

Unraveling the Dynamics of Carpet Area Measurement: Implications for Real Estate Development and Urban Planning

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Abstract

Real estate development and urban planning depend on carpet area measurement for property valuations, regulation compliance, and buyer's decision-making. In the past, the absence of a standard definition of carpet area often resulted in varying calculations of area and gave the buyers a short end of the stick as a product of mistrust. In India, the introduction of the Real Estate (Regulation and Development) Act (RERA) brought in a standardized definition of carpet area, thereby creating transparency and accountability in property transactions. The notion of carpet area defined as net usable floor area within the walls of an apartment has been expanded to exclude external walls, balconies, and common areas so that a buyer is shown exactly what the actual living space shall be. For real estate development, this shift has a serious bearing on the re-designing of project designs and pricing strategies in conformity to the norms set out by RERA, and as such can impact profit margins and competitive dialectics in the industry. Standardized carpet area measurements are beneficial from an urban planning viewpoint, as they enhance accurate population density assessments, permit better land use planning, and reduce system development costs from less inaccurate infrastructure development. However, implementation challenges remain, and implementation must be faithful to the reform if it is to reap its benefits: Consistent enforcement across states and clear measurement standards are needed. RERA standardizes carpet area measurement to promote a more transparent and just realty market as well as foster an ecosystem for sustainable urban development.

Keywords: Real estate development, urban planning, environmental sustainability, ecological preservation

INTRODUCTION

Carpet area is an integral part of real estate transactions; it governs buyer decisions, shelf valuations, and overall project feasibility. Historically, area measurement in India has not been uniform with respect to carpet area, which has resulted in variations in area measurement and a large number of misunderstandings between buyers and developers. The lack of consistency in delivering what buyers receive in terms of space often leads to distrust and dissatisfaction among real estate buyers. The net usable floor area within the walls of a unit's residential area, excluding external walls, balconies, common areas, and other non-usable spaces, is referred to as the carpet area. However, there was no standard definition, so different developers interpreted it in different ways: Some did not count spaces that were semi-private or utility spaces in their calculations, but that could have resulted in buyers being underfunded [1].

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In 2016, with the introduction of the Real Estate (Regulation and Development) Act (RERA), a paramount change was brought about by introducing

standard carpet area measurements for projects in real estate transactions, thereby delivering clarity and transparency to real estate transactions. This stipulation by RERA that the carpet area is the ‘net usable floor area’ will give buyers an idea of the actual living space they are going to get, minus the external walls and any other common area. RERA has wide-ranging implications for not just buyers and sellers, but also real estate developers (directly and indirectly) who need to rework their project designs, cost structure, and marketing constructs to align with the RERA’s mandated carpeted area. This precise measurement can not only make things simpler and more cost-effective for developers, but for developers, it can also impact profitability as it makes the scope to inflate the perceived space of a unit less, and if this happens, a developer can price his unit competitively.

Standardized carpet area measurements provide better population density assessment and more accurate predictions of land and infrastructure requirements from planners from an urban planning standpoint. The carpet area guidelines of the RERA Act as a consistent basis for area calculations, which further support the planning of more effective land use, infrastructure planning, and development initiatives. Finally, carpet area measurement regulations form a starting ground for making the real estate market more transparent and fairer, but also more sustainable and ecological, for immediate stakeholders as well as for the broader urban environment [2].

Definition and Historical Context

In real estate, the carpet area is the net usable floor area, considering the walls within a property, excluding external walls, balconies, common areas, and structural areas. It is the portion of a property that a buyer can use physically or ‘lay a carpet on.’ Nevertheless, carpet areas have been understood differently and calculated in accordance with different markets, regions, and developers, resulting in inconsistencies and misinterpretations. There was no standardized approach, so developers could loosely define what the carpet area was, often overstating things and accounting for properties to look bigger than they were. This lack of uniformity caused people to buy less space than promised to come through mistrust in the real estate market.

Before the Real Estate (Regulation and Development) Act (RERA), in India, developers used to use terms such as “built-up area” and “super built-up area” on the same basis as carpet area without any clarification. The super-built-up area includes the carpet area plus walls, balconies, and other semi-private areas, while the built-up area includes the carpet area along with walls, balconies, and other semi-private areas. Often, these calculations inflate the apparent size of the property and confuse buyers on the worth of their property.

That said, the reality of providing property valuations based on this diverse use of area metrics was problematic, with significant challenges stemming from the inconsistent approach to such calculations among various players in the real estate market. This negatively affected the market because buyers often did not know how much usable space they were getting. On the other hand, this lack of standardization is something that developers can exploit to market property more favorably. RERA brought in place with its standardized definition of carpet area hopes to curb these discrepancies, increase transparency, and increase trust between the developer and buyer. The Act formalizes carpet area measurement so that buyers know precisely what space they are buying, which leads to a better and cleaner real estate market. This draws a line between the historical context and the definition of the carpet area as a chief promoter of removing the trust credibility and transparency issues of any real estate transaction [3].

Importance of Carpet Area in Real Estate Transactions

There is a great influence on real estate transactions because the carpet area directly affects the assessment of the value of the property, buyer satisfaction, and transparency in the sale of the property. As an important factor of consideration when buyers decide on the value and suitability of a property, the carpet area is one of the determinants because it is the property’s actual usable floor space. The carpet area gives buyers the ability to determine whether they are being fairly priced for the space they

receive, and not find themselves paying above what the usable area is worth. Accurately calculating and disclosing the carpet area can also give developers credibility, build trust with buyers, and create a more transparent market environment.

Commercially, there are differences in wall area, built-up area, and super built-up area, and these terms are used so widely that buyers are not so conscious of these differences. The carpet area, that is, the net usable area, is different from the built-up area, which includes walls, and the super built-up area, which also incorporates common spaces. The perception of value is different for each property; if buyers think they are purchasing a greater surface area than the actual carpet area, the impression may be that they have been misled. On this basis, the disclosure of clear carpet areas is paramount to preserve transparency and resolve disputes. Carpet area calculations involve the financing and legal aspects of real estate. Carpet areas are factored by banks and financial institutions when valuing mortgages, giving buyers the loan amounts they can secure. Moreover, it is economically important because many states and local governing bodies employ carpet area measurements for tax calculations and regulatory assessments. With RERA ordering a common definition of carpet area, developers are obligated to offer facts that reinforce buyers' expectations of what they are purchasing. The removal of carpet area disclosure creates the opportunity for more straightforward real estate transactions by casting transparency, creating a more equitable real estate market for buyers, sellers, and financial institutions on the same page about the property's true value and usability [4].

Challenges of Inconsistent Carpet Area Measurement

Historically, the lack of standardization in how carpet areas are measured has been a problem for buyers, developers, and the larger real estate market. Disputes regarding carpet area values in real estate have occurred because of inconsistencies in carpet area calculations. Developers used to include in their carpet area calculations various areas—external walls, balconies, and common areas—which were not actually usable sometimes making it difficult for buyers to understand the actual usable space they are going to get. The consequence was to inflate the apparent size of a property, and thus deceive buyers into thinking they were really buying that space.

Buyers are dissatisfied and disenchanted with the real estate market, and one of the main issues is inconsistency. Developers would routinely sell as buyers expected space they would find they would not occupy, resulting in disputes between buyers and developers and in some cases legal challenges. The lack of clarity on usable space also impacted the valuation of the property, as buyers and developers had very different ideas about what the property was actually built on. Often, inconsistent carpet area measurements worked to the developer's advantage, as they could charge buyers more to buy greater space, whereas buyers were left with less usable space than paid for. In addition, without standardized measurement practices, it gave developers who had to use and calculate transparent carpet areas a competitive disadvantage. These developers faced tough competition between those who advertised inflated property sizes that undermined market dynamics and discouraged fair practice. In addition, the vagaries in carpet area definitions make it difficult for financial institutions and regulatory bodies to fix valuations, determine taxes, and ascertain compliance with accurate property measurements. To address these challenges, in the introduction of RERA, the carpet was defined as standardized, and developers were required to disclose exact measurements of property listings. Despite this, challenges remain in the uniformity of carpet area standards compliance across states, where states differ in their interpretation and enforcement. Another challenge is overcoming this challenge: as RERA continues to evolve, we need to ensure consistent carpet area measurements across regions to eliminate these challenges and help build a trustworthy, transparent real estate market where buyers can make informed decisions based on clear and accurate measurements of properties [5].

Impact on Buyers and Consumer Protection

Under the Real Estate (Regulation and Development) Act (RERA) in India, the introduction of a standardized definition of carpet area has led to an enhanced level of consumer protection and helped

buyers a great deal in India's real estate market. Among the most significant negative effects is the clearer result of transactions with properties. RERA's mandate forces developers to disclose exactly how much carpet space a property has and what a buyer is paying for. However, some developers are known to expand property sizes in areas such as external walls, balconies, and common spaces once, but this standardized definition excludes them. This means that buyers are now able to evaluate properties better based on real usable space instead of inflated numbers, which in the past caused confusion and disappointment. It provides clarity to transactions that reduces ambiguity in transactions and provide buyers clarity, allowing them to assess whether a property fits the buyers' budget and expectations.

RERA has also increased transparency, which in turn has led to fewer disputes between buyers and developers. Traditionally, developers have included different figures in the carpet area, resulting in a lack of trust and many disputes that occur when buyers feel cheated about where they can buy and how much they can afford to spend. RERA provides buyers with a regulatory framework to fall on if developers do not deliver what they promise with accurate area measurements. This has led to a more trust-based relationship, since now buyers have legal resources if a developer claims that the property area is what he says it is, and his word does not match what the RERA had defined as the carpet area. More importantly, this accountability discourages developers from scapegoating games, favoring fairer and more transparent practices.

This shift can be observed if we compare buyer experiences in the pre-RERA and post-RERA eras. Prior to the RERA, buyers had little protection and sometimes had to fight for information that would be transparent. The data now available on carpet areas and project timelines now empowers buyers as they are provided with reliability. This represents a big step forward for consumer protection; buyers are finally empowered with clarity, legal safeguards, and trust that they are getting the space they are promised. RERA has therefore significantly changed the relationship between the buyer and developer and brought about trust in the real estate sector among buyers who now have a clear and standardized basis for property purchase evaluation, reducing the possibility of buyer misrepresentation [6].

URBAN PLANNING AND DEVELOPMENT

Role of Standardized Carpet Area in Population Density Assessments

One of the main reasons for accurately measuring population density is the use of standardized carpet area measurements for rational resource allocation, effective urban planning, and infrastructure development. For example, population density is usually expressed in terms of the proportion of people in a given area, and urban contexts, this corresponds to the usable space within residential properties. Standardized carpet area measurements allow urban planners to know more precisely what the actual living space available for people living in certain areas is so that population density calculations can be made with more precision. It further enables rational planning decisions regarding transportation, utility, and public services so that they can meet the population's needs to the best possible level.

Here, pre-RERA period carpet area measurements were inconsistent and inflated property sizes, thereby skewing the population density data. Often, existing developers have included external walls, balconies, and other non-living spaces in their area calculations, making the appearance of the property bigger, and distorting the amount of living space that was available. The inconsistency in these results led to inaccurate population density estimates, which hampered planners from knowing the number of people living in an area. The RERA carpet area standards are accurate so that planners can work with actual usable living spaces and not push carpets around on a map, masking housing density and distribution.

Standardized carpet areas make it possible to compare urban areas separately from each other and enable zoning and planning of development plans to identify areas where so much is going on that it might be underutilized or overutilized, clear assessments of incorrect population density that may alter growth strategies related to overcrowding and accommodate public health programs and environmental sustainability goals [7].

Implications for Land Use Planning and Zoning Regulations

Standardized carpet area measurements are crucial for land use planning and zoning regulations because they provide a consistent basis for measuring the structure and usage of the built environment. Zoning in urban planning is the regulation of land use by zoning land for residential, commercial, industrial, or recreational uses to allow for the planning of city growth. For these regulations to work, the land must be used efficiently using as accurate measurements of space as possible, from overcrowding laws to resource depletion to infrastructure strain. The second benefit is the standardization of the carpet area, which allows for a clear understanding of usable spaces within buildings for better and fairer zoning policies. Standardized carpet areas facilitate planning by allowing planners to base zoning on actual living space instead of inflated or inconsistent spaces, and to distort land use and planning outcomes. For example, when developers calculate the number of spaces what if they are also adding non-usable spaces in their calculation then a residential area would appear to be the one with more housing capacity which would eventually lead to under-provisioning of the main services like water, sanitation, and public transportation. With an accurate carpet area, planners can estimate the demands coming from zones more accurately and provide infrastructure on par with supporting the needs of residents.

More importantly, this standardization facilitates more accurate floor-area ratio (FAR) calculations, a vital parameter in the zoning system that determines how much of the building surface can be embodied within a certain plot area. Accurate carpet area data are needed to implement FAR guidelines to control urban growth, maintain green spaces, and prevent overbuilding. Additionally, the amount of land that is 'assessed property' per se is fairly assessed, and standardized carpet area measurement helps to measure the carpet area per se which is helpful for taxation and development fees for fair revenue generation to the municipal body. The standardization of carpet areas goes with practical expeditions to reduce the negative environmental effects derived from the misuse of land. These assist planners in locating zones for mixed-use development, ranking public spaces, and maintaining a balance between commercial and residential life. As a whole, standardization of carpet areas is in line with zoning regulations that encourage land use focused within organized, efficient, and sustainable realms and improve cities' ability to control growth and satisfy resident demand while pushing towards goals in line with the environment and infrastructure.

Impact on Infrastructure Development and Resource Allocation

Infrastructure development and resource allocation within urban centers are directly related to the standardization of carpet area measurements. Accurate carpet area data allows planners to understand which usable space is available in residential and commercial settings and helps calculate population density and expected demand for necessary infrastructure such as roads, public transportation, water supply, sanitation, correlations, and waste management systems. If the measurements of the carpet area are inconsistent or inflated, then the estimate of a neighborhood's population density will either underestimate or overestimate the required infrastructure. For instance, if more livable space is reported than is available, such as when infrastructural overprovision occurs, it hurts service efficiency and increases operational costs.

Standardized carpet areas ensure that resources are allocated effectively, and infrastructure is built accurately to meet demand. For example, planners in a high-density residential zone can more accurately calculate the expected utilization of public transportation, electricity, and water supply in that area. This information is important for creating planning systems capable of serving a growing urban population without being overextended. Furthermore, it facilitates the efficient use of resources to prevent some parts from suffering from overservice, while others become underdeveloped.

Carpet area measurements are standardized to facilitate the standard planning of utilities such as electricity, plumbing, and fire, as well as the planning of emergency services such as health services, fire combat services, and disaster management facilities. By better understanding the geographic

capacity of a region, planners are better able to ensure that the region has sufficient resources to account for emergencies and maintain resilience when residents shift around unexpectedly. Carpet area standardization under regulatory acts is ultimately favored by providing a reliable framework for infrastructure and resource planning by ensuring that the best infrastructure is delivered, catering to the needs of the population, and bringing down the burden load on the city's resources [8].

LITERATURE REVIEW

Contribution to Sustainable Urban Development and Smart City Initiatives

It also serves to significantly standardize carpet areas for sustainable urban development and to support smart city ventures. Sustainable urban development focuses on designing the city in a way that it can use its resources in a good manner, giving a high-quality presence and cutting ecological impacts. To achieve these goals, accurate measurements of carpet areas are important, because they provide realistic planning in the context of density, resource use, and land allocation. In urban planning, carpet area standardization guarantees that only useful portions of built-up land are utilized in designing spaces that provide population needs without exceeding environmental or infrastructural limits. In the context of sustainable urban development, standardized carpet areas help handle population density presiding over environmental impact. Local ecosystems can become strained, congestion can occur, and there may be unsustainable pressure on resources in high-density areas beyond planned capacity. Given accurate carpet area data, planners can regulate zoning and create green spaces to prevent overcrowding, conserve natural resources, and encourage balanced development. Standardized carpet area measurements can also be used for energy-efficient designs and waste reduction projects, which are important components of sustainable urban planning [9].

Carpet area standardization provides a foundation for data-driven decision-making and resource management in the context of smart city initiatives. Understanding the role of technology and data in smart cities requires an appreciation of how they play a role in urban systems. A digital collection of standardized carpet area data makes it possible to use their input for resource-usage monitoring digital systems that allow adjustments in real-time based on actual rather than estimated population density. It reduces barriers to the integration of smart technologies with sensors and IoT devices for urban utility management, energy consumption optimization, and waste reduction. For example, if the lines of information are correct, smart grids can be instructed to distribute energy in the best way possible based on real-time when used in its area, thus making it an environmentally friendly process. This standardized carpet area measurement fosters sustainable urban growth by promoting the outfitting of urban spaces in accordance with residents' needs and ecological preservation. By delivering data accuracy that enables the smart use of technology to solve urban challenges, it supports smart city frameworks and helps cities move toward a sustainable and resilient future driven by efficiency and innovation in resource and infrastructure management [10].

IMPLICATIONS FOR REAL ESTATE DEVELOPERS

Adjustments in Project Design and Planning

With project design and planning for Real Estate developers, the carpet area under regulatory guidelines such as the Real Estate (Regulation and Development) Act (RERA) has given rise to a standardization of carpet areas that have seen huge changes. The lack of a defined carpet area previously meant that developers were allowed to count in spaces such as balconies, external walls, and common areas in the area calculation and thus accommodated more usable space in properties. However, with the RERA mandate of a standardized carpet area confined only to the net usable floor area within the walls of an apartment, developers must now design projects within these exact dimensions. This has forced a reconsideration of floor plans, building layouts, and space allocation in developments.

This has also compelled developers to get more correct information about planned functionality and interior spaces as per RERA requirements and that the usable area is maximized and adequately functional. Such a change often follows to imitate resizing rooms, removing unnecessary unused spaces,

and focusing on the delivery of high-quality compact area spaces that will utilize any carpet size space. Urban complexes in high carbon are increasingly being created from modular and compact designs adapted to maximize livable spaces without breaching carpet area regulations. Furthermore, project designs must now allow for the capability to balance functionality with visual appeal, as developers aim to provide marketable units that are in line with RERA standards but also meet the buyer's expectations of space and usability.

In addition, standardized carpet areas modify the layout of projects and dictate how shared facilities and amenities are placed in relation to each unit. With the dropout of common areas in the carpet area, developers must plan common areas such as lobbies, corridors, and recreational areas very carefully so that they can add value to the project and avoid inflating the cost while maintaining the perceived size of the apartment. This planning influence results in projects that have differentiated private and public spaces along with increased transparency and buyer satisfaction. However, the requirement to adhere to standardized carpet area standards has led developers to design more thoughtfully, embraced by consumers and regulatory standards [11].

Influence on Pricing Strategies and Profitability

The pricing strategies and profitability of real estate developers depend deeply on standardized carpet measurements. Prior to standardized definitions for carpet areas, carriers typically relied on exaggerated area multiples, including external walls, balconies, and common areas, to add perceived value to properties. Allowing developers to charge higher rates/sq ft, boosted profits but led buyers to overpay for the space they had. With RERA largely defining carpet areas, it is important now that developers redefine the way they price commercial as well as residential properties.

Since developers can no longer claim elevated prices based on inflated square footage, you no longer have carpet areas to use for net usable space. Instead, they must price units much more transparently, based on the true value and usability of the space they offer. This change can mean a shrinking of profit margins, especially on projects in more competitive markets, where buyers are sensitive to square foot prices and armed with a new fact base to compare different projects. This means that developers may have to revise their financial projections and hopes for profit, particularly for premier real estate, where pricing is linked to misleading area calculations [12].

Developers have chosen new pricing models along with value-added services to mitigate profitability impact. For example, some developers are updating finish quality, adding energy-efficient features, and adding high-value amenities to justify these prices. Meanwhile, others are building compact, space-efficient schemes that maximize the use of the carpet area so that they can attract buyers who do not mind paying a little less, without lowering unit prices. In addition, developers allow purchasers to pay in installments and finance their properties more readily, while also taking a hit on profit margins to increase turnover. In the long run, standardized carpet areas have opened up a more competitive and transparent market that is not subject to developers bidding up the price, because inflated figures are the only way they have to generate revenue. While this transition will be disruptive to profitability in the meeting, it will lead to a resilient real estate model based on buyers' trust and satisfaction, which could make developers profit through good reputation and buyer loyalty. With transparency becoming a market expectation, developers able to price their apartments according to real carpet area measurements will fare well in the evolving real estate market.

Standardization under the Real Estate (Regulation and Development) Act (RERA)

The Real Estate (Regulation and Development) Act (RERA) laid down in 2016 has been instrumental in bringing uniform practice in real estate in India, especially in the carpet area. Prior to the RERA, the real estate sector in India was unregulated by developers using various definitions with respect to carpet areas, built-up areas, and super built-up areas, which generally inflated property sizes and further created a haze of secrecy in real estate transactions. Many developers included non-usable areas such

as balconies, external walls, and common spaces in carpet area calculations, confusing what was usable in the properties that buyers would be buying into. For the real estate industry, this lack of standardization has led to mistrust and disputes about properties that are purchased, especially if they are not trustworthy. To address this issue, RERA came up with a defined and standardized carpet area definition, which is defined as the 'net usable floor area' inside an apartment within the walls, excluding external walls, balconies, verandahs, and common areas. This definition is mandatory by RERA to make buyers understand exactly what they are buying—be it a usable space—to ensure transparency and fairness in the real estate market.

Real estate development standardization under the RERA is not limited to carpet square feet, and its repercussions span many facets. For example, taking RERA as an example, before they list properties or sales, developers are required to register their projects with the regulatory authority to avoid marketing incomplete or unapproved projects. It is also the responsibility of the developer to provide regular updates on the progress of the project throughout the construction process, trying to make the construction process transparent. RERA also requires developers to disclose when projects will start and when they will be completed and can penalize them for delays. This has meant fewer instances of the projects getting delayed and buyers waiting indefinitely for possession of their homes. Moreover, the RERA has provisions regarding the handling of funds, underscoring that 70% of the buyer's payment should be deposited in an escrow account to construct the project and prevent fund diversion, making all financial deals accountable.

Standardization becomes possible under RERA; thus, the benefits extend to buyers, developers, and broader industries. This makes for a transparent transaction process that is broken down into clear information by the usable area for a buyer, as well as legal recourse in case the seller is not complying. RERA has also made regulations more stringent and has provided a more structured and credible environment to develop a market that lacks credibility, thus inducing more institutional investors in the development space and improving buyer confidence. It has also standardized certain essential aspects of real estate transactions and thus sets the ground floor for a more reliable, efficient, and trustworthy real estate market in India, improving both market stability and consumer confidence [13].

Research Problem

However, until now, there has been a chronic lack of standardization in carpet area measurement for real estate transactions, with all parties to the transaction—buyers, developers, and urban planners—suffering. However, the inconsistent calculation of the carpet area, and the usable space within a property, was a critical factor in determining property value, often leading to inflated measurements, and left buyers puzzled as to what space they were buying. This ambiguity did nothing to ease mistrust in the real estate market: buyers typically found themselves locked in battles with developers. However, developers were able to sell properties over area calculations, allowing developers to overcomplete those that operate within the realm of transparency.

In India, a standard definition of the term carpet area has been imposed with the introduction of the Real Estate (Regulation and Development) Act (Rera), which excludes non-usable spaces such as external walls, balconies, and common areas. This regulation has added clarity for real estate transactions, but at the same time, it has necessitated resorts to change project designs, pricing strategies, and financial planning. In addition, standardized carpet area measurements allow urban planners to have more accurate data on population density, land use planning, and resource allocation.

The first part of this study focuses on exploring the implications of adopting and using standardized carpet area measurements in real estate development and urban planning. Key questions include the following: What is the impact of standardization on buyer-developer relationships and consumer trust? How have developers adjusted to new carpet area requirements, and what impact has this had on profitability? Finally, how have standardized measurements improved urban planning efficiency, and

how might the potential be exploited for sustainable development? Solutions to such questions will offer insights into the transformative properties of carpet area standardization in India's real estate and urban landscapes.

Prospects and Recommendations

With the promise of transparency and growth, standardized carpet area measurement under RERA is a promising future for India's real estate sector, but it will need nail consistency and innovation for the complete realization of its potential. However, nationwide RERA enforcement is crucial to ensure state-level implementation, which still creates uneven consumer protection. This could be enhanced with digital tools such as real estate management software and GIS mapping, which would allow digital measurement accuracy and compliance for developers and urban planners to all have consistent data. There is still a lot of consumer and developer education to do as useful resources, and education stretches from learning how to identify transparent space utilization to how to develop in and for the future. Standardized carpet area data can provide better data for population density assessments in urban planning, which consequently facilitates sustainable zoning and resource allocation related to smart city initiatives. For India's real estate, a collaborative approach—barring RERA enforcement, technological advancement, consumer awareness, and sustainability—can transform the real estate landscape of India from being a trusted, efficient, and responsible environment for everyone and the basis for sustainable and resilient urban growth.

CONCLUSION

The Indian Real Estate sector has taken a huge milestone, as carpet area measurement has been standardized under the Real Estate (Regulation and Development) Act (RERA), which has long been plaguing issues of transparency, trust, and accountability in the real estate sector. RERA has set the bar high for real estate by offering buyers a clear and uniform definition of a carpet area as the net usable space of an apartment, which has helped make transactions more transparent and preferred without doubt. This shift has not only improved the relationship between buyer and developer through the dilemmas it has removed, but it has also compelled developers to alter their design and pricing strategies, as well as their financial planning to accommodate the accuracy of revealed space measurements. Moreover, standardized carpet areas have served as an essential database for urban planners to conduct comprehensive land use planning, infrastructure development, and resource allocation. In addition, these developments also support sustainable development goals; planners are now able to better plan zoning and the distribution of resources, thus facilitating balanced growth and reducing environmental pressure.

Real estate should standardize carpet areas across states, but this will only be possible with the combined action of consistent RERA enforcement and integration of digital measurement tools to ensure the accuracy and education of consumers and developers. In this way, India's real estate sector can grow into a more reliable real estate market driven by data and is friendly to consumers. Standardization of carpet area measurements not only protect buyers but also reduces the unfair playing field for developers and makes it possible for urban planners to make well-informed and smart city-supportive decisions. Finally, standardizing carpet areas by RERA has created a conducive environment for a more credible, honest, transparent, and sustainable real estate milieu for a better buyer, developer, and cityscape.

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