

Applying the Concept of Adaptive Reuse in Changing the Function of *UPT SMP Negeri 30 Gresik* School Building into Elderly Service Facilities

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ABSTRACT

The increasing elderly population in Gresik Regency has created a growing demand for adequate elderly care facilities. On the other hand, the former UPT public junior high school 30 Gresik building is an underutilized public asset with the potential for functional transformation. This study aims to analyze the implementation of the adaptive reuse concept in converting the former UPT public junior high school 30 Gresik building into an elderly care facility. A qualitative descriptive method with a case study approach was employed through field observations, documentation, and literature review. The results indicate that the building has significant potential for reuse through the preservation of its existing structure, spatial function transformation, and improved accessibility to meet the needs of elderly users. The implementation of adaptive reuse offers a sustainable alternative for optimizing public assets while supporting the development of elderly care facilities in Gresik Regency.

Keywords: Adaptive Reuse, Building Conversion, Elderly Care Facility, Public Assets.

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INTRODUCTION

Indonesia is experiencing a significant increase in its elderly population, which is projected to reach 20% of the total population by 2045 (Badan Pusat Statistik [BPS], 2025). This demographic shift creates an urgent need for adequate elderly care facilities that support health, social interaction, and independent living (WHO, 2021). In Gresik Regency, the growing elderly population is not matched by the availability of sufficient care facilities, resulting in a gap between service demand and existing infrastructure (BPS Kabupaten Gresik, 2025).

Simultaneously, many public buildings are underutilized due to changing social and educational needs. Adaptive reuse has emerged as a sustainable strategy to transform existing buildings into new functions while preserving their structural and social values (Bullen & Love, 2011). Previous studies have shown that adaptive reuse reduces environmental impacts, extends building life cycles, and improves resource efficiency

compared to new construction (Wang & Zuo, 2021; Cerreta et al., 2022). Research by Staehr et al. (2026) further indicates that former school buildings have strong potential for conversion into elderly-oriented facilities due to their spatial flexibility and accessible layouts.

Despite extensive studies on adaptive reuse and elderly facility design, limited research has integrated adaptive reuse, Aging in Community, and Healing Environment principles within the transformation of former educational buildings into elderly care facilities, particularly in the Indonesian context (Kim & Lee, 2025; Liu et al., 2026). This gap highlights the need for research that combines sustainable building reuse with elderly-centered design approaches.

Therefore, this study aims to examine the potential adaptive reuse of the former UPT SMP Negeri 30 Gresik as an elderly care facility. Specifically, the research seeks to identify suitable adaptive reuse strategies and develop design recommendations based on the concepts of Aging in Community and Healing Environment.

This research contributes to the advancement of adaptive reuse studies by integrating elderly-centered design principles into the reuse of public assets. Furthermore, it provides practical recommendations for policymakers and designers in optimizing underutilized public buildings to address the increasing demand for elderly care services while promoting sustainability and social well-being.

METHOD

This study employed a qualitative research method with a descriptive approach. The descriptive approach was selected because it enables researchers to systematically describe and interpret research objects based on their actual conditions in the field. Qualitative research is particularly suitable for exploring complex phenomena within their real-life context and for generating an in-depth understanding of the relationships between physical, social, and functional aspects of the studied environment (Creswell & Poth, 2018). Through this approach, the study seeks to comprehensively examine the potential application of adaptive reuse to the former UPT SMP Negeri 30 Gresik building as an elderly care facility based on the principles of Aging in Community and the Healing Environment approach. A case study strategy was adopted as it is considered effective for investigating contemporary phenomena within their real-world settings, particularly when the boundaries between the phenomenon and its context are not clearly evident (Yin, 2018).

The research was conducted at the former UPT SMP Negeri 30 Gresik, located in Gresik Regency, East Java, Indonesia. The research object comprises the existing building, its spatial organization, accessibility, utility systems, and surrounding environment that may support the development of elderly care services. This site was selected due to its potential for the sustainable reuse of underutilized public assets through adaptive reuse strategies. Previous studies have demonstrated that adaptive reuse contributes significantly to environmental sustainability, resource efficiency, cultural preservation, and social value creation by extending the lifecycle of existing buildings while accommodating new functions (Cerreta et al., 2022; Kim & Lee, 2025).

The collected data were analyzed using a descriptive qualitative analysis technique. The analysis began with an assessment of the building's existing conditions based on field observations and documentation. Subsequently, an analysis of elderly users' spatial and facility requirements was conducted by referring to relevant standards, regulations, and scholarly literature. The study then evaluated the applicability of adaptive reuse principles to determine the suitability of the building for its proposed new function, considering aspects such as functionality, accessibility, sustainability, and social benefits. Finally, the findings were synthesized into design recommendations for an elderly care facility that integrates the Aging in Community concept, which emphasizes older adults' ability to remain actively engaged, independent, and socially connected within their communities (Wiles et al., 2012). The Healing Environment approach was incorporated as a design strategy to enhance physical, psychological, and emotional well-being through the integration of natural elements, adequate lighting, environmental comfort, and opportunities for social interaction (Ulrich et al., 2008; Shepley & Pasha, 2017).

FINDING AND DISCUSSION

RESEARCH RESULT

Demographic Profile of the Elderly Population in Gresik Regency

Data from the Central Statistics Agency (BPS) indicate a continuous increase in the elderly population in Gresik Regency. In 2021, the elderly population accounted for approximately 12.0% of the total population, increasing to 12.3% in 2024, equivalent to approximately 161,130 individuals (BPS Kabupaten Gresik, 2022; 2024).

Table 1. Elderly Population in Gresik Regency

Year	Elderly Population (%)	Estimated Number of Elderly
2021	12.0	154,000
2024	12.3	161,130

Source: BPS Kabupaten Gresik (2022; 2024)

Existing elderly services in Gresik Regency include nursing homes, elderly health posts (*Posyandu Lansia*), elderly-friendly public health centers, and social assistance programs. The available nursing home capacity is approximately 250 residents.

Table 2. Existing Elderly Care Services in Gresik Regency

Service Type	Availability
Nursing Homes	Available
Elderly Health Posts	Available
Elderly-Friendly Health Centers	Available
Social Assistance Programs	Available
Nursing Home Capacity	±250 residents

Source: Gresik Social Affairs Office (2024)

Physical and Technical Profile of the Former UPT SMP Negeri 30 Gresik

The research object is the former UPT SMP Negeri 30 Gresik building located in Mriyunan Village, Sidayu District, Gresik Regency. The site is owned by the Gresik Regency Government and is currently utilized as a community educational facility.

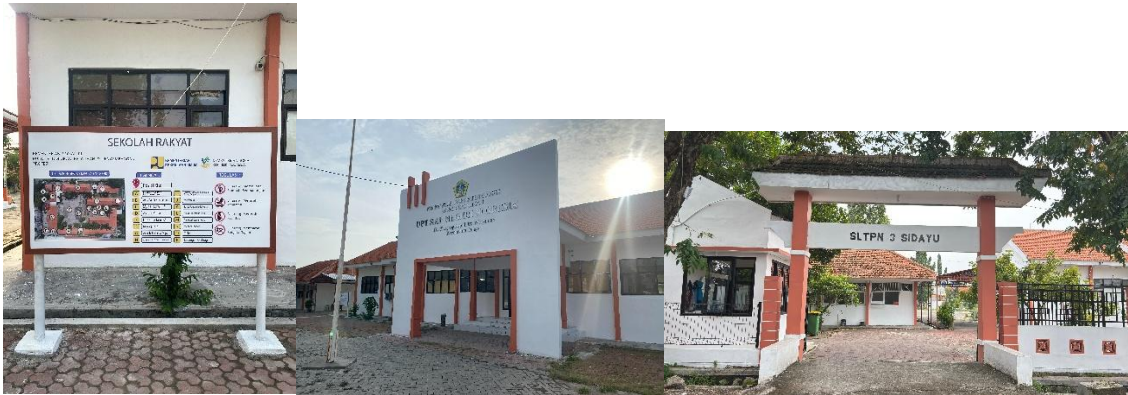


Figure 1: Existing Site Plan and Building Documentation

Source: public relations SRMA 37 Gresik

Table 3. Technical Profile of the Building

Component	Description
Location	Mriyunan Village, Sidayu District, Gresik Regency
Land Status	Gresik Regency Government Asset
Site Area	± 4,150 m ²
Building Area	± 1,468 m ²
Number of Classrooms	±30 rooms
Supporting Facilities	Library, 2 Science Laboratories, 5 Computer Laboratories, Administration Office, Multipurpose Hall, School Clinic
Structural System	Reinforced concrete frame
Wall Material	Brick masonry with plaster finish
Roof Type	Gable roof with clay tiles
Accessibility Facilities	Stairs only
Current Function	Community educational facility

Source: Field Observation (2026)

Spatial Compatibility Assessment

An assessment was conducted to identify the compatibility between existing school spaces and the required functions of an elderly care facility.

Table 4. Spatial Compatibility Matrix

Existing Space	School Component	Compatibility Level
Classroom	Bedroom, Therapy Room, Activity Room	High
Corridor	ComponentMain Circulation and Social Interaction Area	High
Toilet	Accessible Toilet	Moderate
Hall	Dining Area and Communal Activities	High
Teacher Office	Administration and Consultation Room	High
Outdoor Area	Therapeutic Garden and Outdoor Activities	High

Source: Research Analysis (2026)

Adaptive Reuse Intervention Typology

The existing building was assessed based on the adaptive reuse intervention typology proposed by Brooker and Stone.

Table 5. Adaptive Reuse Intervention Typology

Typology	Proposed Application	Technical Description
Intervention	Classroom reconfiguration and bathroom integration	Major internal modifications
Insertion	Installation of prefabricated bathroom modules	Addition without altering primary structure
Installation	Placement of modular furniture and smart-care systems	Independent building elements

Source: Research Analysis based on Brooker and Stone (2004)

DISCUSSION

The findings indicate that the former UPT SMP Negeri 30 Gresik has considerable potential to be transformed into an elderly care facility through an adaptive reuse approach. The increasing number of elderly residents in Gresik Regency, coupled with the limited capacity of existing elderly care services, demonstrates the need for additional facilities that can support the physical, social, and psychological well-being of older adults. The existing building possesses several characteristics that support this transformation, including flexible classroom layouts, supporting facilities, open spaces, and a reinforced concrete structural system. However, several modifications are necessary, particularly the provision of ramps, handrails, accessible toilets, and other age-friendly facilities to ensure compliance with accessibility standards for elderly users.

These findings are consistent with previous studies that emphasize adaptive reuse as a sustainable strategy for extending building life cycles while reducing the environmental and economic impacts associated with demolition and new construction (Bullen & Love,

2011; Wang & Zuo, 2021). The spatial compatibility identified in this study also supports the findings of Staehr et al. (2026), who concluded that former educational buildings are highly adaptable due to their modular layouts and spacious circulation systems. Furthermore, the proposed application of Aging in Community and Healing Environment principles aligns with the work of Wiles et al. (2012) and Ulrich et al. (2008), who highlighted the importance of social connectivity, independence, environmental comfort, and access to nature in improving the quality of life of older adults.

Despite these promising findings, several limitations should be acknowledged. This research focuses on a single case study, namely the former UPT SMP Negeri 30 Gresik, which may limit the broader applicability of the results. In addition, the analysis is primarily based on field observations, documentation, and literature review without direct involvement of elderly users, caregivers, or other stakeholders. The study also does not include detailed structural feasibility assessments, economic analyses, or building performance simulations, which are important considerations for future implementation.

Nevertheless, this study provides valuable implications for both practice and future research. From a practical perspective, the findings demonstrate that underutilized public buildings can be optimized as elderly care facilities through adaptive reuse, offering a sustainable alternative to new construction while maximizing the value of existing public assets. From a research perspective, future studies should incorporate stakeholder participation, detailed structural and financial evaluations, and comparative analyses of similar buildings to strengthen the applicability of adaptive reuse strategies. Further exploration of smart-care technologies and evidence-based healing environment design may also contribute to the development of more effective and user-centered elderly care facilities.

CONCLUSION

Conclusion

This study found that the increasing elderly population in Gresik Regency has created a growing demand for elderly care facilities, while existing services remain limited. The former UPT SMP Negeri 30 Gresik demonstrates strong potential for adaptive reuse due to its flexible spatial layout, supporting facilities, and structural suitability. The application of intervention, insertion, and installation strategies enables the building to be converted into an elderly care facility while supporting the principles of Aging in Community and Healing Environment. Therefore, adaptive reuse offers a sustainable solution for optimizing underutilized public assets and addressing the needs of the elderly population.

Recommendations

Local governments should consider adaptive reuse as an alternative strategy for developing elderly care facilities through the optimization of existing public buildings. Future studies are recommended to include structural feasibility assessments, economic evaluations, stakeholder participation, and the integration of smart-care technologies to support more effective and sustainable implementation.

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