CHAPTER 89

Interpretation of Current Urban Redevelopment and Neighbourhood Liveability

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ABSTRACT

Globally more people are living in urban areas than in rural areas. In 2018, 55% of the world's population was urban, a big increase from 30% in 1950. By 2050, it's expected that 68% of the global population will live in cities. This means there is a fast transition from rural to urban, indicating that the urban is growing more, its uses are changing along with people's needs. The density increase is both urban density and population density, implying more population and buildings per square area of land in the city. The core city, which used to have certain characteristics to it, is now altering its identity and evolving its form, changing its scale and functions to the developing needs and undergoing a transformation in the form of redevelopment. The existing neighbourhoods in the core city are now undergoing change in the form of urban regeneration in both commercial and residential usage, leading to urban decay or over utilization, which if curtailed in a planned manner, can be collared to our benefit. Many researches have studied and indicated relationship between two factors of urban redevelopment, also interchangeably known as revitalization, renewal or regeneration and urban density, or between density and liveability. This study tries to understand relationship between these rising challenges in urban areas by analysing the effects of redevelopment on liveability, and other sub-topics, through comparative literature review by global and national researchers.

Keywords: Urban redevelopment; Neighbourhood; liveability; Pune.

1.0 Introduction

Liveability refers to the extent to which a place supports long-term well-being, encompassing physical, social, and psychological dimensions (Marans & Stimson, 2011). As urbanization intensifies, planning has shifted from infrastructure provision to addressing holistic quality of life. However, liveability lacks a unified scientific measurement model and is assessed through objective, subjective, and behavioural indicators (Marans & Stimson, 2011). Neighbourhoods play a crucial role in liveability, evolving historically from social and survival needs into structured urban spaces (Hoppenfeld, 1967). Mumford (1938) emphasized socio-spatial organization over economic functions, influencing planning theories focused on community cohesion, walkability, and sustainability.

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Urban redevelopment significantly impacts neighbourhood liveability by revitalizing infrastructure, housing, and amenities while also disrupting social ties and cultural identities. The challenge lies in balancing modernization with inclusivity, equity, and sustainability. Pune, historically known as the "Oxford of the East," is undergoing rapid redevelopment, raising concerns over overcrowding, affordability, and heritage conservation (Redevelopment – The Need of the Hour, 2022). In Pune, government policies such as reduced GST, flexible FSI, and RERA safeguards have accelerated redevelopment, benefiting developers and residents. However, achieving a balance between economic interests and community well-being is critical. This study examines the intersection of redevelopment and liveability to provide insights for fostering sustainable, inclusive, and vibrant urban neighbourhoods.

Aim of the study: To interpret and analyze urban redevelopment and the parameters of neighbourhood liveability.

1.1 Objectives of the study

- To understand the perception of urban liveability through literature review of different journals, articles and papers.
- To find out the qualitative and quantitative parameters that contribute to the liveability of a neighbourhood from literature review. Understanding the chosen factors.
- To study effects and measure liveability of residents of chosen neighbourhood that have undergone redevelopment.
- To analyze the relationship between urban redevelopment and neighbourhood liveability for informed decision-making in urban planning.

1.2 Research methodology

The research is starting with the initial approach of trying to analyse the relationship between the two variables of the study: Urban redevelopment and Neighbourhood liveability, which is used to carry out the literature review. The study is open to any new ideas, additions or changes in the approaches.

1.3 Research questions

- What methodologies are most commonly used to assess liveability in urban redevelopment contexts?
- What are the measurable parameters of liveability most affected by redevelopment efforts?
- How do residents perceive the changes brought about by urban redevelopment projects in terms of liveability, inclusivity, and community well-being?

2.0 Literature Review

The literature review aims to establish a strong theoretical foundation for understanding urban redevelopment and neighbourhood liveability by examining existing studies, frameworks, and models.

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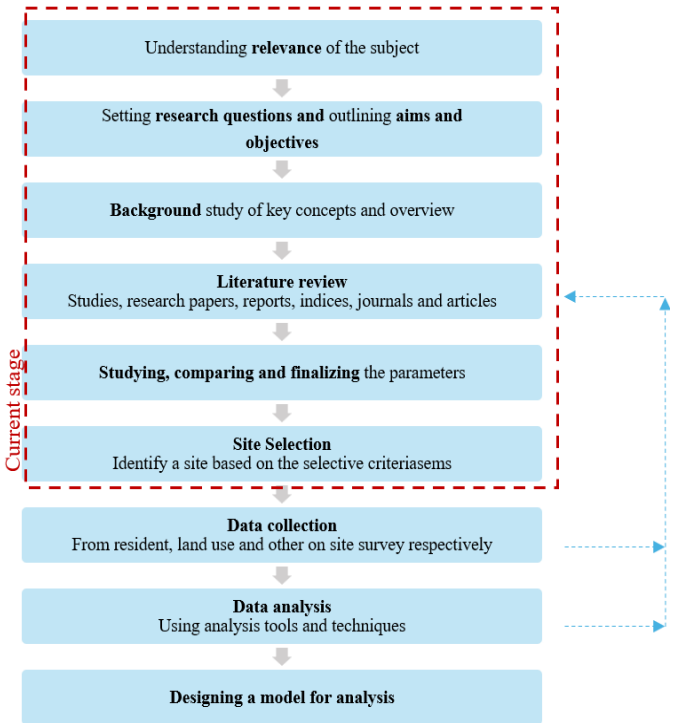
Figure 1: Research Design Flow



2.1 Literature review methodology

Figure 2: Methodology of Literature Review

Searching for studies	Formulating research questions	• What are the primary factors influencing liveability in urban planning? • What parameter can be studied that are most commonly used to assess liveability?
	Developing a Systematic Literature Review(SLR) method	Inclusion of papers using: Search terms "Urban Planning" OR "liveability" OR "Quality of Life" OR "Well-Being" OR "Neighbourhood Indicators" Websites: Scopus, Google Scholar
	Studies searched	243 studies
Screening studies	Screening studies to see if they fit the study	Adding another inclusion criteria: • Conference papers, Articles, Book Chapters and Reviews • Language
	Screening Keywords	Filtering the keywords in excel to keep the relevant papers
	Titles and Abstract	Reading titles and abstracts of all to screen
Interpretation and thematic analysis	Full text reading	Thorough reading to understand the considered parameters of Liveability, making a SLR using PRISMA and thematic analysis

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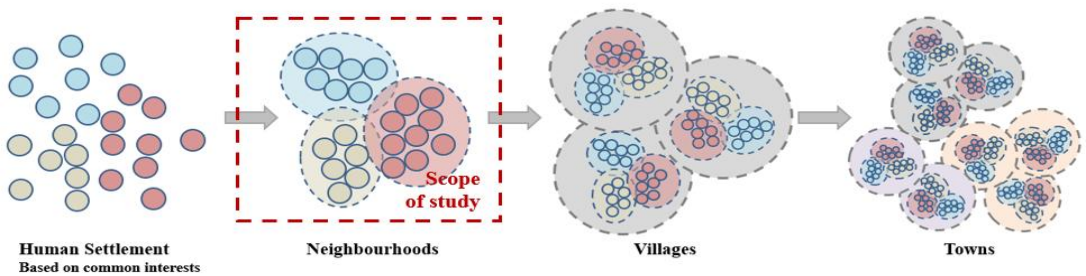
2.2 Neighbourhood

A neighbourhood is a sub-division of a city, that is populated by a group of people, whenever they want to share a place. The inception of the concept starts from man himself, when the settlements were formed and people started living, hunting and growing food together. It is an evolution of social and physical reasons that defined the proximity of settlement and community development (Mumford, 1938). These neighbourhoods have grouped together to form villages, towns and cities. In both urban and rural settings, the neighbourhood as a whole is a common occurrence. This concept reflects the broader vision of urban planning, where human relationships and local identities are prioritized over purely functional or economic considerations (Mumford, 1938).

Figure 3: Hierarchy of Settlement Formation (Hoppenfeld, 1967)



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2.3 Redevelopment

Redevelopment is defined as the act or process of changing an area of a town by replacing old buildings, roads, etc. with new ones (Cambridge University Press & Assessment, 2025). Redevelopment is an urban phenomenon, which has emerged in recent years. The existing developed cities are undergoing a phase of transformation, which is driven by redevelopment. It is essentially referring to the process of improving, revitalizing, or reconstructing an existing area, neighbourhood, or structure, often to address the changing needs of the residents. It typically involves significant physical, social, and economic changes aimed at enhancing the area's functionality, aesthetics, and liveability. In various literatures, "Urban Renewal" is interchangeably termed as "Urban Regeneration" in the United Kingdom and "Urban Development" in the United States.

This synonym gives few timelines to the concept. Regeneration can be referred to as a reaction to the evolving nature of an area, as an integrated vision, which develops while seeking the economic, physical, social and environmental changes for improvement (Sykes & Roberts, 2000). While some literature state that it began during the 1930's(Urban Renewal) with the idea of clearing slums (Carmon, 1999), others state in 1990's(Urban Regeneration) for reproducing lost urban structures in original form (Jariwala Pooja Bipinchandra, 2020). The type, pace and flow of regeneration decided the urban liveability and vice versa.

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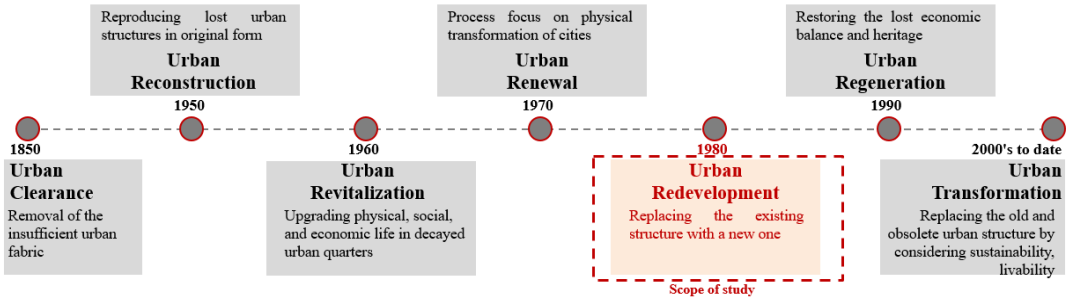
Figure 4: Timeline of Terminologies Related to Urban Revitalization in Historical Order (Sykes & Roberts, 2000)



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2.3.1 Evolution of urban revitalization and it's changing priorities (Sykes & Roberts, 2000)

Urban redevelopment evolved from slum clearance to a holistic approach emphasizing sustainability and liveability.

2.4 Liveability

Liveability refers to the degree to which a place is good for living. Liveability refers to the concerns that are related to the long-term wellbeing of individuals and communities (Oxford). In the last few years, liveability has been studied in various cities around the world. It's a comparatively new subject of urban planning, which has evolved from various past judgements and planning and design implementations. While the initial years of planning was mostly focused on physical infrastructure and facility provision, now, a need of social and psychological forethought has started, because with rising population and urbanization, individual needs are overseen. Although there is no single scientific model of measuring liveability, it can be largely categorized into three categories: Objective, Subjective and Behavioral (Marans & Stimson, 2011).

While objective has specific/scientific proven or measurable data (rates, statistics, distance), subjective has data which can change from user to user (desire, perception, feelings, satisfaction level) and behavioural gives statistical data from subjective indictor (e.g. Visit to park is the willingness for a person to go in the park, but it can be measured with the number of visits per month of week). The Quality of Life in rural areas is different than that of urban, considering the factors of density, income, family size, social behaviour etc. The concept is further discussed in the literature review by various researchers around the world.

2.4.1 History of liveability (Kaal, 2011)

Liveability has evolved through societal and urban shifts. This explains that as years went by, with rising and developing globalization, the standard of living also grew with changing priorities, and so did the parameters that defined them.

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2.4.2 How is liveability measured?

Measuring liveability involves a structured process to assess the quality of life in urban environments. The first step is defining a framework that outlines the core dimensions of liveability, such as housing, environmental quality, health, safety, infrastructure, and social well-being. Within these dimensions, measurable indicators are identified—for instance, access to public transport, air quality levels, green space availability, or income equality. Data is then collected through surveys, field observations, or official records to provide quantitative and qualitative insights.

Figure 5: Timeline of Concept of Liveability (Kaal, 2011)

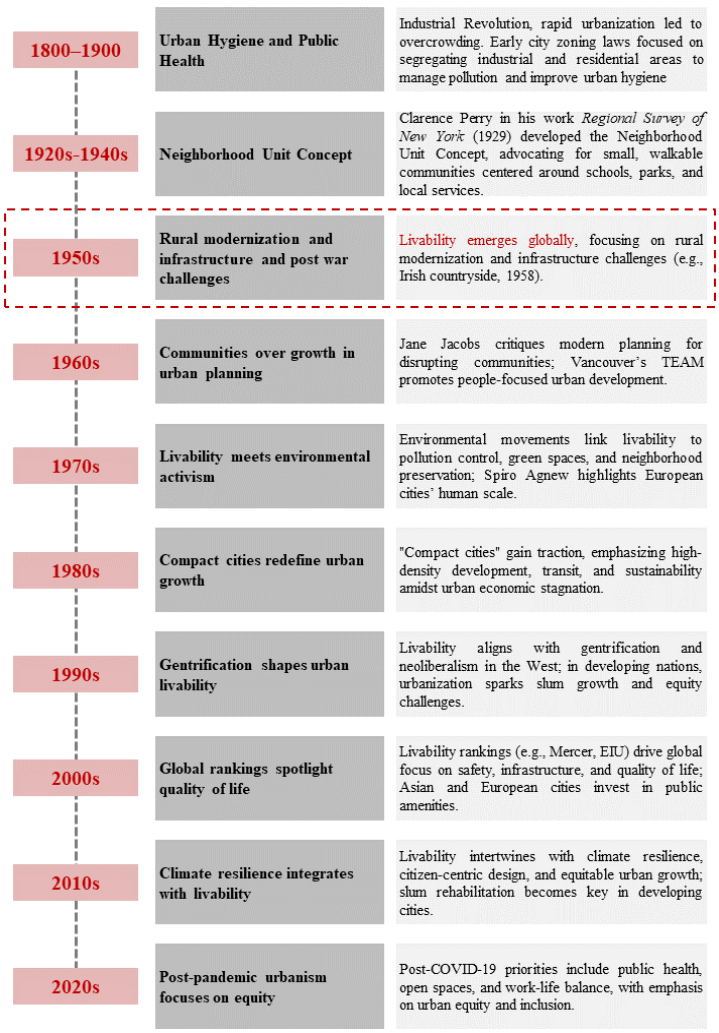

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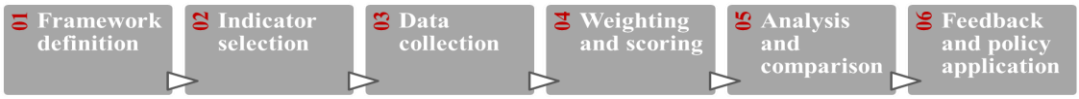
Figure 6: Steps of Liveability Assessment



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Next, the indicators are weighted based on their relative importance to the target population or policy goals. A composite score is calculated to reflect the overall liveability of an area. Finally, the findings are used to inform urban planning, policy-making, and stakeholder engagement to address deficiencies and enhance quality of life. This iterative process drives continuous improvements in urban environments and policies. Many indices, frameworks and benchmarks have been set across the world and India to assess liveability. In two of indices, Vienna, Austria holds the first rank of most liveable city, followed by other European and American cities. It is evident that most cities in the top 10 have had an early start in development compared to their global south counterparts. Although each index has their own variation of marking and categorization, the umbrella parameters to access liveability remain the same. Some indices focus on economic factors have economically developed cities on top, others who focus on human index of satisfaction are on top. A framework is a structured tool or conceptual model used to organize and analyze a system. A ranking index is a comparative tool that assigns scores to entities, such as cities or countries, based on predefined criteria and indicators.

Table 1: List of Indices, Frameworks and Assessments Studied

Report	Name
1. International	The Global Liveability Index 2023
2 International	Mercer Quality of Living Index 2023
3 National	Ease of Living Index 2020
4 International	Global Power City Index 2023
5 National	Liveability Index 2010
6 National	AARP Livability Index
7 International	City Prosperity Initiative
8 International	Liveable And Sustainability Cities- A Framework
9 National	Liveability Standards in Cities
10 International	Numbeo

Source: Compiled by author

The Global Liveability Index 2023 evaluates cities based on stability (25%), healthcare (20%), culture & environment (25%), education (10%), and infrastructure (20%) (Intelligence, 2023). This suggests a balanced focus on safety, healthcare access, and urban quality. The Mercer Quality of Living Index 2023 emphasizes political and social stability (23.5%), medical standards (19%), and public services (13%), indicating that governance and healthcare play a

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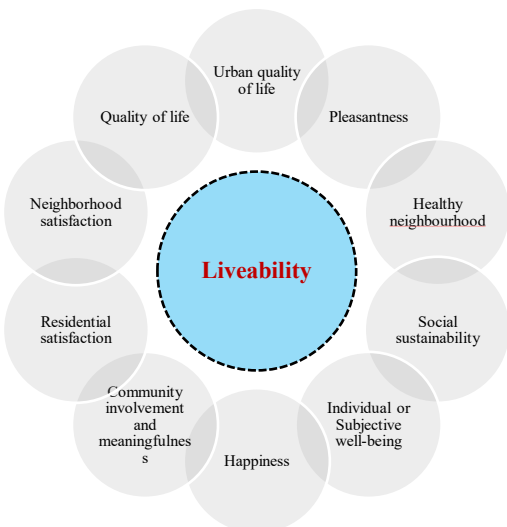
significant role in quality of life (Mercer, 2023). The Ease of Living Index 2020 highlights quality of life (35%) and citizen perception (30%), showing a strong emphasis on subjective well-being and economic ability (15%) (Smart City, 2020). The Global Power City Index 2023 ranks cities on economic strength (600 points), liveability (500), and accessibility (400), signifying the importance of economic performance in urban rankings (Foundation, 2023).

The Liveability Index 2010 integrates economic and socio-cultural aspects with education and health, indicating a comprehensive approach (Competitiveness, 2010). The AARP Liveability Index assesses housing affordability, neighbourhood proximity, and transportation, emphasizing accessibility (Index). The City Prosperity Initiative links urban productivity with governance and equity, stressing inclusive growth (Habitat). The Liveable and Sustainable Cities Framework prioritizes quality of life, sustainability, and economic competitiveness (Network). Liveability Standards in Cities highlight social (25%) and infrastructure (25%) aspects, showing their critical role (Ministry of Urban Development). Numbeo's rankings cover economic and environmental indices, reinforcing affordability and urban comfort as key parameters (Numbeo, n.d.).

Figure 7: Liveability Synonyms Derived from Literature Review



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2.4.3 Parameters of liveability based on literature review

Urban liveability encompasses a range of parameters that collectively define the quality of life experienced by residents within a neighbourhood. Based on the review of various scholarly articles, key aspects influencing liveability include physical infrastructure, social dynamics, environmental quality, and economic opportunities (Hamam Serag *et al.*, 2013).

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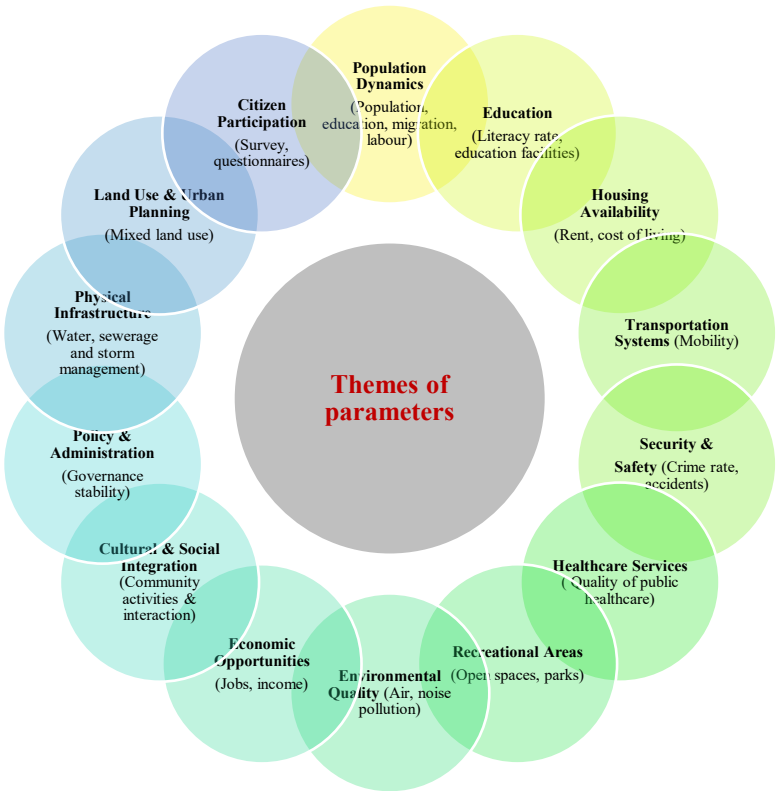
Physical infrastructure pertains to the availability and accessibility of amenities such as housing, transportation, public spaces, and utility services. Social parameters focus on inclusivity, community cohesion, and cultural vibrancy, ensuring a sense of belonging for diverse populations. Environmental quality considers factors like air and water cleanliness, green spaces, and climate resilience, which are critical for sustainable living.

Figure 8: Themes of Parameters Based on Literature Review



Source: Compiled by author

Economic aspects emphasize employment opportunities, affordability, and access to essential services. These parameters collectively serve as a framework to evaluate and enhance urban redevelopment projects, ensuring they align with the principles of liveability and holistic development. Various literatures have defined liveability through different aspects and parameters. While some literatures have thematically differentiated "Quality of life" into subjective, objective and perspective (Marans & Stimson, 2011), some have defined then as subjective well-being (Mouratidis, 2019). Several aspects of subjective well-being have been related to density of an area, land use, greenness, transportation and nuisances (Hajrasouliha *et al.*, 2018).

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3.0 Way Forward: Study Parameters Development and Scope of Work

3.1 Liveability assessment

The 14 themes derived from various literature reviews are now being divided into qualitative and quantitative parameters. Where quantitative parameters will act as External Parameters to study the Rate of change, number of events and distance and qualitative will act as Introspective Parameters which will understand the resident's opinions, perceived changes and levels of satisfaction

Table 1: Study Parameters Development

	Theme	Quantitative Parameters	Qualitative Parameters
1	Population Dynamics	Population density (people per square km)	Perception of demographic changes (e.g. generational shifts, etc.)
		Population growth rate (percentage)	Community sentiment on population increase
		Age distribution of residents	
2	Education	Number of schools within a defined radius	Resident satisfaction with quality of local education
		Student-teacher ratio	Accessibility perceptions of local educational institutions
		Literacy rate	
3	Housing Availability	Number of housing units available per 1,000 people	Perception of housing affordability
		Housing vacancy rate	Resident satisfaction with housing diversity (e.g., rental vs. ownership options)
		Average size of housing units	
4	Transportation Systems	Public transit frequency (buses/trains per hour)	Resident opinions on ease of mobility
		Average commute time	Perceived reliability of public transport services
		Kilometers of pedestrian and cycling infrastructure	
5	Security & Safety	Number of reported crimes per 1,000 residents	Residents' sense of safety during day and night
		Police presence (officers or patrol frequency)	Perceived effectiveness of security measures
		Availability of surveillance (CCTV cameras)	
6	Healthcare Services	Number of healthcare facilities per 1,000 people	Perception of healthcare accessibility and affordability
		Average emergency response time	Resident satisfaction with quality of medical care
		Doctor-to-patient ratio	
7	Recreational Areas	Area of recreational spaces per capita	Resident satisfaction with recreational facilities
		Number of parks/community centers in the vicinity	Opinions on the adequacy of recreational options for different age groups
8	Environmental Quality	Noise levels in decibels	Opinions on environmental changes due to redevelopment
		Percentage of green cover	

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9	Economic Opportunities	Employment rate	Perceived access to job opportunities
		Number of new businesses or start-ups established post-redevelopment	Opinions on economic upliftment due to redevelopment
10	Cultural & Social Integration	Number of community events held annually	Perception of inclusivity and cultural harmony
		Diversity index (ethnic/cultural heterogeneity)	Resident opinions on preservation of local traditions
11	Policy & Administration (Governance stability)	Current government policies and regulations that contribute to the liveability standards	Perception towards the local government of the residents (reliability and trust)
12	Physical Infrastructure	Length of roads and utility networks (e.g., water, electricity)	Resident satisfaction with infrastructure maintenance
		Percentage of area covered by basic infrastructure services	Perceived ease of access to essential services
13	Land Use & Urban Planning	Area wise percentage division of each land use	Perception towards change in landuse and adaptation of different age groups
14	Citizen Participation	Percentage of residents involved in planning	Perceived influence of residents in redevelopment decisions
		Number of citizen consultations held	Satisfaction with opportunities to voice concerns or ideas

Source: Compiled by author

3.2 Redevelopment assessment

3.2.1 Types of redevelopments based on usage

Table 2: Types of Redevelopments Based on Usage

Sr. No.	Types	Examples
1	Residential Redevelopment	Redevelopment of Mumbai's chawls into high-rise residential complexes
2	Mixed-Use Redevelopment	BDD Chawl Redevelopment in Mumbai, integrating residential, commercial, and public amenities.
3	Commercial Redevelopment	Phoenix Mills in Mumbai, converted from a textile mill to a shopping and entertainment complex.
4	Recreational and Tourism Redevelopment	Sabarmati Riverfront in Ahmedabad transformed into parks and recreational spaces.
5	IT/Industrial Redevelopment	Whitefield in Bengaluru, converted from industrial zones to IT hubs.
6	Port and Waterfront Redevelopment	Eastern Waterfront Project in Mumbai converting old port areas into commercial and residential zones.

Source: Compiled by author

Since the study is based on liveability, it will only include residential and mixed-use redevelopment.

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3.2.2 Redevelopment scenarios

Figure 9: Before and After Scenario of Redevelopment

Before Redevelopment	After Redevelopment.
A mid-density residential neighborhood with 3-4 story apartment buildings, characterized by a mix of owner-occupied and rental housing, insufficient parking, wide setbacks and established community ties	The area transitions to high-density living, with 10-15 story apartment complexes featuring modern amenities, underground parking, common open spaces, and a larger population.
	Scope of this study

Source: Compiled by author

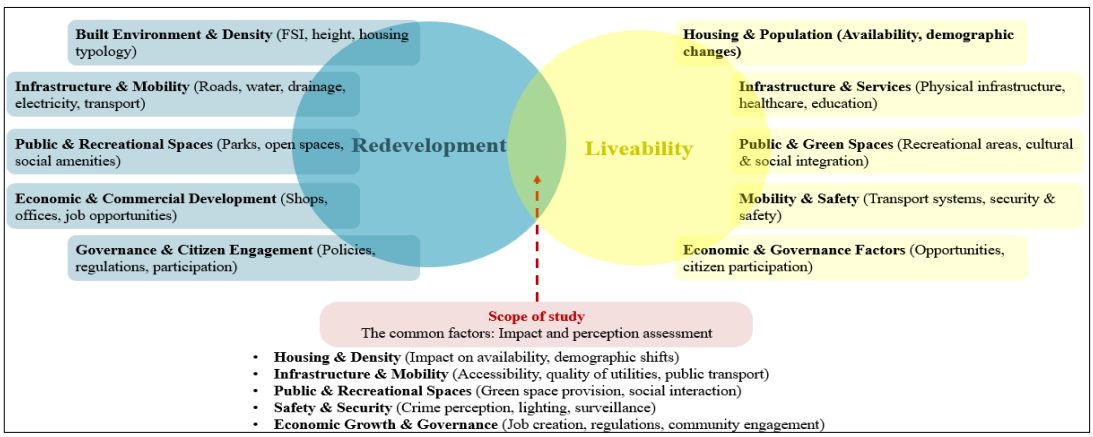
4.0 Study Framework

The scope of the study is defined as an overlap of the two major factors: Redevelopment and liveability. Where, the 14 parameters will try to infer to the common aspects and the effect of redevelopment on neighbourhood liveability.

4.1 The current scope and data collection methods

The study currently focuses on some of the physical redevelopment factors in the area, which in future scope can be analysed by comparison with the qualitative and quantitative parameters of liveability, while others can be assessed in the future scope.

Figure 10: Study Framework development



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4.2 Indian context of liveability

India's urbanization has brought significant challenges and opportunities, prompting the government to implement various schemes and policies to improve liveability in cities. Recognizing the need for sustainable and inclusive urban development, flagship initiatives like

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the Smart Cities Mission (2015) and AMRUT (Atal Mission for Rejuvenation and Urban Transformation, 2015) were launched to enhance infrastructure, public services, and overall quality of life. The Smart Cities Mission focuses on leveraging technology for citizen-centric solutions, creating sustainable urban ecosystems, and improving public spaces through area-based development. Complementing this, AMRUT targets the provision of essential infrastructure such as water supply, sewerage, and urban transport in smaller cities.

Table 3: Data Collection Methodology for Redevelopment Study

Primary Data	Secondary Data
Observations, GIS Mapping	Census, Government Reports
• Current Building use • Redeveloped/Not • Year built • Building typology • No. of storeys • No. of commercial floors • Parking • Building condition	Population dynamics Development plans

Source: Compiled by author

Figure 11: Smart Cities Mission

Together, these policies and schemes are paving the way for cities that are more liveable, inclusive, and sustainable. India is home to several cities that excel in urban liveability, balancing rapid development with cultural and environmental preservation. Cities like Bengaluru, Pune, Chennai, Hyderabad, and Ahmedabad have made significant strides in sustainable practices, urban mobility, and citizen-centric initiatives. Despite their high rankings in national and global indices for quality of life, they face challenges such as traffic congestion, pollution, and unplanned urban sprawl.

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Figure 12: Swachh Bharat Mission – Urban (2014)

5.0 Gaps Identified in Existing Studies

While, urban densification has its own merits and demerits, there are substantial gaps in understanding its impacts on liveability in different areas of the same city. There is a need to integrate qualitative user experiences with quantitative urban development data (Hannah Badland, 2014). This research will address this gap by combining user experience surveys with spatial analysis (quantitative data) to have better urban planning solutions.

Figure 13: Maharashtra in India

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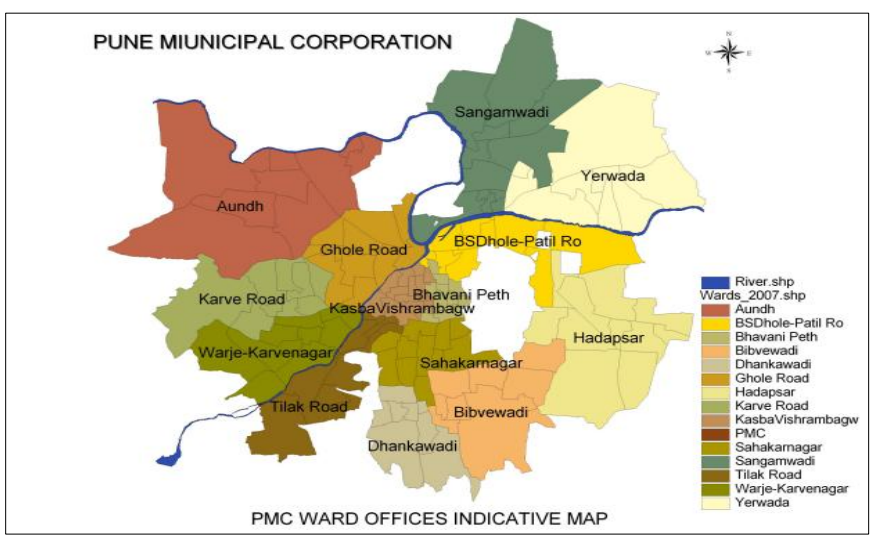
Figure 14: Pune District in Maharashtra

Figure 15: Pune District

5.1 Positioning Pune

Pune, often referred to as the "Oxford of the East," is a dynamic city in western India, known for its educational institutions, cultural heritage, and robust economic base. Historically, Pune played a pivotal role during the Maratha Empire under *Chhatrapati Shivaji Maharaj* and later as a center for the Indian independence movement. The city's rich cultural past is reflected in landmarks like the *Shaniwar Wada* and Aga Khan Palace.

Figure 16: Pune Municipal Corporation (PMC)



Population (2011)	33,71,626 (temporary)
Area	340.45 sq. km

(Pune Municipal Corporation, 2024)

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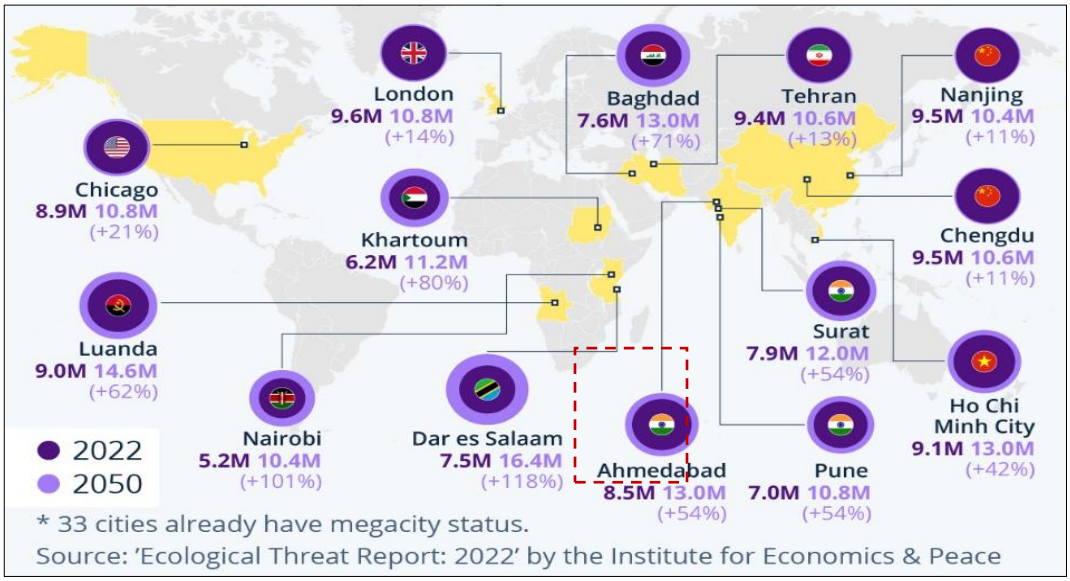
Economically, Pune is a thriving hub for the automotive and manufacturing industries, hosting global giants like Tata Motors, Bajaj Auto, and Mercedes-Benz. It has also emerged as a significant IT and software services hub, with major technology parks and start-ups contributing to its modern identity. The city's agrarian roots remain visible in the surrounding districts, supporting a mix of urban and rural livelihoods. The influx of students and professionals has diversified its demographic profile, making it one of the fastest-growing cities in India.

Figure 17: Megacities of World (Ecological Threat Report , 2022)



Source: Statista

Pune is celebrated for its liveability, ranking highly in national indices for its efficient public transport, smart city initiatives, and waste management practices. However, challenges like traffic congestion and air quality issues persist. Blending its historical significance with modern innovation, Pune stands as a vibrant example of India's urban transition. This population density and growth of urban redevelopment needs to scrutinized with the lens of liveability.

5.2 Pune's redevelopment

Redevelopment is the latest change that will be essential to Pune's progress. Pune had its first major urban change in the 1980's and 1990's, when historic *Wadas* were converted into three or four-story structures. Three to four-story buildings will now become eight to eleven-story structures as a result of redevelopment.

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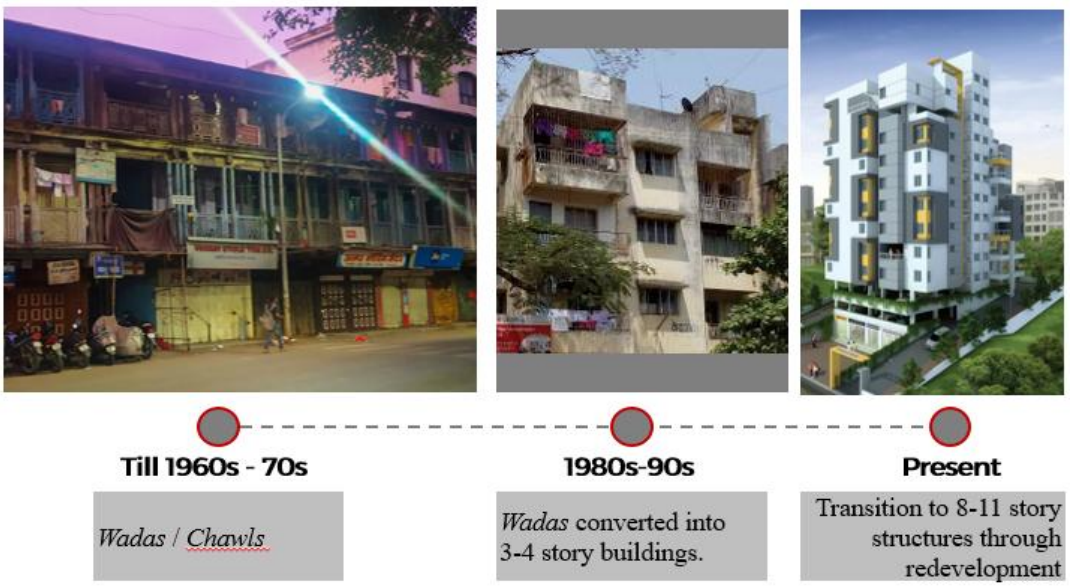
Figure 18: History of Redevelopment Pune (Redevelopment – The Need of the Hour, 2022)



Source: Compiled by author

Redevelopment offers societies a number of advantages, and both societies and flats view it as an opportunity.

- Reduced GST percentage
- Bank guarantee
- TDF and FSI usage rights
- Reduced rates for additional area
- Completely transformed new property
- Modern amenities at no extra cost
- Legal protection through RERA Act

To mention a few, Kothrud, Bibewadi, and Sahakar Nagar were the main areas that underwent the initial makeover. Naturally, the second wave of change brought about by redevelopment has begun to take shape in these neighbourhoods, which are once again prime places. 5% of all Pune-registered societies are expected to undergo renovation. There are currently about 20,000 registered societies. This suggests that in the upcoming years, about a thousand societies will undergo reconstruction (Redevelopment – The Need of the Hour, 2022). In recent years, the real estate sector has suffered considerably. The pandemic, global downturn, and demonetization have induced builders to reconsider their investments in large-scale projects in the outlying regions. For builders, the main issue with such initiatives was the return on

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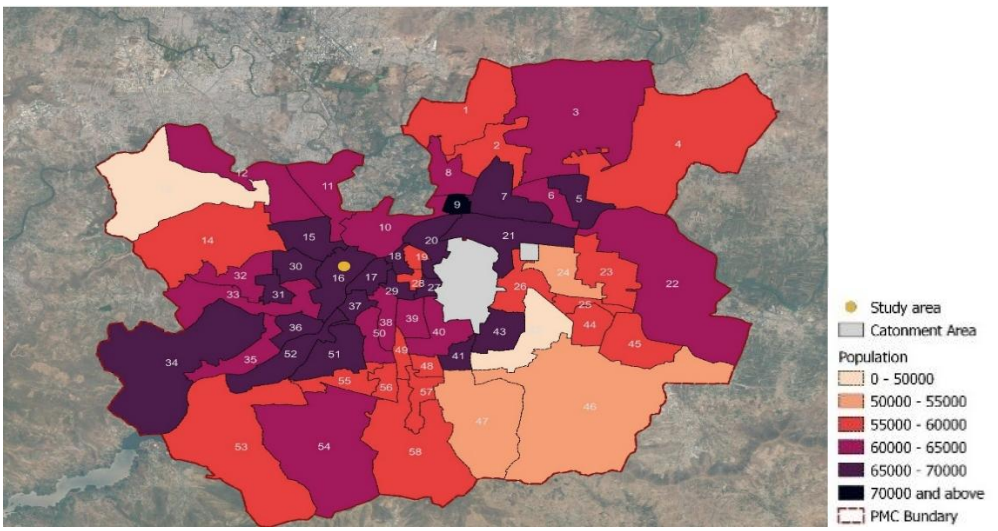
investment. Redevelopment initiatives offer the ideal foundation for recovery. Builders may now engage in these projects at a reduced cost and be sure that they will turn a profit within three years because there is no land cost.

5.3 Need: Why Pune?

Urban redevelopment and neighborhood liveability are intricately linked, as redevelopment directly impacts the physical, social, and economic fabric of neighborhoods. Below are the key factors that underscore the need for this study:

Figure 19: PMC Ward wise Population (Census, 2011)



Source: Compiled by author

Transforming Urban Landscape and growing density: Pune's urban transformation has been evident since the 1980s, with the redevelopment of historic *Wadas* into mid-rise buildings (Redevelopment – The Need of the Hour, 2022). The current phase of redevelopment, involving the construction of eight to eleven-story structures, represents a significant shift in the city's urban landscape. While redevelopment improves housing stock and infrastructure, it raises critical questions about its impact on liveability, such as:

- Does redevelopment lead to overcrowding, or does it improve urban density management?
- How does the redesign of spaces affect community interaction, accessibility, and amenities?

Studying these changes will help evaluate whether redevelopment enhances the quality of life for residents or introduces new challenges.

Balancing modernization and cultural identity: Pune's identity is deeply intertwined with its rich cultural heritage and historic architecture. The city's Wadas, traditional courtyard-style homes, symbolized its historical charm and community-centric living. However,

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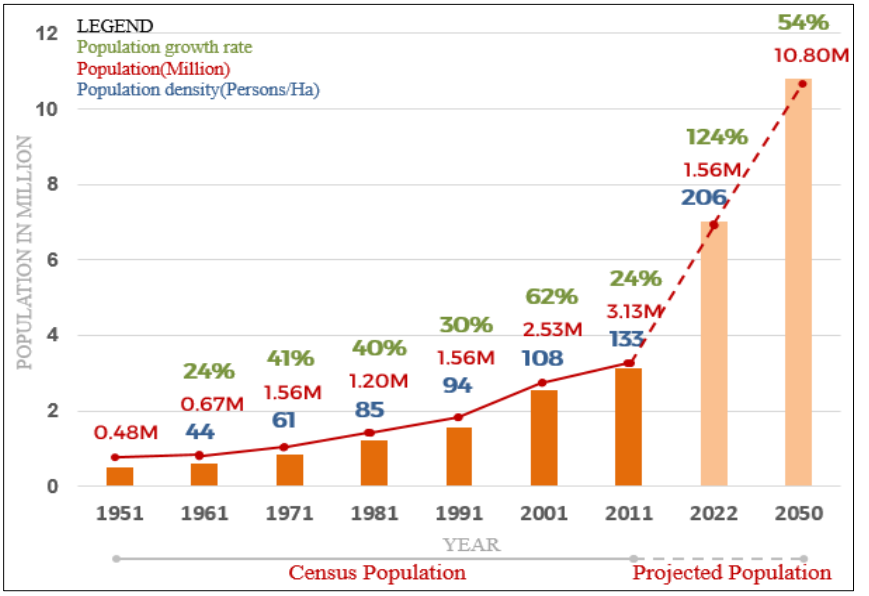
redevelopment has led to the gradual transformation of these heritage structures into contemporary high-rise buildings. This transformation raises critical questions about the trade-off between modernization and cultural preservation:

Figure 20: Trend Growth of Projection and its Density (Census, 2011) (Ecological Threat Report, 2022)



Source: Compiled by author

- How does the shift from traditional architectural styles to modern high-rises impact residents' sense of belonging and identity?
- What role does cultural heritage play in shaping residents' perceptions of liveability in redeveloped neighborhoods?
- How does redevelopment affect the quality of social interactions and community bonding in transitioning neighborhoods?

Furthermore, redevelopment has altered community dynamics by replacing smaller, close-knit neighbourhoods with larger, more impersonal housing complexes. Traditional spaces for communal interaction, are often replaced by private amenities like gyms or clubs, which may limit community engagement.

6.0 Site Profile and Context

6.1 Pilot study: Deccan Gymkhana

Deccan Gymkhana, originally a residential neighbourhood, is undergoing significant redevelopment with increasing density and changes in built form. The area is now witnessing a

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shift towards mixed-use development, with commercial offices and retail spaces integrating into the urban fabric. This transition impacts housing satisfaction and transportation accessibility (Marans & Stimson, 2011) while also influencing pedestrian mobility and urban aesthetics (Chiara & Valentina, 2017). Additionally, rising concerns about security and environmental sustainability (Denis *et al.*, 2021) highlight the need to assess liveability changes. As Deccan Gymkhana evolves, understanding its redevelopment's effects on residents' quality of life is essential for informed urban planning.

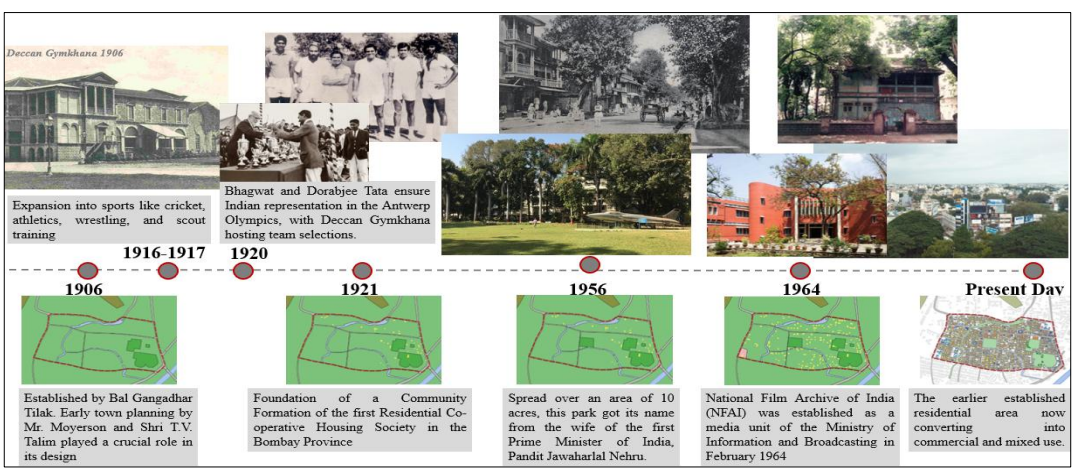
6.2 Historical evolution & growth pattern

Deccan Gymkhana, originally planned in 1906, reflects Pune's early structured urban development. Initially a residential neighbourhood, it evolved into a hub for sports and cultural activities, contributing to India's Olympic representation in 1920. The establishment of a cooperative housing society in 1921 set a precedent for organized residential planning. Today, the area is undergoing significant transformation, with increasing commercial and mixed-use developments, raising questions about its changing density, built form, and liveability.

6.3 Building use and study are delineation

The Deccan Gymkhana area exhibits a diverse mix of uses, characterized by a dense network of residential, commercial, and mixed-use buildings. Residential areas constitute the predominant land use, covering approximately 67% of the total area, followed by commercial and mixed-use developments at 19.74%, which are primarily concentrated along major roads. The site delineation for this study is justified by its strategic location, surrounded by major roads such as SB Road, BMCC Road, Canal Road, Bhandarkar Road, FC Road, Prabhat Road, and Law College Road, ensuring seamless connectivity and accessibility. This makes it an ideal case for analyzing urban redevelopment and its impact on neighbourhood liveability.

Figure 21: History of Deccan (Gymkhana, 2025)



Source: Compiled by author

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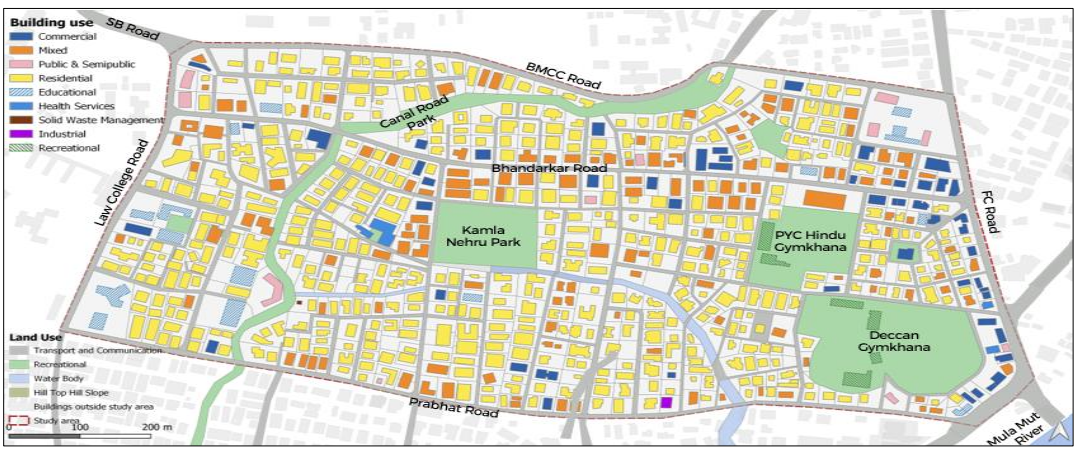
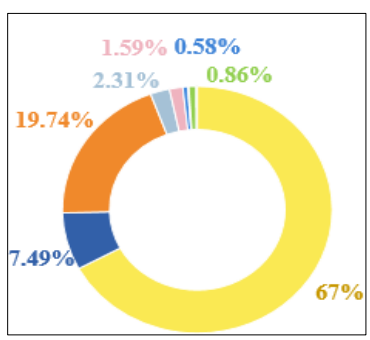
The area exhibits a balanced land use distribution, comprising residential, commercial, institutional, and recreational spaces, including Kamla Nehru Park and Deccan Gymkhana, which contribute to the overall liveability of the neighbourhood. Additionally, the site has witnessed significant redevelopment, with older low-rise buildings being replaced by higher-density developments, providing an opportunity to assess changes in liveability parameters such as population density, infrastructure adequacy, and social cohesion. The well-defined boundaries ensure a controlled geographic extent for analysis, minimizing external influences.

Figure 22: Building Use - Deccan Gymkkhana



Source: Compiled by author

Figure 23: Building Use distribution - Deccan Gymkkhana



Source: Compiled by author

Total buildings = 704

Total Land area = 0.814 Sq. km.

Several studies emphasize the importance of a substantial residential component when assessing urban liveability in redeveloped areas. (Marans & Stimson, 2011) highlight housing

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satisfaction as a key determinant of liveability, underscoring the need for a significant residential presence. (Chiara & Valentina , 2017) discuss the role of residential density in pedestrian accessibility and sustainable mobility, while (Tsuyoshi *et al.*, 2023) link safety perceptions more strongly to residential environments than commercial zones.

Additionally, research on mixed-use development (Denis *et al.*, 2021) suggests that maintaining a balance between residential and commercial land use is crucial for sustainable urban living. Given that more than 50% of the study area remains residential despite redevelopment, it remains a valid case for liveability assessment. This aligns with existing research, which identifies residential environments as essential for evaluating key liveability parameters such as housing satisfaction, accessibility, safety, and environmental quality.

6.4 Demographic profile

The population density calculation is derived by dividing the total population of 7 million (Ecological Threat Report , 2022) by the total area of 340.45 sq. km (Pune Municipal Corporation, 2024), resulting in approximately 20,561 persons/Sq. km. Converting this into hectares, the density is about 206 persons per hectare. Using this density, the estimated population for a specific area of 0.814 sq. km is calculated by multiplying the population density by the area, yielding an approximate population of 16,737 people. This estimation helps in understanding the distribution of residents within the study area and provides a basis for analyzing the impact of urban redevelopment on population concentration. Higher density can indicate increased demand for infrastructure, housing, and amenities, influencing neighborhood livability. This data is crucial for evaluating whether redevelopment has led to overcrowding or if urban planning measures have adequately accommodated the growing population.

Population Density = Total Population ÷ Total Area

= 7,000,000 ÷340.45

≈ 20,561 persons per sq. km.

= 206 persons/Ha

Population of 0.814 sq. km = Population Density × Area

= 20,561×0.814

≈ 16,737 people = 205 persons/Ha

Equation 1 Population calculations

6.5 Redevelopment scenario

24% of redevelopments are single buildings with most of them being residential and mixed. The redevelopment pattern in Deccan Gymkhana illustrates a significant transformation in the built environment, with 34% of the buildings undergoing redevelopment between 2001 and 2025. The process involves demolishing old structures and constructing new buildings on the same plots, utilizing an increased Floor Space Index (FSI) to accommodate a higher population. The remaining 66% of buildings have not been redeveloped since before 2001,

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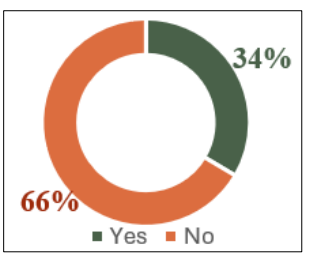
maintaining their original built form. The site exhibits a mix of land uses, including residential, commercial, institutional, and recreational spaces, with major parks such as Kamla Nehru Park and PYC Hindu Gymkhana playing a crucial role in maintaining liveability. The redevelopment trend indicates a shift towards higher density, impacting infrastructure demand, urban mobility, and social dynamics. While redevelopment facilitates modernization and improved amenities, it also raises concerns about increased congestion, loss of neighbourhood character, and potential strain on utilities and open spaces. The surrounding arterial roads ensure good connectivity, making this area a prime location for urban transformation.

Figure 24: Redevelopment Scenario

Source: Compiled by author

Figure 25: Redevelopment Scenario Percentage



Source: Compiled by author

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Figure 26: Green Areas, Walkability and Pedestrian Access in the Area

Source: Compiled by author

7.0 Limitations

The study is constrained by the reliance on post-redevelopment assessments due to the absence of pre-redevelopment data, which limits the ability to compare past and present conditions comprehensively. Future research should focus on assessing the longitudinal impacts of redevelopment over time and integrating multi-city comparative analyses to provide a broader understanding of urban liveability outcomes, but the area should be similar to redevelopment characterstics and area (similar to 0.841 sq. km.).

8.0 Conclusion

The study comprehensively analyzes urban redevelopment and neighbourhood liveability by integrating literature review insights, empirical findings, and quantitative assessments. The literature review highlights key parameters influencing liveability, such as population dynamics, housing availability, transportation systems, and environmental quality, emphasizing the complex relationship between redevelopment and urban well-being. The findings reveal that 66% of the study area has undergone redevelopment, primarily driven by increased Floor Space Index (FSI) consumption to accommodate higher population densities. The redevelopment trend has reshaped land use, with residential and mixed-use developments dominating the landscape. While redevelopment has enhanced infrastructure and economic opportunities, concerns related to environmental quality, open spaces, and cultural integration persist. The study contributes to the ongoing discourse on liveability by providing empirical evidence on post-redevelopment scenarios and identifying gaps in the planning process.

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9.0 Scope

Future research should focus on developing a liveability index/assessment tailored specifically for redeveloped neighbourhoods. Such an index would integrate both quantitative and qualitative parameters derived from the literature review, where the residents will be surveyed and both external parameters will provide a standardized service, while introspective parameters will give an insight into the aspects, offering a comprehensive tool for evaluating the impacts of redevelopment. By including metrics like air quality indices, housing affordability, and resident perceptions of safety and community engagement, the index could provide valuable insights for urban planners and policymakers. It would also facilitate comparative analyses of different redevelopment projects, enabling the identification of best practices and areas for improvement. In conclusion, the study calls for a paradigm shift in urban redevelopment strategies, advocating for approaches that prioritize inclusivity, sustainability, and cultural preservation. By addressing the gaps identified in this review, future redevelopment initiatives can transform urban neighbourhoods into resilient, vibrant, and equitable spaces. The proposed liveability index represents a significant step toward achieving this vision, offering a framework for aligning redevelopment with the holistic well-being of urban communities.

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