and many settlements lack access to clean water and proper sanitation facilities. Household waste is often dumped directly into the sea or rivers, increasing pollution and the risk of disease. Socially, coastal communities are largely low-income, working as fishermen, day laborers, or informal business owners. Uncertain incomes make it difficult for them to repair or build adequate housing. Awareness of the importance of healthy housing is also low, so issues with unsafe housing are often dismissed as trivial. Furthermore, minimal community involvement in development planning often results in ineffective external interventions.

2. Condition after handling

Following the implementation of RTLH management programs by both the central and regional governments, coastal areas have begun to show significant improvement. Programs such as the Self-Help Housing Stimulus Assistance (BSPS) and the Slum-Free Cities (KOTAKU) program provide material assistance and technical assistance for renovating residents' homes to meet decent housing standards. Several previously severely damaged homes now boast stronger and safer structures, with permanent walls, sturdy roofs, clean floors, and adequate toilet and sanitation facilities. The program also includes the construction of environmental infrastructure such as roads, drainage channels, and clean water reservoirs, which has significantly improved the overall quality of life. From a social perspective, residents are beginning to demonstrate increased awareness of the importance of environmental protection and housing maintenance. The emergence of community participation in community-based community activities, technical training, and local development planning demonstrates that the RTLH management program not only improves physical aspects but also empowers communities socially and economically. Some community groups have even formed local communities or institutions to manage aid and ensure the sustainability of environmental maintenance. These changes have had a direct impact on improving the comfort, safety, and health of coastal communities. The risk of infectious diseases has decreased, residents' mobility has become smoother, and children have more suitable learning spaces at home. Economic development is also beginning to show signs of improvement as a healthier and more organized environment stimulates productive community activities. The majority of people living in this area come from low-income groups, working as fishermen, daily laborers, or informal business owners, all with irregular incomes. Their weak economic conditions make it difficult for them to independently repair their homes. Meanwhile, government assistance remains limited and has not reached all slum areas equally. Overall, the existing uninhabitable housing conditions in the coastal

slums of Batu Bara Regency demonstrate the urgent need for serious and comprehensive action. Settlement planning, housing improvements, and increased access to basic infrastructure and public services are urgently needed to enable coastal communities to live more decent, healthy, and dignified lives.

What factors cause the high number of uninhabitable houses in the area?

The high number of uninhabitable houses in the coastal slums of Batu Bara Regency is caused by various interrelated factors, including social, economic, and environmental aspects. One primary factor is the relatively high level of poverty. Most coastal residents work in the informal sector, such as traditional fishermen, manual laborers, or small traders, with low and unstable incomes. This economic situation leaves them with insufficient resources to build, repair, or maintain homes that meet standard standards. Secondly, low levels of education and public awareness of the importance of healthy and safe housing. Many residents build houses based on immediate needs without considering technical aspects or construction safety, such as the use of non-durable materials and house designs that ignore the risk of coastal natural disasters. Furthermore, population growth unbalanced by proper spatial planning has exacerbated the situation. Many settlements have sprung up sporadically in uninhabitable areas, such as coastal areas, riverbanks, or swamps, which are vulnerable to erosion, tidal flooding, and environmental pollution. The dense settlements severely limit access to basic facilities such as clean water, sanitation, and electricity. Limited government intervention programs are also a contributing factor. Although housing repair assistance programs exist, they are far from sufficient to reach all those in need. Furthermore, administrative irregularities, such as unclear land ownership status, make many households ineligible for official assistance.

Environmental factors also play a significant role. Coastal geographic conditions, vulnerable to climate change, such as rising sea levels and extreme weather, accelerate the deterioration of homes originally built to low standards. Overall, a combination of economic and social factors, inadequate planning, suboptimal policy interventions, and environmental challenges are the primary causes of the high number of uninhabitable homes in the coastal slums of Batu Bara Regency. Understanding these factors is crucial for formulating comprehensive and sustainable solutions for future management efforts. Cut Nuraini (2019, 2024), in her various studies on the morphology and architecture of traditional settlements in Mandailing, demonstrates the importance of considering local values in housing planning. In the context of Batu Bara Regency, which also has coastal communities with specific socio-cultural characteristics, the development of flats should not simply imitate urban housing patterns but also consider aspects of community, shared spaces, and social connections. This is also reinforced in the research of Nuraini, Azizah, & Muharrani (2024), which highlights the importance of preserving settlement spatial planning based on local ethnicity and culture as part of efforts to maintain community identity while improving the quality of life in a sustainable manner.

Efforts made by the government/analysis with findings in the field of coastal slum areas and the community in dealing with uninhabitable houses in coastal slum areas of Batu Bara Regency

The issue of coastal slums in Batu Bara Regency has drawn government attention, both at the central and regional levels. As a region with geographic characteristics vulnerable to disasters such as tidal flooding and abrasion, the coastal areas of Batu Bara face a dual challenge: not only uninhabitable housing (RTLH), but also poor basic infrastructure and socioeconomic vulnerability.

1. Government Efforts in Handling Coastal Slum Areas The government has undertaken various interventions to address the problem of slum coastal areas, including:

- a. Self-Help Housing Stimulus Assistance Program (BSPS): The government provides assistance to low-income communities to build or repair uninhabitable homes on their own. This assistance typically includes funding for materials and technical assistance.
- b. Slum-Free City Program (KOTAKU): Through a collaborative approach, the government is working to organize slum settlements by building basic infrastructure, such as neighborhood roads, drainage, communal sanitation, and increasing access to clean water.
- c. Special Allocation Fund (DAK) Program for Housing and Settlement: Used to support the development of infrastructure, facilities and basic utilities in dense and slum areas, including coastal areas.
- d. Limited relocation and disaster mitigation-based spatial planning: For several areas with high levels of vulnerability to abrasion or tidal flooding, the government has begun designing relocation plans to safer areas.
- e. Community outreach and empowerment: Several outreach activities on the importance of healthy homes, proper sanitation, and environmental management were also carried out to increase public awareness.

2. Analysis Based on Field Findings

Although various efforts have been made, findings in the field indicate significant challenges in the implementation and impact of government programs, including:

- a. Limited intervention coverage: Many residents reported that the RTLH improvement program has not reached all slum areas equally. Some coastal villages remain untouched by assistance due to budget constraints, strict administrative criteria, or a lack of data collection.
- b. Poor building quality: In some locations, residents reported that the aid they received was insufficient to build truly decent homes. As a result, homes were only partially repaired and remained vulnerable to damage, particularly from extreme weather.
- c. Lack of synergy between agencies: Slum management, which requires a cross-sectoral approach (housing, sanitation, clean water, health, and social services), has not been fully integrated. In the field, several programs are being implemented partially without comprehensive coordination.
- d. Lack of active community participation: Several residents admitted they had not been directly involved in planning or overseeing program implementation. This led to a low sense of ownership, resulting in suboptimal infrastructure maintenance.
- e. Obstacles to economic empowerment: Despite housing repairs, many residents remain economically unstable. Without economic intervention, efforts to improve housing quality will be difficult to sustain, as residents remain dependent on low daily incomes.
- f. Environmental threats remain unaddressed: Tidal flooding, abrasion, and marine pollution from domestic waste remain major challenges. Existing programs have not addressed many concrete aspects of environmental protection.

3. Implications and Recommendations

From the findings in the field, it is clear that efforts to handle coastal slum areas need to be increased through an integrative, collaborative, and sustainable approach, with an emphasis on the following points:

- a. Expanding coverage and simplifying access to housing assistance, especially for coastal communities who are often hampered by land legality.
- b. Strengthening cross-sector collaboration, both between government agencies and between the government and local communities.
- c. Increased community participation in program planning, implementation, and monitoring, so that the solutions taken truly meet local needs.
- d. Community economic empowerment, for example through job skills training, support for coastal MSMEs, and access to microfinance.
- e. Spatial planning based on disaster mitigation and climate adaptation, to protect communities from the long-term risks of abrasion and tidal flooding.

Efforts to address uninhabitable housing in the coastal slums of Batu Bara Regency have been undertaken by various parties, both the local government and the community, although the results have not been entirely satisfactory. The Batu Bara Regency government has launched several home improvement programs through physical assistance, but the challenges remain significant given the vast area covered and the limited available budget. One such program is the Self-Help Housing Stimulus Assistance Program (BSPS), which provides financial assistance to communities to repair their homes to meet housing standards. This program is aimed at homes deemed in urgent need of repair, but limited funding has prevented it from reaching all uninhabitable homes in the coastal area. Furthermore, this program often encounters administrative issues, such as unclear land ownership status, which prevents some residents from receiving assistance. The coastal slums in Batu Bara Regency are highly vulnerable, both socially, economically, and physically. Therefore, slum management cannot be done in isolation but must address all aspects of community life. The central and regional governments have implemented a number of mitigation efforts, both physical (basic infrastructure) and non-physical (economic and social) to improve environmental quality and enhance community well-being.

1. Physical Treatment

a. Improvement of Neighborhood Roads

One crucial component in slum improvement is the construction and improvement of neighborhood roads. Previously, many roads in coastal areas were dirt or plank roads, which became slippery and muddy during the rainy season. The government has made improvements by constructing neighborhood roads using concrete or

paving blocks, which not only facilitates community mobility but also improves access to public facilities such as schools, community health centers, and places of worship.

b. Drainage Development and Rehabilitation

Poor drainage leads to waterlogging, stagnant household waste, and the spread of infectious diseases. Through a slum improvement program, the government is building more organized open and closed drainage channels. This helps reduce local flooding, streamlines wastewater flow, and improves the quality of residential environments.

c. Provision of Sanitation Facilities

Before the intervention, most households in coastal areas lacked proper sanitation facilities. Many residents still defecated in the sea or rivers. The government has built communal toilets, septic tanks, and household toilets through the KOTAKU and BSPS programs. This has significantly improved public health and reduced the risk of water-borne diseases.

d. Increasing Access to Clean Water

Clean water availability is a major challenge in coastal areas. Many communities rely on shallow wells contaminated by seawater or collected rainwater. The central government, through the North Sumatra Regional Settlement Infrastructure Center (BPPW), and local governments have provided clean water facilities in the form of drilled wells, simple water treatment plants, and community-based clean water distribution networks.

2. Handling from an Economic Perspective

a. Community Economic Empowerment

Physical improvement efforts will not be sustainable without increasing the economic capacity of the community. The local government has initiated various skills training programs, such as seafood processing, handicrafts, and entrepreneurship training for housewives. The goal is to increase family incomes and encourage economic independence in coastal communities.

b. Access to Capital and Community Business Groups (KSM)

The PNPM Mandiri program also previously facilitated the formation of participatory Community Self-Help Groups (KSM). Through KSM, communities not only participate in physical development activities but also receive assistance in obtaining micro-enterprise capital. This program aims to reduce unemployment and poverty in slum areas.

3. The Role of Regional and Central Government

a. Central Government:

- 1) Through the Ministry of Public Works and Public Housing, the central government allocates funds through the Self-Help Housing Stimulus Assistance Program (BSPS) and Physical DAK.
- 2) The Ministry of Social Affairs and the Ministry of Villages also provide support in the form of social empowerment programs and village infrastructure in coastal areas.
- 3) National programs such as the 100-0-100 Program (100% access to clean drinking water, 0% slum areas, and 100% access to clean sanitation) are the main framework underlying government intervention in slum areas, including Batu Bara.

b. Batu Bara Regency Regional Government:

- 1) Conducting data collection on slum areas, prioritizing coastal areas experiencing severe environmental degradation.
- 2) Prepare a document for the Slum Settlement Management and Quality Improvement Plan as a development guide.
- 3) Integrating poverty alleviation programs with environmental management through the provision of relocation land, construction of low-cost apartments, and technical support for communities receiving RTLH assistance.
- 4) Facilitating synergy between regional agencies (Perkim Agency, Social Agency, Health Agency, Public Works Agency) to support comprehensive handling.

What are the obstacles faced in efforts to handle uninhabitable houses in the area?

Addressing uninhabitable housing in the coastal slums of Batu Bara Regency faces a variety of complex and interrelated challenges, including resource, policy, and social aspects. Some of the main obstacles encountered in efforts to repair uninhabitable housing in this area include:

1. Budget and Resource Limitations

One of the biggest obstacles in addressing uninhabitable housing is the limited budget allocated for home repair programs. The Batu Bara Regency government has limited funds to repair all uninhabitable homes, especially in the vast and scattered coastal areas. Government assistance programs, such as the Self-Help Housing Stimulus Assistance (BSPS), often do not cover all needs, due to the large number of homes in need of repair and the insufficient budget to reach all residents in need.

2. Unclear Land Ownership Status

Many houses in coastal areas are built on land with unclear ownership or state land. This presents a barrier to accessing government assistance, as many residents lack land certificates or other legal documents required for assistance programs. Without clear ownership, residents cannot access government home improvement programs that require proof of legal land ownership.

3. Socio-Economic Challenges of Society

The majority of people in the coastal areas of Batu Bara Regency are classified as lower-middle class. The majority of coastal residents work informally and earn low incomes, such as fishing or day labor. These economic limitations make it difficult for them to finance home improvements independently, even with government assistance. Furthermore, unemployment and economic instability reduce the purchasing power of the community, which limits access to quality building materials.

4. Lack of Coordination and Collaboration Between Stakeholders

The handling of uninhabitable houses in the coastal slums of Batu Bara Regency is also hampered by a lack of coordination between the local government, the private sector, and the community. Existing home improvement programs are often not well coordinated between various institutions and related parties. For example, the private sector or NGOs that have assistance programs sometimes do not collaborate with the local government, resulting in some areas that need assistance not being reached. Furthermore, the lack of active participation from the community in the planning and implementation of the program also hampers the program's success.

5. Environmental Vulnerability and Natural Disasters

The coastal areas of Batu Bara Regency are highly vulnerable to natural disasters, such as tidal flooding, coastal erosion, and extreme weather. Even houses that have been repaired remain at risk of damage from these natural disasters. This vulnerability leads coastal communities to focus more on short-term needs, such as emergency home repairs or temporary relocation, rather than building truly disaster-resistant housing. This adds to the challenges of sustainable management of uninhabitable housing.

6. Lack of Public Awareness and Participation

Public awareness of the importance of healthy and livable housing remains low, especially in areas lacking adequate access to information. People are more focused on their daily needs and often unaware of the long-term impacts of living in unsuitable housing. Furthermore, community participation in home improvement programs remains limited, both due to a lack of understanding of how to repair their homes independently and a lack of motivation due to limited resources.

7. Inadequate Infrastructure

Access to basic infrastructure such as roads, clean water, and sanitation in coastal slums is also extremely limited. This poor infrastructure worsens the quality of life for residents and accelerates home deterioration, especially during severe weather or flooding. Without adequate infrastructure, home repairs will be hampered, as environmental conditions continually threaten the sustainability of these homes.

Overall, the management of uninhabitable housing in the coastal slums of Batu Bara Regency still faces various obstacles that require serious attention and more integrated solutions. Strengthening policies, increasing budget allocations, and improving coordination between various parties will be crucial to effectively address this issue.

Batubara Regency's efforts in handling RTLH

The problem of uninhabitable housing (RTLH) in the coastal slums of Batu Bara Regency continues to be an urgent issue requiring structured and sustainable address. In response to this situation, the Batu Bara Regency Government has initiated various strategies, including proposing the construction of flats (Rusun) as a long-term solution to address land limitations, overcrowding, and poor housing quality in coastal slums.

1. Physical Handling: Construction of Flats as a Solution for Decent Housing

One of the strategic initiatives being developed by the Batu Bara Regency Government is proposing the construction of Simple Rental Apartments (Rusunawa) for residents currently living in substandard housing in coastal areas. This initiative is driven by limited land and high population density, which preclude horizontal (site-wide) RTLH management.

Benefits of building flats:

- a) Land efficiency in densely populated areas.
- b) Building standards that are suitable and safe from the risk of tidal flooding and coastal abrasion.
- c) Integrated facilities, such as clean water, electricity, sanitation, and shared open spaces.
- d) Improving the quality of life of the community with a healthier and more orderly environment.

The local government has identified several strategic locations for the construction of flats and is gradually collecting data on residents who will be relocated. This program is designed not only to relocate residents but also to provide truly decent and dignified housing. Hartini et al. (2023) on drainage infrastructure management in Medan Sunggal emphasized that the effectiveness of drainage in densely populated areas depends heavily on system integration, community-based management, and the technical quality of the buildings.

2. Economic Handling: Empowerment and Post-Relocation Assistance

Moving to an apartment complex is not only about physical aspects but also has a direct impact on the community's lifestyle and economic activities. Therefore, the Batu Bara Regency Government emphasizes the importance of a community economic empowerment approach in the relocation process. This approach aligns with the importance of spatial attachment and an environment that is responsive to the needs of the local community. As explained by Nuraini & Suprayitno (2021), the success of a housing complex is determined not only by the building structure but also by how adaptive and responsive the environment is to the community's habits and livelihoods.

Efforts made:

- a) Skills and entrepreneurship training, especially for housewives and youth in coastal areas.
- b) Community-based economic development, such as apartment cooperatives, micro-enterprises, and processed seafood products.
- c) Facilitate access to capital, through collaboration with banks and microfinance institutions.
- d) Ongoing social and economic assistance by relevant agencies to ensure that relocated residents can remain productive in their new environment.

3. Collaborative Efforts between Regional and Central Governments

The idea of building flats by the Batu Bara Regency Government cannot be separated from the support of the central government, especially through:

- a) The Ministry of PUPR in terms of providing a budget for the construction of flats through a central assistance scheme.
- b) Ministry of Social Affairs and Ministry of Villages in empowering and increasing the capacity of citizens.
- c) Synergy of national programs such as KOTAKU and BSPTS, which continues to support the improvement of existing settlements while preparing relocation schemes.

The Batu Bara Regency Government has also prepared planning documents and technical proposals for the application for the construction of flats, including aspects of community participation, land legality, and beneficiary criteria.

The Batu Bara Regency Government's efforts to address uninhabitable housing through the proposed construction of flats represent a strategic step that addresses the challenges of limited land and low-quality housing in coastal slum areas. This program focuses not only on the physical aspects of the buildings but also incorporates economic and social approaches to ensure the sustainability of community livelihoods after relocation. It is hoped that this initiative can serve as a model for more integrated, humane, and sustainable slum management in the future.

What strategies can be proposed to increase the effectiveness of handling uninhabitable houses in the coastal slum areas of Batu Bara Regency?

To improve the effectiveness of managing uninhabitable housing in the coastal slums of Batu Bara Regency, a holistic, coordinated strategy based on local needs is needed. Some proposed strategies include:

1. Strengthening the Home Repair and Basic Infrastructure Assistance Program: The Self-Help Housing Stimulus Assistance Program (BSPTS) needs to be expanded with a larger funding allocation to reach more homes in need of repair. Furthermore, this home repair program must be complemented by assistance for basic infrastructure development, such as road access, clean water, and proper sanitation. Home repairs accompanied by adequate infrastructure will significantly improve the community's quality of life.
2. Community Education and Counseling on Housing Suitability: Educating the public about the importance of healthy and livable homes is crucial. Educational programs that teach disaster-resistant and

environmentally friendly home building techniques, as well as how to affordably repair homes, need to be expanded. Communities need to be empowered with skills and knowledge about safe home construction and how to manage their surroundings to keep them clean and healthy.

3. **Improving Cooperation and Coordination Between Stakeholders:** Addressing uninhabitable housing requires synergy between local governments, the private sector, NGOs, and communities. Therefore, increased coordination between these parties is needed to ensure that aid is targeted and covers all community needs. Local governments can act as facilitators, uniting various stakeholders to achieve the common goal of improving the quality of life in coastal communities.
4. **Community Economic Empowerment to Increase Independence:** Given that the majority of the coastal population of Batu Bara Regency works in the informal sector with low incomes, it is crucial to introduce community-based economic empowerment programs. For example, by involving the community in mutual assistance home improvement projects or in micro-enterprises that can generate additional income. This economic empowerment not only helps communities earn more income but also strengthens their sense of ownership and active participation in the development process.
5. **Utilizing Technology in Home Construction:** The use of environmentally friendly and affordable construction technologies can be a solution to reduce home building costs. For example, the use of cheaper and more readily available local materials and building technologies that are resistant to natural disasters such as floods or strong winds. Governments or NGOs can collaborate with civil engineers to develop disaster-resistant housing standards that are easily accessible to those on a budget.
6. **Improving Access to Housing Finance:** To accelerate the resolution of uninhabitable housing, it is necessary to increase public access to affordable housing financing. One way is to partner with financial institutions, both government and private, to provide low-interest financing or flexible installments for residents seeking home improvements. Microcredit programs for home improvements can be a solution for those who lack the funds to repair their homes independently.
7. **Strengthening Spatial Planning and Natural Resource Management Policies:** Local governments need to implement better spatial planning in coastal areas, so that housing construction can be carried out with environmental considerations and disaster mitigation. Sustainable natural resource management, such as planting mangroves to reduce coastal erosion and improve coastal environmental quality, is also crucial. Developing stricter spatial planning policies based on environmental protection will help create safer and more sustainable residential areas.
8. **Providing Incentives for Sustainable Housing Development** To encourage communities and home developers to build environmentally friendly and disaster-resistant homes, the government can provide incentives or rewards for those who build homes that meet sufficiency and environmental standards. This could take the form of tax breaks, building material subsidies, or technical assistance in home construction.

Overall, the strategy for addressing uninhabitable housing in the coastal slums of Batu Bara Regency requires a comprehensive and sustainable approach. Not only physical improvements to the houses, but also increasing the community's economic capacity and social awareness must be part of the solution. By involving all stakeholders and taking local conditions into account, addressing uninhabitable housing can be more effective and positively impact the quality of life of coastal communities.

CLOSING

Conclusion

Addressing uninhabitable housing in the coastal slums of Batu Bara Regency faces various obstacles, including budget constraints, unclear land ownership, and low community participation in home improvement programs. Despite several government assistance programs, such as the Self-Help Housing Stimulus Assistance (BSPS), many homes remain unrepaired. Socioeconomic factors, low public awareness, and vulnerability to natural disasters further exacerbate the situation. Therefore, a more comprehensive and coordinated approach is needed between the government, the community, and the private sector to improve the effectiveness of addressing uninhabitable housing. Strategies that include community empowerment, increased coordination between stakeholders, and the use of environmentally friendly construction technologies could be solutions to address this situation.

Suggestion

1. **Budget Increase and Financing Access:** Local governments need to increase their budgets for uninhabitable housing repair programs and expand access to financing for the community through microcredit schemes or more affordable financial assistance.

2. Community Empowerment: Education and training programs on building habitable and disaster-friendly homes need to be strengthened to increase community participation in improving their homes.
3. Improved Coordination Between Stakeholders: The government, private sector, and NGOs must work together to design and implement housing repair programs in a more coordinated manner so that aid is more evenly distributed and targeted.
4. Spatial Planning and Environmental Management: Policies are needed that support good spatial planning in coastal areas and more sustainable environmental management to reduce vulnerability to natural disasters.
5. Legal Protection Education: Education for the community about the importance of legal land ownership and how to obtain valid ownership documents can help residents access government home repair assistance.

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