A Comparative Analysis of Built-Up Area Regulations: UDCPR vs. DCR in Pune Residential Development

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***Abstract*—This paper analyzes the impact of Maharashtra's Unified Development Control and Promotion Regulations (UDCPR), introduced in December 2020, on residential built-up areas in Pune, comparing it with the previous Development Control Rules (DCR). The study focuses on key UDCPR provisions affecting built-up area, such as relaxed Floor Space Index (FSI) rules, public parking incentives, and simplified completion certificate processes. Through case studies of pre- and post-UDCPR buildings, this research provides practical insights into regulatory impacts on urban development. The comparative analysis reveals how UDCPR's unified approach contrasts with DCR's zone-specific regulations, specifically in terms of FSI calculations and parking requirements.**

***Index Terms*— UDCPR, DCR, built-up area, Floor Space Index (FSI), urban development, residential buildings, regulatory impact, Pune**

I. INTRODUCTION

The Maharashtra government's Unified Development Control and Promotion Regulations (UDCPR), introduced in December 2020, marked a significant step in standardizing urban development across the state. This policy aims to reduce the complexities and inconsistencies that characterized the previous Development Control Rules (DCR) by implementing a unified approach that includes relaxed Floor Space Index (FSI) norms, streamlined completion certificate procedures, and incentives for public amenities, such as parking near metro stations (Yeole & Bhangale, 2021; Narkhede, 2021). Prior regulations varied by locality, leading to unplanned and inconsistent urban development, particularly in Pune (More & Bhangale, 2021).

The UDCPR seeks to address these issues by providing consistency in urban planning and promoting sustainable development through adaptable policies (Vaghani, Shah, & Chauhan, 2010). For residential buildings in Pune, key changes include higher permissible FSI, flexible building heights, and reduced parking requirements. These policies are expected to streamline approvals, improve construction quality, and stimulate competitive development. This study focuses on comparing UDCPR and DCR regulations for residential built-up areas in Pune, analyzing their implications on urban growth, layout differences, and sustainable urban planning practices.

II. METHODOLOGY

This research employs a systematic methodology to compare the Urban Development Control and Promotion Regulations (UDPCR) and Development Control Regulations (DCR) in Pune, specifically with respect to the built-up area. The approach involves obtaining, analyzing, and comparing the regulations governing building construction in Pune, along with a detailed examination through case studies to understand their implications.

Literature Review

Urban development is influenced by complex regulatory frameworks governing construction, layout development, building bylaws, and land management. Studies like Yeole and Bhangale (2020) highlight the evolving role of regulations, comparing the New Unified Development Control and Promotion Regulations (UDCPR) with older rules, offering insights into their impact on residential construction. More and Bhangale (2019) examined UDCPR's application in Jalgaon District, identifying challenges and opportunities in layout development. Vaghani, Shah, and Chauhan (2021) assessed the impact of building bylaws on housing projects in Pune and Jaipur, providing policy recommendations for urban planning. Dr. Narkhede (2022) focused on the interplay between urbanization, land management, and development in Pune, offering actionable insights for sustainable urban growth. Collectively, these studies emphasize the need for comprehensive, context-specific regulatory frameworks, practical implications of regulatory changes, and the importance of ongoing research to address the dynamic nature of urbanization.

III. DATA COLLECTION

For the data collection process, relevant documents, including the Development Control Regulations (DCR) and the Unified Development Control and Promotion Regulations (UDCPR), were studied and analyzed. To gain a more nuanced understanding, a sample case study of a residential scheme was selected. The chosen project consists of seven buildings connected by a podium. At the time of its initial sanctioning, the project adhered to the provisions of the older DCR regulations, under which three buildings were constructed, constituting Phase 1 of the development.

Subsequently, when Phase 2 was set to commence, the regulatory framework had transitioned to the UDCPR. The developers leveraged this regulatory shift to re-sanction Phase 2 under the UDCPR guidelines, yielding benefits in terms of design flexibility and increased Floor Space Index (FSI). This case study was specifically selected to investigate the regulatory differences within the same project. Furthermore, it provides a practical example to compare and contrast the implications of DCR and UDCPR regulations, contributing to the broader research analysis.

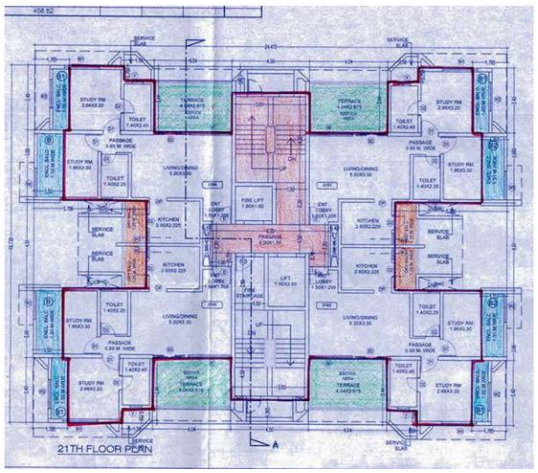

Fig.no.1: DCR rules regarding FSI (Sample 1 Case study)

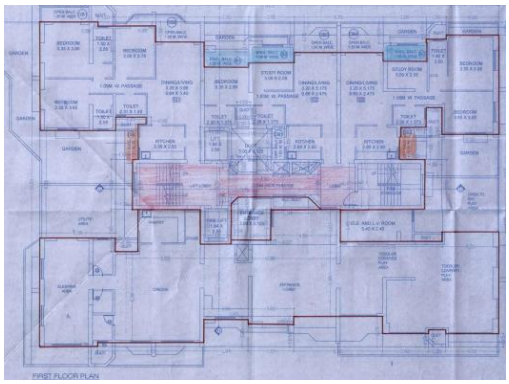

Fig.no.2: UDPCR rules regarding FSI (Sample 2 Case study)

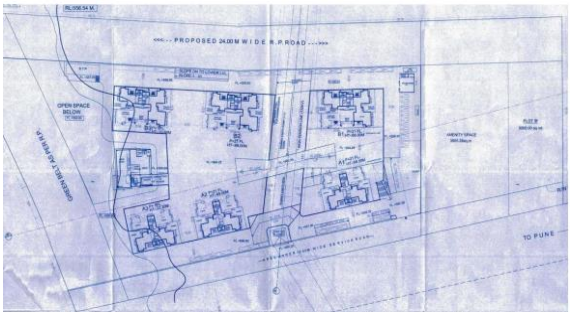

Fig no.3: Marginal distances Sample 1

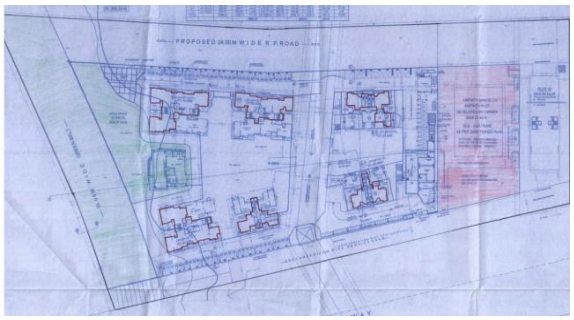

Fig no.4: Marginal distances Sample 2

IV. DATA ANALYSIS

The Floor Space Index (FSI), or Floor Area Ratio (FAR), is essential in urban planning to regulate built-up areas and balance density and infrastructure utilization. The Unified Development Control and Promotion Regulations (UDCPR) provide a standardized framework across Maharashtra, while Pune's Development Control Regulations (DCR) follow zone-specific guidelines, resulting in key differences.

UDCPR adopts a unified approach, considering total built-up areas for mixed uses and incentivizing sustainable practices, such as green building initiatives. In contrast, DCR allocates FSI based on land use and construction type, with specific provisions for residential, commercial, and industrial zones. Additional FSI under UDCPR includes bonuses for public amenities and green initiatives, while DCR focuses on heritage zones and slum redevelopment through Transferable Development Rights (TDR) and premium-based FSI.

Setback requirements also differ, with UDCPR mandating uniform distances, such as 4.5 meters for roads up to 30 meters wide, while DCR provides variable setbacks, allowing flexibility in congested zones. Parking provisions promote innovative solutions like hydraulic systems and podium parking, tailored to urban congestion.

UDCPR emphasizes efficient space use with higher FSI for affordable housing and includes ancillary elements like balconies in calculations. These frameworks reflect evolving urban needs, ensuring sustainable and flexible development.

Floor Space Index (FSI)

The comparison of FSI is conducted between Sample 1 and Sample 2, representing two buildings within the same layout, constructed in different phases under distinct regulatory frameworks.

Sample 1, constructed during Phase 1, adhered to the Development Control Regulations (DCR) of the Pune Municipal Corporation (PMC) as it predates the implementation of the Unified Development Control and Promotion Regulations (UDCPR). Under DCR, terrace areas were excluded from FSI calculations, allowing these spaces to remain non-consumptive of FSI. Consequently, the FSI utilization for Sample 1 was limited to 1.80, as per DCR standards.

Sample 2, developed during Phase 2, was sanctioned under the revised UDCPR framework. The updated regulations resulted in a significant increase in permissible FSI to 2.60. This adjustment enabled a more expansive layout compared to Sample 1, thereby providing an opportunity to optimize the built-up area within the development.

Marginal Distances

The study also evaluates marginal distances between the two samples.

In Sample 1, the marginal cap was set at 12 meters, with an inter-building distance of 22 meters as prescribed by DCR. Conversely, Sample 2, under UDCPR, maintained a 12-meter marginal distance around the site but reduced the inter-building distance to 15 meters. This revision facilitated the addition of another wing to the layout, thereby enhancing the overall built-up area while complying with regulatory parameters.

V. RESULTS AND FINDINGS

The comparison between the Unified Development Control and Promotion Regulations (UDCPR) and the Development Control Regulations (DCR) for Pune Municipal Corporation (PMC) reveals distinct differences in their approach to regulating the built-up area, as demonstrated by the sample analysis of two buildings developed under these frameworks.

UDCPR Overview:

UDCPR provides a unified set of regulations for urban development across Maharashtra, focusing on aspects such as land use, setbacks, Floor Space Index (FSI), and open spaces. The framework offers flexibility in FSI calculations, considering factors like development type, road widths, and area-specific characteristics. Additionally, UDCPR encourages sustainable development practices, including green building and energy-efficient initiatives, which influence the design and construction of the built environment. This approach supports environmentally conscious considerations, contributing to a more sustainable urban growth pattern.

DCR Overview:

In contrast, the DCR for PMC follows zone-specific regulations, particularly impacting residential zones. The regulations for setbacks and open spaces directly influence the built-up area of a plot, with distinct requirements based on the zoning category. The DCR also ties the calculation of built-up area to the permissible FSI for specific zones, offering targeted guidelines that accommodate unique developments, such as those in redevelopment or heritage areas. Provisions for incentives, such as bonuses for adherence to green building practices, also play a role in influencing the extent of construction.

Sample Analysis:

Sample 1, developed under DCR regulations, demonstrates the constraints of the framework in terms of FSI and built-up area. The terrace areas were excluded from FSI calculations, resulting in a relatively lower FSI of 1.80 for the building. Conversely, Sample 2, constructed under UDCPR, showcases the enhanced flexibility offered by the updated regulations. With an FSI of 2.60, the building design benefited from the revised guidelines, which allowed for a larger built-up area, improved by factors such as the type of development and road width allowances. These findings illustrate the significant impact of regulatory frameworks on the built environment, with UDCPR offering more opportunities for development compared to the more restrictive DCR guidelines.

VI. CONCLUSION

The comparative analysis of the Unified Development Control and Promotion Regulations (UDCPR) and the Development Control Regulations (DCR) for the Pune Municipal Corporation (PMC), through the examination of sample case studies, reveals significant differences in the governance of built-up area, Floor Space Index (FSI), setbacks, and sustainable development practices. The sample cases of Sample 1 (under DCR) and Sample 2 (under UDCPR) provided valuable insights into how the regulatory frameworks impact urban development.

The UDCPR's unified approach offers greater flexibility, enabling higher-density development and the integration of green building practices. This flexibility is particularly advantageous in rapidly urbanizing areas, where maximizing land use while ensuring sustainability is crucial. Sample 2, built under UDCPR, demonstrated a clear increase in FSI, thereby allowing for expanded built-up area and the incorporation of more sustainable features. This shift in regulatory approach signifies a progressive change towards accommodating growing urban populations and environmental considerations, thereby benefiting the development landscape in Pune.

In contrast, the DCR's zone-specific guidelines impose more rigid frameworks, with FSI allocations and setbacks tailored to specific land-use categories. While these regulations maintain a certain level of control, they may limit the adaptability of developments, particularly in areas where higher-density, sustainable projects are needed. The findings from the sample case studies underscore the importance of understanding both frameworks to achieve optimal land utilization.

The observed shift towards UDCPR's flexible and sustainable framework marks a positive change in urban planning, offering the potential for more innovative and environmentally responsible development.

This comparative analysis highlights the importance of updating and refining regulatory frameworks to remain responsive to the evolving needs of urban growth, ensuring that both sustainability and flexibility are prioritized in future developments.

In conclusion, the sample case study effectively demonstrated the tangible differences between UDCPR and DCR, emphasizing how the shift to UDCPR's more adaptable and sustainable framework can foster more dynamic and environmentally conscious urban development. It is recommended that local planning authorities continually assess these frameworks to ensure their relevance in meeting the demands of urbanization while maintaining sustainable growth.

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