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ADAPTIVE PROPERTY REUSE FOR SOCIAL HOUSING: BENEFITS, CHALLENGES, AND BEST PRACTICES

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Abstract. This study examines the adaptive reuse of properties for the development of social housing, focusing on the benefits, challenges, and best practices associated with this approach. Through a comprehensive literature review and analysis of case studies, the research investigates how adaptive reuse can address housing shortages while promoting sustainable urban development. The study identifies key economic, environmental, and social benefits of adaptive reuse in social housing, including cost savings, reduced environmental impact, and community revitalisation. It also explores the technical, financial, regulatory, and social challenges often arising in such projects. The research presents a detailed analysis of successful adaptive reuse case studies, highlighting effective strategies to overcome common obstacles. Based on these findings, the study proposes a set of best practices for planning, designing, and implementing adaptive reuse projects in social housing. The paper concludes with policy recommendations and suggestions for future research, highlighting the potential of adaptive reuse to contribute significantly to sustainable and inclusive urban housing solutions.

Keywords*: adaptive reuse, social housing, urban regeneration, sustainable development, property conversion, affordable housing, heritage preservation, community revitalization.*

INTRODUCTION

Adaptive property reuse has emerged as a compelling strategy in urban development, offering innovative solutions to the pressing challenges of housing shortages and urban decay (Bullen & Love, 2011; Mohamed et al., 2017; Langston et al., 2008). This approach, which involves repurposing existing buildings for new uses, has gained particular relevance in the context of social housing development. As cities grapple with the dual imperatives of providing affordable housing and promoting sustainable urban growth, adaptive reuse presents a unique opportunity to address both concerns simultaneously (Manewa et al., 2016; Plevoets & Cleempoel, 2019; Yung et al., 2014).

The concept of adaptive reuse is rooted in the principle of extending the lifecycle of existing structures through creative repurposing (Doshi & Devi, 2023; Bullen & Love, 2011). As defined by Bullen & Love (2011), adaptive reuse involves "any work to a building beyond maintenance to change its capacity, function, or performance." In the context of social housing, this often means transforming outdated or underutilized properties – such as old industrial buildings, vacant offices, or outdated public facilities, into residential units that meet the needs of low-income or vulnerable populations.

The relevance of adaptive reuse to the development of social housing is multifaceted. Firstly, it offers a potential solution to the scarcity of affordable housing in many urban areas (Remøy & Van Der Voordt, 2007; Barlow & Gann, 1995). By repurposing existing structures, developers can often create housing units at a lower cost than new construction, making it more feasible to provide affordable options. Second, adaptive reuse aligns with the principles of sustainable development by reducing the need for new construction, conserving resources, and minimising waste (Ahn et al., 2014). This approach can significantly reduce the environmental footprint of housing development projects.

Moreover, adaptive reuse can play a crucial role in urban regeneration efforts. By breathing new life into neglected or abandoned properties, these projects can catalyse broader neighbourhood revitalization, fostering community development and improving the quality of life for residents (Abdulameer & Abbas, 2020). Preserving historically or culturally significant buildings through adaptive reuse also contributes to the preservation of the unique character and heritage of urban areas.

In the context of Latvia and other European countries facing demographic changes and housing challenges, adaptive reuse offers a particularly promising avenue for addressing the housing needs of an ageing population (Barvika et al., 2018). As highlighted in the study, many countries are grappling with the need to provide suitable, affordable housing for older adults. Adaptive reuse projects can be tailored to create age-friendly living environments, often in central locations with good access to services and amenities.

This study aims to explore the benefits, challenges, and best practices associated with adaptive property reuse for social housing development. By examining case studies and synthesising findings from existing literature, the research seeks to provide information that can inform policymaking and guide future development projects. As cities continue to evolve and face new housing challenges, understanding the potential of adaptive reuse becomes increasingly critical to creating sustainable, inclusive urban environments.

1. RESEARCH METHODOLOGY

This study employs a mixed-method approach, combining a comprehensive review of the literature with case study analysis to explore the adaptive reuse of properties for the development of social housing. Research methodology is designed to provide a holistic understanding of the benefits, challenges, and best

practices associated with this approach, drawing on both theoretical perspectives and practical experiences.

The literature review process is the foundation of this study, which encompasses academic publications, policy documents, and industry reports on adaptive reuse and social housing. Key databases such as Scopus, Web of Science, and Google Scholar were utilised to identify relevant peer-reviewed articles, using search terms including “adaptive reuse,” “social housing", “property conversion,” and “urban regeneration.” In addition, reports from international organisations such as the World Health Organisation (WHO) and the European Union were consulted to provide context on global housing trends and policies. The literature review aims to synthesise current knowledge on the economic, environmental, and social aspects of adaptive reuse in social housing and identify gaps in existing research.

To complement the literature review, a case study analysis was conducted, focusing on 3–5 exemplary adaptive reuse projects for social housing. The case studies were selected based on criteria including project scale, innovative approaches to adaptive reuse, successful integration of elements of social housing and availability of comprehensive project documentation. Data for the case studies were collected through a combination of document analysis, including project reports, media coverage, and, where possible, interviews with key stakeholders involved in the projects. Case study analysis employs a structured framework to examine the context of each project, adaptive reuse strategies, challenges encountered, implemented solutions, and outcomes achieved. This approach allows for a detailed exploration of real-world applications of adaptive reuse in social housing, providing valuable information on practical challenges and effective strategies.

2. RESULTS AND DISCUSSION

The analysis of adaptive property reuse for the development of age-friendly social housing in Latvia reveals a complex interplay of social, economic, environmental and regulatory factors. This section discusses the findings of the literature review, case study analysis, and Latvian context, organized around key themes that emerged from the research.

2.1. Demographic Trends and Housing Needs

Latvia faces significant demographic challenges that directly impact its housing needs, particularly for the ageing population (Krišjāne et al., 2019; Balode et al., 2018). The country is experiencing a declining birth rate and an ageing population, with projections indicating a decrease from 1.9 million in 2022 to around 1 million by the end of the century (LSM.lv., 2023). This demographic shift is accompanied by a decline in the working-age population, from 67.2 % in 2012 to an expected 60.4 % by 2030 (Levin & Sinnott, 2015). These trends underscore the urgent need for age-friendly housing solutions that can meet the changing needs of Latvia's population.

The demographic changes in Latvia are further complicated by high emigration rates and an increasing number of immigrants and ethnic minorities. In Riga, more

than 50 % of the population consists of ethnic minorities, predominantly Russian-speaking (Krišjāne et al., 2019; Treija & Bratuškins, 2019). This diversity adds another layer of complexity to housing needs, requiring solutions that are not only age-friendly, but also culturally sensitive and inclusive.

2.2. Social Housing Landscape in Latvia

Latvia's social housing sector is characterised by a very small stock compared to other EU countries. As illustrated in Fig. 1, Latvia, along with Greece, has one of the lowest incidences of social housing in the EU, significantly below the EU average of 8.3 %. This limited stock is largely made up of large Soviet-era housing estates, which face challenges related to ageing infrastructure and the need for modernization (Treija & Bratuškins, 2019).

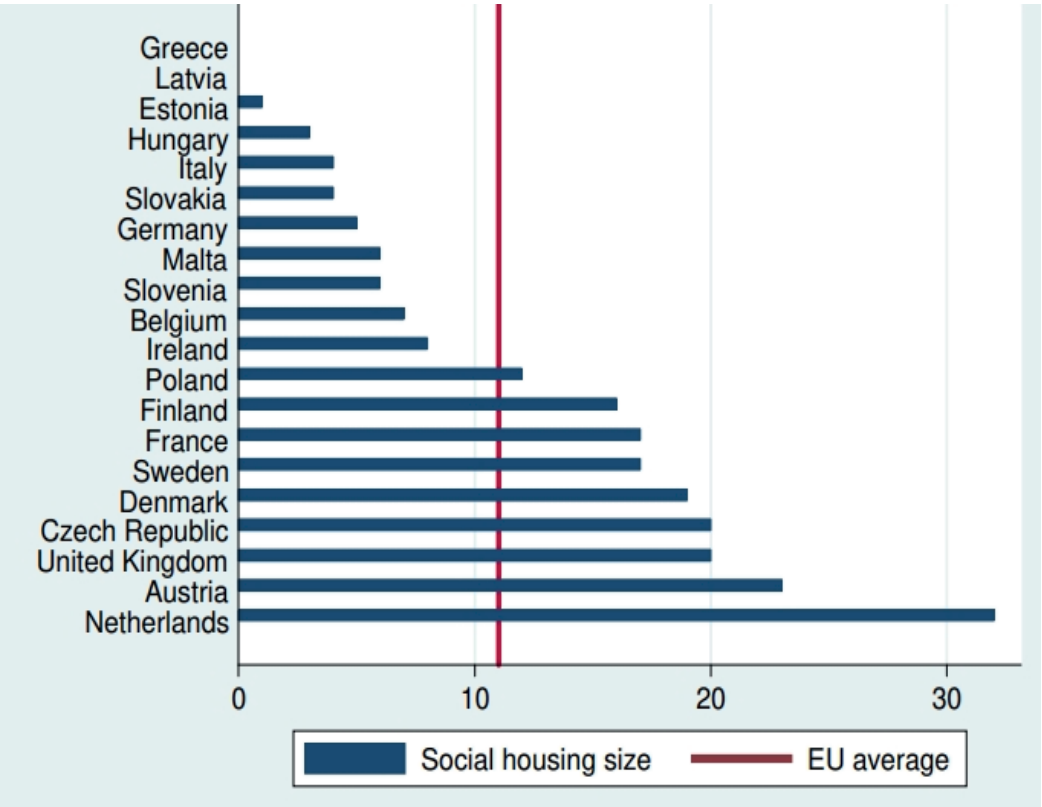

Fig. 1. Social housing share of Latvia compared to other EU member states (CECODHAS, 2012).

The post-independence privatisation of housing in Latvia has resulted in a high rate of homeownership but has left the social housing sector with limited stock, particularly in terms of quality and accessibility (Krišjāne et al., 2019; Rasnaca & Rezgale-Straidoma, 2019) identified significant disparities in housing quality between single senior households and the general population, with seniors more likely to live in housing lacking basic amenities.

2.3. Economic Factors and Feasibility

The economic viability of adaptive reuse projects for age-friendly social housing in Latvia is influenced by several factors. High upfront costs remain a significant barrier, often necessitating public-private partnerships to mitigate financial burdens (Smith et al., 2018). However, the potential cost-effectiveness of adaptive reuse compared to new construction, particularly when considering rising land and material costs, presents an opportunity (Langston, 2012).

In Latvia, specific government programmes offer subsidies to developers who incorporate age-friendly features in their projects (Lihtmaa, Hess & Leetmaa, 2018). This aligns with the findings of the European Union, where initiatives like the Affordable Housing Initiative aim to double renovation rates, improving both energy efficiency and quality of life for residents (Sengers & Peine, 2021; Eurostat, 2018).

The behavioural intentions of stakeholders, including developers, investors, and the ageing population themselves, play a crucial role in the economic feasibility of adaptive reuse projects. Wang et al. (2023) found that perceived effectiveness, cost perception, and subjective norms directly influence the behavioural intentions of older adults towards home modifications. This highlights the importance of not only financial incentives but also education and community support to promote adaptive reuse for age-friendly housing.

2.4. Environmental Sustainability and Building Performance

Adaptive reuse offers significant environmental benefits, aligning with the principles of sustainability and circular economy. Bullen and Love (2011) note that reusing existing buildings minimises the need for new construction materials, thus reducing the carbon footprint and resource consumption. This is particularly relevant in the Latvian context, where many Soviet-era buildings require substantial upgrades to meet modern energy efficiency standards.

Integrating sustainable practices in adaptive reuse projects not only reduces environmental impact but also enhances the long-term viability and affordability of housing projects (Treija & Bratuškins, 2019). Retrofitting existing buildings with energy-efficient technologies can significantly reduce energy consumption and operational costs, providing long-term economic benefits through reduced utility bills (Blanco, Ferrando & Ferri, 2020).

2.5. Social Impact and Community Integration

Adaptive reuse projects have shown significant potential for social impact and community revitalisation. In Latvia, where there is a high proportion of ethnic minorities in urban areas, adaptive reuse projects can play a crucial role in fostering social cohesion and integration. The preservation of the cultural and historical significance of buildings through adaptive reuse contributes to the community's identity and heritage (Gottfried, 2015).

Community involvement is crucial to the success of adaptive reuse projects for social housing. As highlighted by Buffel and Phillipson (2019), involving local communities in the planning process ensures that housing projects align with the

actual needs and preferences of residents. This participatory approach is particularly important in Latvia, given the diverse ethnic composition of its urban population.

2.6. Regulatory Framework and Policy Implications

The regulatory landscape for adaptive reuse projects in Latvia is complex, with zoning laws and building codes often ill-suited to these innovative approaches. However, there is growing recognition among policymakers of the potential of adaptive reuse, as evidenced by supportive initiatives at the European Union level.

Latvia's housing policy objectives include improving housing quality and affordability, providing a legal basis for efficient management of residential buildings, and supporting energy-saving measures (Lisa, 2020). These objectives align well with the principles of adaptive reuse for age-friendly social housing. However, the implementation of these policies faces challenges due to the limited social housing stock and the high rate of private homeownership resulting from post-independence privatisation.

2.7. Best Practices and Future Directions

Based on the analysis of successful case studies and the Latvian context, several best practices emerge for adaptive reuse in social housing:

- Early stakeholder participation and community participation in the planning and design process, particularly considering Latvia's diverse ethnic composition.
- Comprehensive assessment of building condition and adaptability potential before project initiation, especially for Soviet-era housing estates.
- Integration of universal design principles and smart technologies to create flexible, age-friendly living spaces that can accommodate the changing needs of Latvia's ageing population.
- Adoption of sustainable building practices and materials to enhance the long-term viability and reduce environmental impact, addressing the energy efficiency challenges of older buildings.
- Development of innovative financing models, including public-private partnerships and government incentives, to overcome the high upfront costs of adaptive reuse projects.
- Collaboration with local authorities to navigate regulatory challenges and align projects with broader urban development goals, considering the specific demographic and housing policy context of Latvia.

CONCLUSIONS

This study has examined the adaptive reuse of properties for the development of age-friendly social housing in Latvia, focusing on the benefits, challenges, and best practices associated with this approach. Research reveals that adaptive reuse offers a multifaceted solution to the complex challenges of providing affordable and sustainable housing in urban environments, particularly for Latvia's rapidly ageing population.

Demographic trends in Latvia, characterized by a declining and ageing population, high emigration rates, and increasing ethnic diversity, underscore the urgent need for innovative housing solutions. Adaptive reuse of existing properties, particularly the large stock of Soviet-era housing estates, presents a promising approach to address these challenges. By repurposing and modernising these structures, Latvia can potentially increase its limited social housing stock while promoting sustainable urban development.

The economic benefits of adaptive reuse are significant, with potential cost savings compared to new construction and opportunities for innovative financing models. However, these benefits must be balanced against the challenges of high upfront costs and the need for specialised expertise. The research underscores the importance of government incentives and public-private partnerships in making adaptive reuse projects economically viable in the Latvian context.

From an environmental perspective, adaptive reuse aligns strongly with principles of sustainability and circular economy, which is particularly relevant given Latvia's need to improve the energy efficiency of its older housing stock. By extending the lifecycle of existing buildings, this approach reduces waste, conserves resources, and minimises the carbon footprint associated with new construction.

The social impact of adaptive reuse projects is particularly noteworthy in Latvia's context of challenges of ethnic diversity and social integration. These initiatives have demonstrated the potential to preserve cultural heritage, foster community cohesion, and create inclusive, age-friendly living environments. The importance of community engagement and participatory design processes in ensuring the success and social acceptance of these projects cannot be overstated, especially in Latvia's multicultural urban areas.

The regulatory landscape for adaptive reuse projects in Latvia remains complex, with existing zoning laws and building codes often ill-suited to these innovative approaches. However, the research also identifies a growing recognition among policymakers of the potential of adaptive reuse, as evidenced by supportive initiatives at the European Union level and Latvia's own housing policy objectives.

Looking ahead, several key areas emerge as critical for the success of adaptive reuse in social housing in Latvia:

- Development of standardised assessment tools for evaluating the suitability of properties for adaptive reuse into age-friendly social housing.
- Further research into the long-term social and economic impacts of adaptive reuse projects in Latvia's diverse urban communities.
- Exploring emerging technologies that could facilitate more efficient and cost-effective adaptive reuse processes, particularly to improve energy efficiency in older buildings.
- Continued advocacy for policy frameworks that support and incentivise adaptive reuse for social housing, aligned with Latvia's specific demographic and housing challenges.

In conclusion, the adaptive reuse of properties for age-friendly social housing development represents a promising approach to addressing Latvia's urban housing challenges in a sustainable and socially responsible manner. While there are still

obstacles, particularly in terms of financing and regulatory frameworks, the potential benefits in terms of affordability, sustainability, and community revitalisation make this an area worthy of continued research, investment, and policy support. As Latvia grapples with changing demographics and increasing housing pressures, adaptive reuse offers a pathway to creating resilient, inclusive urban environments that meet the diverse needs of its ageing and multicultural population.

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