ISRG Journal of Arts, Humanities and Social Sciences (ISRGJAHSS)

ISRG PUBLISHERS
Abbreviated Key Title: ISRG J Arts Humanit Soc Sci
ISSN: 2583-7672 (Online)
Journal homepage: https://isrgpublishers.com/isrgjahss
Volume – IV Issue - VI (November-December) 2026
Frequency: Bimonthly



COLLABORATIVE GOVERNANCE AND SUSTAINABLE FINANCING OF SUBSTANDARD HOUSING REHABILITATION: AN INSTITUTIONAL ECONOMICS PERSPECTIVE FROM MATARAM

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| **Received:** 08.11.2026 | **Accepted:** 14.1.12026 | **Published:** 16.11.2026

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Abstract

The rehabilitation of substandard housing (SH) is essential to improving access to adequate housing and advancing SDG 11. Nevertheless, programme success cannot be adequately explained by the number of houses repaired. This study examines collaborative governance, financing arrangements, and the traceability of SH rehabilitation outcomes in Mataram City through a qualitative case study based on documentary analysis, with planned interviews, focus group discussions, and observations. The research gap concerns the limited integration of housing-needs research, community participation, and network governance with cross-programme administrative evidence at the municipal level. The documents report approximately 1,500 substandard houses in the 2025 enumeration and 266 units in the rehabilitation activity series for 2021–2025. Multiple financing sources are recorded, although classifications of programmes, targets, and implementation remain incompletely harmonised. The article's analytical contribution is an assessment framework integrating the division of institutional responsibilities, financing architecture, data consistency, participation, and post-rehabilitation monitoring to evaluate governance readiness for SDG 11. The study further indicates that Mataram continues to face substantial challenges in addressing inadequate housing across its 50 urban villages despite ongoing government interventions. Housing construction and rehabilitation have produced positive results, although coverage remains limited. The Mataram City Government has pursued adequate and sustainable housing through policy measures, budgetary allocations, and community education.

Keywords: Collaborative Governance; Sustainable Financing; Substandard Housing Rehabilitation; SDG 11; Urban Sustainability.

1. INTRODUCTION

Access to adequate housing is integral to human development and inclusive urban development. Under the 2030 Agenda, Sustainable Development Goal (SDG) 11 seeks to make cities and human settlements inclusive, safe, resilient, and sustainable. Target 11.1 specifically calls for access to adequate, safe, and affordable housing and basic services, while Target 11.3 emphasises participatory and integrated settlement planning and management

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DOI: 10.5281/zenodo.24274563

(United Nations, 2015). Accordingly, the quality of housing policy cannot be assessed solely by counting repaired buildings; it also depends on targeting accuracy, integration with basic infrastructure, and the sustainability of implementing institutions.

Urban development increases demand for housing and basic services while also creating affordability challenges for low-income groups. UN-Habitat (2022) underscores the importance of inclusive and resilient cities amid urbanisation pressures and environmental risks. When fiscal capacity is limited, substandard housing rehabilitation (SHR) is a relevant public intervention because it seeks to improve existing dwellings without necessarily constructing new housing. However, the involvement of central and local governments, field implementers, and beneficiary households requires coordination and accountable resource governance.

Mataram City is the administrative and economic centre of West Nusa Tenggara Province. Its population was 445,010 in 2024, and approximately 1,500 substandard housing units were identified in the 2025 enumeration across 50 urban villages. A total of 266 housing units were recorded as rehabilitated during 2021–2025. These figures indicate that upgrading housing quality remains a municipal priority. The source manuscript states that rehabilitation activities during 2021–2025 were distributed across the 50 urban villages in six districts, with priority given to coastal and peripheral areas associated with urban informal settlements, including Ampenan, Sekarbela, and Sandubaya. Assistance reportedly ranged from IDR 20 million to IDR 25 million per unit. Housing improvements were financed through a combination of central, local, and non-governmental resources, including community religious funds channelled through BAZNAS Mataram City.

The selection of houses for rehabilitation is described as involving coordination among urban-village and district authorities, community leaders, and facilitators, taking into account the physical condition of the dwelling and the low-income status of its owner. Funding sources include central and municipal government contributions, national and regional budgets (APBN/APBD), support from the ministry responsible for housing, and BAZNAS-managed community funds. In addition, the Self-Help Housing Assistance Programme (Bantuan Stimulan Perumahan Swadaya, BSPS) incorporates self-help and mutual assistance principles.

During SH rehabilitation, participating actors reportedly coordinate and deliberate on whether a dwelling qualifies for rehabilitation and should be prioritised, given the limited funding available in each fiscal year. Rehabilitation is envisaged as an ongoing responsibility that contributes particularly to SDG 11 on sustainable cities and communities.

Previous studies offer relevant explanations at different levels of analysis. Research on housing demand in Mataram (Salmah et al., 2024) contributes to understanding market demand, whereas research on social rehabilitation of substandard housing (Syaputra et al., 2021) focuses on poverty alleviation. Among the verifiable literature, Hasanawi et al. (2019) emphasise alignment between top-down and bottom-up governance approaches in Indonesian slum upgrading, while Das (2015) shows that community-group autonomy alone does not ensure effective microfinance management. At the theoretical level, Ansell and Gash (2008), Provan and Kenis (2008), and Emerson et al. (2012) explain the conditions, forms, and dynamics of inter-organisational collaboration. However, these sources do not directly establish how beneficiary records, cross-programme budgeting, and the delivery of individual housing rehabilitations are recorded and accounted for in Mataram. The research gap examined here is therefore not the absence of housing-governance studies, but the limited integration of institutional analysis, financing arrangements, and output traceability in the study setting.

The proposed novelty is integrative and context-specific rather than the discovery of a new theory: (1) combining an analysis of inter-actor coordination and funding classifications with an examination of administrative data consistency over 2021–2025; (2) distinguishing housing-need stocks, targets, budget allocations, implementation activities, and completed units as non-interchangeable categories; and (3) proposing an evaluation framework linking physical programme outputs to the requirements for measuring SDG 11 outcomes.

The study seeks to support SDG Target 11.1 on adequate housing through collaborative governance relevant to Target 11.3 and sustainable financing. The proposed rehabilitation approach is intended not only to improve housing structures (outputs), but also to contribute to household resilience (outcomes) and ultimately to a more resilient, inclusive, and sustainable Mataram (impacts), in line with municipal development planning and SDG 11. These intended effects should be distinguished from outcomes demonstrated by the available data.

Specifically, the study aims to: (1) describe SH rehabilitation activities in Mataram using programme records for 2021–2025; (2) analyse actor arrangements and programme financing from an economic-governance perspective; and (3) examine the contribution and limitations of these programmes in supporting sustainable settlement development. The research questions concern how SH rehabilitation is implemented, how coordination and financing are managed, and the extent to which existing evidence supports a contribution to SDG 11.

2. CONCEPTUAL FOUNDATIONS AND ANALYTICAL FRAMEWORK

2.1 Economic governance and multi-stakeholder coordination

In this article, economic governance is operationally defined as the institutional arrangements and decision-making mechanisms governing the mobilisation, allocation, use, and accountability of resources for SH rehabilitation. This perspective addresses four dimensions: (i) coordination and the distribution of authority; (ii) mobilisation and allocation of financing sources; (iii) community participation and beneficiary targeting; and (iv) accountability and the continuity of implementation.

The collaborative governance framework of Ansell and Gash (2008) explains how cooperation between government and non-government actors is shaped by institutional design, leadership, participation, trust, and dialogue. Applied to SH rehabilitation, this framework helps assess whether the roles of government, facilitators, community organisations, and beneficiary households complement one another. The presence of multiple actors does not, however, demonstrate effective collaboration; such an assessment requires evidence concerning decision-making and field implementation.

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2.2 Adequate housing and sustainable urban development

Adequate housing is understood to encompass the physical condition, safety, healthfulness, and access to basic services associated with a dwelling. SH rehabilitation is one instrument for improving these conditions, yet structural repairs do not automatically imply improvements in drinking-water access, sanitation, or environmental resilience. Therefore, the programme's relationship with SDG 11, particularly Targets 11.1 and 11.3, must be interpreted proportionately: the number of rehabilitated units represents a programme output, while changes in living conditions and SDG indicators are outcomes requiring separate measurement (United Nations, 2015; United Nations Statistics Division, n.d.).

2.3 Previous research, research gaps, and the study's contribution

The following comparison distinguishes the contribution of each cited study from the specific questions addressed here. References whose bibliographic information remains incomplete are treated as preliminary context rather than a basis for detailed empirical claims. Theoretical works are compared as explanatory frameworks, while empirical studies are considered in terms of their setting, focus, and explanatory limits.

Table 1. Previous Research: Focus, Contributions, And Relevance

Study	Focus/contribution	Limits of relevance
Ansell & Gash (2008)	Collaboration model, institutional design, participation, and trust.	Does not assess SH programme accountability in Mataram.
Provan & Kenis (2008)	Network governance modes and conditions for effectiveness.	Cross-sectoral conceptual model, not specific to housing finance.
Emerson et al. (2012)	Collaborative dynamics, joint action, and cross-boundary adaptation.	Does not provide local SH administrative indicators.
Das (2015)	Community-managed microfinance for settlement upgrading in Indonesia.	Different financing instrument from APBN/APBD/BSPS housing schemes.
Hasanawi et al. (2019)	Community governance and combined central–local approaches to settlement upgrading.	Focuses on slum upgrading, not reconciliation of municipal housing-unit records.
Salmah et al. (2024); Syaputra et al. (2021)	Housing demand and social rehabilitation of substandard housing.	Detailed findings have not been compared because full texts and metadata require verification.

Table 2. Operational Analytical Framework

Dimension	Focus of investigation
Institutional arrangements	Division of duties, central–local coordination, and community roles
Financing	Funding sources, targets, expenditure realisation, and adequacy of allocations
Targeting accuracy	SH database, updates, and selection mechanisms
Participation	Role of LPM, facilitators, and beneficiaries
Sustainability	Post-rehabilitation quality, sanitation, and environmental risks

3. RESEARCH METHODS

3.1 Study design, location, and period

The study adopts a qualitative case-study approach to SH rehabilitation in Mataram City. Primary data collection was planned through focus group discussions (FGDs), in-depth interviews, and field observations; secondary data were drawn from agency documents and municipal statistics. The rehabilitation activity records cover 2021–2025. Primary and secondary data collection took place over four months, from April to July 2025.

3.2 Informants and data collection techniques

Stakeholders covered by the study include representatives of Mataram City Government, Community Empowerment Institutions (Lembaga Pemberdayaan Masyarakat, LPM), facilitators, city forums, and community leaders. In-depth interviews are reported with community leaders, LPM representatives, facilitators, and government officials. There were ten informants: two from the Mataram Housing and Settlement Agency (Disperkim), namely the agency head (DPK-1) and the head of the housing division (DPK-2); two LPM representatives (LPM-1 and LPM-2); two city-forum representatives (FK-1 and FK-2); two community leaders (TM-1 and TM-2); and two representatives from urban villages where SH is located (KL-1 and KL-2).

3.3 Data analysis and trustworthiness

Data were analysed using the interactive model of Miles, Huberman, and Saldaña (2014), involving data condensation and organisation, data display, and drawing and verifying conclusions. The analysis should be documented through transcript summaries, initial codes, institutional and financing categories, and a matrix of relationships among themes. Interview evidence should be compared with budget documents and implementation records to assess consistency.

4. RESULTS AND DISCUSSION

4.1 Urban context and rehabilitation needs

As the capital of West Nusa Tenggara Province, Mataram plays a strategic role as a centre of administration, commerce, public services, and regional economic activity. The development of these urban functions increases demand for adequate housing, settlement infrastructure, and basic services. According to the territorial data used in this study, Mataram covers approximately 61.30 km² and is administratively divided into six districts and 50 urban villages. Its population was recorded as 445,010 in 2024, with an average density of approximately 7,261 people per km². This population

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density underscores the importance of efficient urban land management, especially to secure access to adequate, healthy, safe, and sustainable living environments.

From an urban development perspective, population growth and concentrated economic activity can place pressure on land availability, housing affordability, and settlement quality. Such pressure may be particularly severe for low-income households with limited resources to build, repair, and maintain their homes. Accordingly, substandard housing should be understood not merely as a problem of physical structures but also as a socioeconomic issue associated with unequal access to urban development resources. UN-Habitat (2022) stresses that inclusive and sustainable urban development requires attention to housing affordability, basic infrastructure, and the protection of vulnerable groups.

Conceptually, rehabilitation needs reflect a gap between adequate housing standards and the ability of some households to meet them. This gap has an important economic dimension because housing quality contributes to household welfare and human-capital formation. Inadequate dwellings may increase health risks, reduce comfort and safety, and impose additional costs for building repairs and the consequences of poor living environments. SH rehabilitation can therefore be viewed as a form of social investment with potential long-term economic benefits rather than merely a physical repair grant.

From an institutional economics perspective, the presence of approximately 1,500 substandard houses points to a need for public intervention that cannot necessarily be met through markets or individual household financing alone. Limited income, restricted access to finance, uncertainty over land tenure, and inadequate information about assistance schemes may constrain households' ability to improve their dwellings. Under North's (1990) institutional framework, institutions shape the rules, incentives, and interactions of economic actors. The effectiveness of SH interventions therefore depends not only on the funding available but also on the institutional arrangements governing enumeration, beneficiary selection, resource mobilisation, and programme implementation.

Rehabilitation needs should also be considered from a collaborative governance perspective. SH rehabilitation is a development challenge requiring the involvement of central and local governments, urban-village administrations, community organisations, and beneficiary households. Ansell and Gash (2008) describe collaborative governance as the engagement of stakeholders in joint decision-making to address public problems. In Mataram, this framework can be used to examine how rehabilitation-needs data are translated into policy priorities, how financing is mobilised, and how implementation responsibilities are allocated. Nevertheless, the presence of multiple programme actors does not itself establish that collaborative governance functions effectively.

The need for SH rehabilitation in Mataram is also directly relevant to Sustainable Development Goal 11, which concerns inclusive, safe, resilient, and sustainable cities and human settlements. Target 11.1 calls for access to adequate, safe, and affordable housing and basic services, while Target 11.3 promotes participatory and integrated urban management (United Nations, 2015). SH rehabilitation can accordingly serve as one policy instrument supporting sustainable urban development. Its actual contribution to the SDGs, however, must be assessed using measurable outcomes, such as changes in housing adequacy and access to basic services following rehabilitation, rather than solely the number of beneficiary houses.

4.2 Rehabilitation activities, 2021–2025

The SH rehabilitation programme in Mataram exhibited a fluctuating pattern between 2021 and 2025, both in the number of houses recorded as assisted and in the documented funding sources. Housing rehabilitation is a form of public intervention intended to improve housing quality for low-income communities, reduce settlement vulnerability, and support inclusive urban development. From a regional development perspective, such interventions involve not only physical repairs but also the distribution of development benefits, improved welfare, and strengthened institutional capacity in public service delivery.

According to the rehabilitation records presented in the study, 266 housing units were listed in the SH rehabilitation series over 2021–2025. The annual distribution is presented in Table 3.

Table 3. SH Rehabilitation Units And Programme/Funding Sources, 2021–2025

Year	SH units rehabilitated	Year-on-year change (%)	Programme / funding source
2021	85	—	Central Government and Mataram City Government
2022	53	−37.65	Central Government and Mataram City Government
2023	75	+41.51	APBN and APBD
2024	26	−65.33	APBN and APBD
2025	27	+3.85	APBD and the ministry responsible for housing
Total	266	—	Total recorded in the 2021–2025 activity series

Source: Mataram City SH rehabilitation activity documents, 2021–2025, as reproduced in the source manuscript; authors' calculations. Year-on-year changes are calculated from the preceding year's units.

Table 3 shows that rehabilitation activities did not increase consistently. In 2021, 85 housing units were recorded as rehabilitated, the highest figure in the observation period. The number fell to 53 in 2022, a decrease of approximately 37.65%. It then rose to 75 units in 2023, an increase of 41.51% over the preceding year. In 2024, however, activities declined sharply to 26 units, a decrease of 65.33%, before increasing slightly to 27 units in 2025.

Across the five years, the series recorded an average of 53.2 rehabilitated units per year. The figures vary substantially between years. This variation may reflect changes in programme activity or the scope of administrative recording. It cannot, however, be directly attributed to changes in budget allocations, inter-agency coordination, or implementation capacity, because information on these potential explanations is neither sufficiently complete nor comparable across the period.

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From a development-planning perspective, uneven annual rehabilitation figures warrant attention because adequate housing provision requires continuity of interventions over the medium and long term. Such variation may complicate projections of the time needed to address rehabilitation requirements, particularly when annual targets are not based on updated SH inventories and financing forecasts. The number of houses assisted annually should therefore be assessed alongside programme targets, budget disbursements, completion status, and post-rehabilitation quality.

When considered alongside the Mataram Housing and Settlement Agency enumeration for 2023–2024, which identified approximately 1,500 SH units in 27 urban villages, the 2021–2025 activity series highlights the importance of extending intervention coverage. Nevertheless, the 266 units cannot be divided by the 1,500-unit inventory to calculate a programme success rate, because the two figures relate to different periods and data scopes. Houses rehabilitated before the enumeration may no longer have been included in the 2023–2024 inventory. Moreover, the annual activity table may not include every rehabilitation programme delivered under different financing schemes.

From an institutional economics perspective, fluctuations in the series make it important to examine relationships among budgetary rules, decision-making, and inter-actor coordination. North (1990) argues that institutions shape the incentives and rules governing economic interactions. In SH programmes, institutional quality may affect beneficiary prioritisation, coordination across funding sources, procurement of materials, implementation oversight, and programme reporting. Annual variation therefore provides a starting point for investigating the institutional mechanisms underlying resource allocation and use, even though descriptive records cannot establish the separate effects of these mechanisms.

Within a collaborative governance framework, SH rehabilitation involves several levels of government and may require support from non-government actors. The recorded funding sources show the participation of central and local government budgets. This diversity could extend the programme's capacity but also requires aligned priorities, clearly assigned responsibilities, and integrated reporting. Ansell and Gash (2008) argue that collaborative governance depends on stakeholder interaction, trust-building, shared commitment, and a common understanding of objectives.

In terms of sustainable financing, the various recorded funding sources suggest that rehabilitation does not depend solely on one financing institution. Intergovernmental funding may support programme continuity, particularly where municipal fiscal capacity is constrained. Financing sustainability, however, is not established merely by the number of funding sources. It also requires predictable allocations, correspondence between resources and needs, cost efficiency, and consistent implementation over time.

The evolution of SH rehabilitation in Mataram between 2021 and 2025 also raises questions about the relationship between physical outputs and programme effectiveness. A larger number of rehabilitated houses does not necessarily imply greater financing efficiency without information about expenditures, the severity of building damage, and post-rehabilitation quality standards. Conversely, fewer assisted units do not necessarily indicate poorer performance, because the scale or type of work may differ. Evaluation thus requires indicators more comprehensive than unit counts alone.

From an urban sustainability perspective, SH rehabilitation contributes to efforts to improve settlement environments and widen access to housing that meets adequacy standards. This is consistent with SDG 11, particularly Target 11.1 on adequate, safe, and affordable housing. The programme's contribution would be more meaningful if building improvements were accompanied by structural safety, sanitation, ventilation, clean-water access, and better settlement conditions.

Critically, the 2021–2025 series suggests that SH challenges in Mataram concern not only the number of houses requiring repairs but also implementation continuity and the consistency of reporting. From an institutional economics perspective, these issues highlight the importance of coordinating needs assessment, financing allocations, programme delivery, and outcome evaluation. A stronger cross-programme information system would support decisions based on actual needs and verifiable interventions.

In summary, rehabilitation activities over the five-year period reflect government efforts to improve housing conditions. The records provide a basis for developing a collaborative governance model centred on integrated beneficiary data, inter-agency coordination, continuity of financing, and quality assurance. Such an approach is needed if rehabilitation is to produce not only repaired dwellings but also measurable improvements in housing adequacy and more inclusive and sustainable urban development in Mataram.

4.3 Financing and resource governance

Financing is fundamental to the sustainability of SH rehabilitation, particularly in urban areas facing fiscal constraints and substantial housing needs among low-income households. In Mataram, rehabilitation draws on multiple financing sources, including central government funding through the State Budget (APBN), local government funding through the Regional Budget (APBD), and potential support from social institutions and community participation. The diversity of resources indicates that the housing challenge cannot be assigned to a single institution; it requires cross-sectoral resource governance that is coordinated, transparent, and accountable.

According to the study documents, financing arrangements during 2021–2025 involved different levels of government. For 2021 and 2022, sources were recorded as the central government and the Mataram City Government. For 2023 and 2024, the labels were APBN and APBD; for 2025, APBD and the ministry responsible for housing were listed. These variations indicate cross-institutional public-resource arrangements. However, 'central government' and APBN, as well as 'local government' and APBD, may refer to the same underlying fiscal sources.

Different financing schemes provide opportunities for Mataram to extend rehabilitation coverage. In development economics, financing low-income housing differs from commercial housing finance because beneficiaries often have limited capacity to pay. Government intervention is therefore an important means of reducing unequal access to adequate housing. Nevertheless, a diversity of financing schemes does not automatically improve programme effectiveness without integrated planning, clear responsibilities, and needs-based targeting.

Under collaborative governance, central and local government involvement alongside community actors creates opportunities to

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combine financial resources, local knowledge, and implementation capacity. Ansell and Gash (2008) describe collaborative governance as stakeholder interaction based on dialogue, trust, shared commitment, and a common understanding of public objectives. Emerson, Nabatchi, and Balogh (2012) similarly emphasise principled engagement, shared motivation, and capacity for joint action. Both perspectives suggest that effective resource governance depends not merely on how many actors participate, but on the quality of their relationships and collective decisions.

In Mataram, the presence of multiple financing sources may be interpreted as a potential basis for cross-institutional collaboration. Yet administrative evidence is insufficient to establish that all sources are managed through an integrated collaborative mechanism. Available information does not adequately document the division of authority, joint decisions, integration of beneficiary databases, or inter-agency evaluation. Multi-source financing should therefore be treated as a feature of programme arrangements whose coordination effectiveness requires further empirical examination.

Overall, SH rehabilitation financing in Mataram includes different public-resource schemes. Multi-source funding alone, however, does not demonstrate either effective collaborative governance or fiscal sustainability. Limited information about budget realisation, per-unit costs, institutional responsibilities, and consistent output records points to the need for integrated data governance and inter-agency coordination. The study's contribution is to connect financing structures, institutional quality, collaborative mechanisms, and resource accountability as prerequisites for more effective, inclusive, and sustainable rehabilitation.

4.4 Institutions, participation, and targeting accuracy

Institutions, community participation, and beneficiary targeting are interdependent dimensions of SH rehabilitation governance. Beyond funding and technical construction capacity, rehabilitation requires institutional arrangements that coordinate stakeholders, enable inclusive participation, and direct assistance towards households most in need. In sustainable urban development, programme quality is determined not simply by the number of houses improved, but also by distributive fairness, transparent decisions, and durable improvements in housing for low-income households.

The study documents identify various institutional actors associated with SH rehabilitation in Mataram, including local government, Community Self-Reliance Bodies (BKM), Community Empowerment Institutions (LPM), field facilitators, city forums, private-sector representatives, and community leaders. These groups appear in the context of information collection and the housing-policy arena. Their presence indicates an institutional dimension extending beyond one organisation; however, the material does not fully specify their actual responsibilities, authority over beneficiary selection, or the decisions made jointly.

From an institutional economics standpoint, programme performance depends on the formal and informal rules governing relationships among actors. North (1990) distinguishes institutions as the rules structuring social and economic interaction from the organisations operating within those rules. Formal arrangements for SH rehabilitation may include eligibility requirements, budgetary procedures, technical assessments of housing adequacy, and accountability mechanisms. Informal arrangements can include mutual-aid norms, social relationships, and community deliberation. Their interaction may influence whether available resources are used effectively and distributed fairly.

Ansell and Gash (2008) argue that collaborative governance involves direct stakeholder engagement, dialogue, trust-building, shared commitment, and collective understanding of policy objectives. Their framework is relevant to relationships between municipal authorities and community institutions in Mataram's SH programmes. The involvement of diverse actors may enable administrative knowledge held by government to be combined with contextual knowledge held by local communities.

Institutional strengthening and community participation are also relevant to sustainable development, particularly SDG Target 11.3 on participatory, integrated, and sustainable settlement planning and management. Accurate targeting relates to Target 11.1 on adequate, safe, and affordable housing. Together, these targets suggest that sustainable housing development requires more than physical interventions; it also depends on inclusive, transparent decision-making oriented towards vulnerable populations.

Taken together, the analysis of institutions, participation, and beneficiary targeting indicates the need to align government administrative capacity, local community knowledge, and accountable decisions in Mataram's SH programme. Multiple actors create opportunities for collaborative governance, but its effectiveness still requires evidence about roles, participatory practices, and selection processes. Governance strengthening should therefore focus on integrated beneficiary data, evidence-based verification of housing needs, meaningful participation, and cross-actor evaluation mechanisms. These measures may improve the equity of assistance and the sustainability of housing and settlement improvements.

4.5 SH rehabilitation and the SDG 11 agenda

SH rehabilitation is one policy instrument relevant to Sustainable Development Goal 11 on inclusive, safe, resilient, and sustainable cities and human settlements. Under the 2030 Agenda, Target 11.1 seeks access for all to adequate, safe, and affordable housing and basic services; Target 11.3 calls for stronger participatory, integrated, and sustainable settlement planning and management (United Nations, 2015). Both targets indicate that housing development is concerned not merely with physical dwellings, but also environmental quality, basic services, the equitable distribution of development benefits, and institutional capacity in urban governance.

SH rehabilitation is strategically relevant in Mataram because the need to upgrade housing persists in parts of the city. The study documents report an enumeration in 2023–2024 identifying approximately 1,500 SH units across 50 urban villages. Meanwhile, the 2021–2025 activity series records 266 houses addressed through government financing sources. These figures demonstrate recorded interventions but also indicate the continued policy relevance of housing rehabilitation.

From a sustainable development perspective, substandard housing is a multidimensional issue encompassing building conditions, household economic capacity, access to basic services, and settlement quality. Housing that fails to meet adequacy standards can increase residents' vulnerability to health and safety risks and diminish well-being. SH rehabilitation may therefore be understood as a social investment that can improve household welfare and urban environmental quality. UN-Habitat (2022)

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stresses the importance of addressing housing standards, urban inequalities, and resilience to social, economic, and environmental pressures.

The link between SH rehabilitation and SDG Target 11.1 primarily concerns improved access to adequate housing. Global indicator 11.1.1 measures the proportion of the urban population living in slums, informal settlements, or inadequate housing. Accordingly, the number of houses repaired is a programme output, whereas changes in housing conditions and in the population living in inadequate settlements constitute outcomes that must be measured separately.

Compared with earlier work cited in the manuscript, Syaputra et al. (2021) address social rehabilitation of substandard housing within poverty alleviation, whereas Salmah et al. (2024) examine economic determinants of housing demand in Mataram. The present study considers these perspectives within a wider framework connecting rehabilitation needs, multiple financing sources, institutional arrangements, participatory governance, and SDG 11.

An important contribution of this study is the proposed view that progress towards SDG 11 through SH rehabilitation should be evaluated across three interconnected components: the availability and continuity of financing; collaborative governance capacity; and changes in the quality of residents' housing. Financing provides resources, governance shapes their allocation and use, and improved housing represents an intended development outcome. Programme evaluation should therefore consider targeting accuracy, workmanship, and post-rehabilitation housing quality alongside the number of units repaired.

Overall, SH rehabilitation in Mataram is closely aligned with SDG 11, particularly Target 11.1 on adequate housing and Target 11.3 on participatory, integrated settlement management. Strengthening collaborative governance, financing continuity, targeting, and assessments of housing quality should therefore be central to rehabilitation strategy. Such measures could help shift housing policy from short-term physical assistance towards a more inclusive, accountable, resilient, and sustainable system for improving settlements.

4.6 Discussion: contributions and analytical limitations

The analysis of SH rehabilitation in Mataram shows that efforts to improve urban housing cannot be understood solely by counting houses requiring repairs or units already rehabilitated. The issues also concern household needs, financing capacity, institutional arrangements, stakeholder coordination, and beneficiary selection. The documentary analysis refers to approximately 1,500 SH units identified over 2021–2025 and 266 recorded rehabilitations during 2021–2025. These figures underscore the relevance of sustained, integrated, and planned intervention.

Unlike approaches focusing solely on housing need or market development, an economic-governance perspective directs attention to how housing units and public resources are administered across organisations. The Mataram documents highlight the importance of consistent definitions of implementation status, integrated databases, and programme transparency for credible assessment. These conclusions are analytical implications of the recorded information, not causal evidence that weaknesses in coordination directly explain programme coverage.

From the perspective of collaborative governance, collaborative capacity depends not simply on the involvement of multiple institutions but also on process design, division of responsibilities, and commitment to shared objectives (Ansell & Gash, 2008). Further thematic analysis of interview material is needed to distinguish financing constraints, beneficiary selection, administrative processes, construction quality, and citizen participation.

4.7 Critical comparison of findings and theoretical implications

First, the study is consistent with Ansell and Gash (2008) and Emerson et al. (2012) in treating cross-actor interaction as a process assessed through rules and practices. Second, Provan and Kenis (2008) distinguish different modes of network governance. Third, unlike an assumption that increased participation or more diverse funding inevitably enhances sustainability, the studies by Das (2015) and Hasanawi et al. (2019) invite attention to the continuity of fiscal commitments, unit costs, and post-rehabilitation outcomes.

Fourth, in contrast to earlier work on housing needs and demand and on social housing rehabilitation cited in the original manuscript (Salmah et al., 2024; Syaputra et al., 2021), this study focuses on a traceability gap in public policy: an SH stock estimate for 2023–2024, an activity series for 2021–2025, and another programme table for 2025. The comparison supports a limited but logically grounded argument: administrative data quality is a prerequisite for evaluating governance and progress toward SDG 11, not proof of what causes higher or lower programme implementation.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study shows that SH rehabilitation remains an important dimension of settlement development in Mataram. According to the documents, approximately 1,500 substandard units were identified during 2021–2025, while 266 units were recorded as rehabilitated over 2021–2025. Financing involved central and local government resources as well as self-help housing schemes, underscoring the importance of cross-actor resource governance. From an economic-governance perspective, the principal priorities supported by the available evidence are consistent programme data, transparent reporting of targets and actual implementation, and assessable coordination and participation mechanisms. The programme is strongly relevant to SDG 11 at the level of policy objectives. Analytically, gaps between needs data, budget records, and activity reporting highlight the need to reconcile administrative information and clarify coordination responsibilities. The study's novelty lies in an integrative framework that simultaneously considers actor governance, financing traceability, and readiness to measure SDG 11 outcomes.

5.2 Policy recommendations

The Mataram City Government and programme implementing agencies should develop an integrated SH database incorporating verified unit identifiers, urban-village location, prioritisation criteria, financing schemes, work status, and post-rehabilitation monitoring results. Periodic reporting should distinguish targets, works in progress, and completed and inspected units. Coordination meetings and community involvement should focus

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on accountable prioritisation, updated beneficiary information, and citizen grievance mechanisms. Subject to transparent needs mapping, funding should be directed towards neighbourhoods combining poor housing conditions, environmental exposure, and inadequate access to basic services.

5.3 Limitations and future research

The study is constrained by secondary datasets drawn from programme series and financing arrangements that cannot yet be fully reconciled, as well as incomplete documentation of informant accounts, interview quotations, and post-rehabilitation outcome indicators. Future studies should combine audits of administrative records, documented multi-stakeholder interviews, and household-level outcome evaluations.

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DOI: 10.5281/zenodo.24274563