

Floor Space Index to Get a Re-Look More Open Space, Better Infrastructure, Future of Indian Cities

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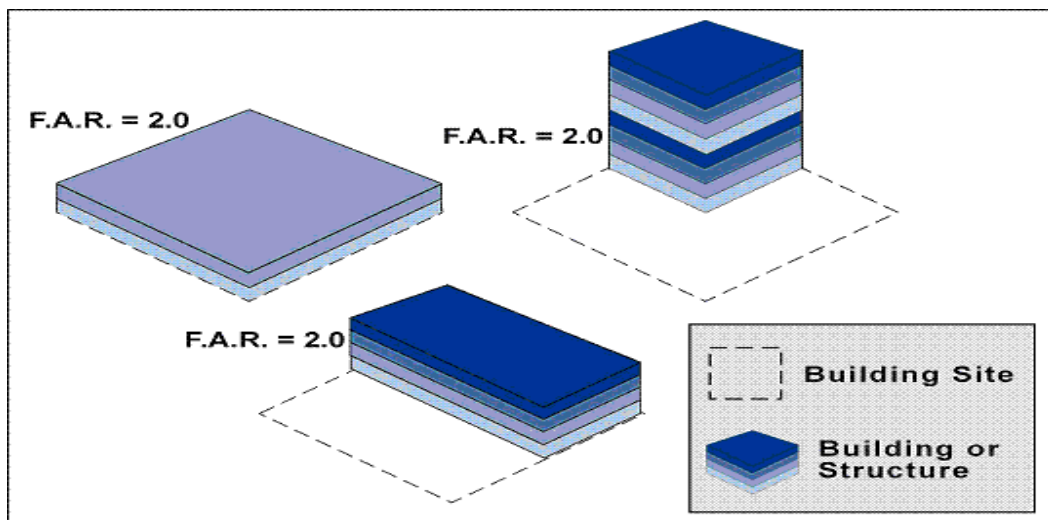
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ABSTRACT: FSI (Floor space index- the ratio of the built-up space on a plot to the area of the plot) is a regulation followed in the development control norms of many cities. Often cities have disparity in the growth patterns, density patterns and infrastructure development. In recent news, it was revealed that 30% of Indians occupy living space that is less than that of the prisoners of United States & other planned & developed places. FSI values of Indian cities are low compared to other cities in the world, which keeps the per capita built space low. The paper analyses and compares the various factors considered by some of the Indian cities in their building regulations with respect to the FSI for residential and related categories. A study of overall Indian city existing scenario is undertaken to analyse the impact of plot regulations and to find out various parameters affecting the same..

KEYWORDS: Floor space index, per capita space, density, infrastructure, urban sprawl

I. INTRODUCTION

India is characterized by well-built land use controls and Regulations, the restrictive floor-area ratios or Floor Size Index (FSI) restrictions, is a major problem for a city's growth. Floor area ratio being the ratio of built area to land area on which it is built. India's cities are distinguish by tremendously low maximum FAR/FSI. FSI/FAR gives an clue of how much built up space can be constructed based on different parameters of setbacks, road widths and of course, the plot size.



Figures: (a)

Figures: (a) Pictorial definition of Floor Area Ratio (FAR) or Floor Space Index (FSI) –to the site area

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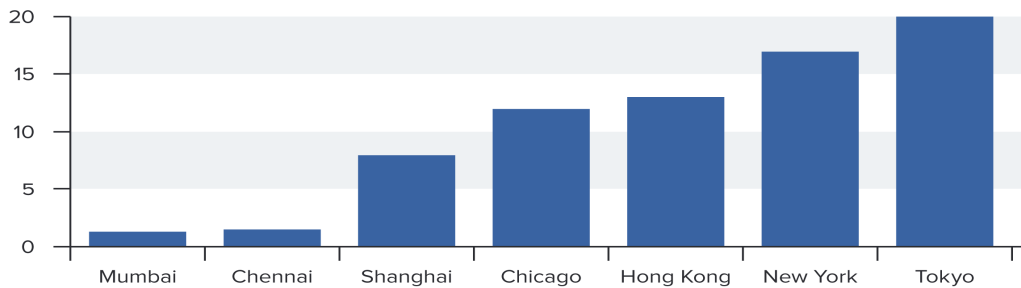
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In most large cities around the world, the FSI varies from 5 to 15 (in lower and mid-Manhattan, New York) in the city center, to about 0.5, or below, in the suburbs. In most large cities of the world, as technology and infrastructure improve, the FAR (FSI) in the city center tends to increase. However, contrary to international evidence, India's cities have extremely low maximum FAR, in the center of cities, which is have found to be on average 2.43 (for residential purposes), based on data from more than 100 cities throughout India . Indian FARs are low, above 2 is very rare – the historical aim has been to keep down heights because of scale and cost of infrastructure required to support high rise and in some cases lack of resources/unwillingness to make that kind of investment. The result of unduly low FAR restrictions is that the supply of built land is restricted, and the price per unit of built area is bid up. The extraordinarily low FSI in Indian cities has led to an artificial increase in rents per square foot and land prices. Where FAR controls are too low they can result in a suboptimal distribution of density, pushing sitting out in a way which is expensive to service (despite initial concerns to match population to density), making housing less affordable to the poorest, and making urban labour markets less accessible.

Floor space indexes in central business districts



Figures (b)- Indication of very low FAR or FSI for Indian cities in comparison to international CBD's .
Source: World Bank report (2013)

II. DIFFERENT FSI FOR DESIRABLE AREAS AS PER THE DEVELOPMENT REQUIREMENT

Coverage is the relationship between the ground floor area of enclosed buildings and the area of the lot. Development scenarios with the same FAR but different coverage will produce varying types of development: for example, low-rise or high-rise.

The examples below are a classic case of varying perceptions of density for two areas with identical FAR.

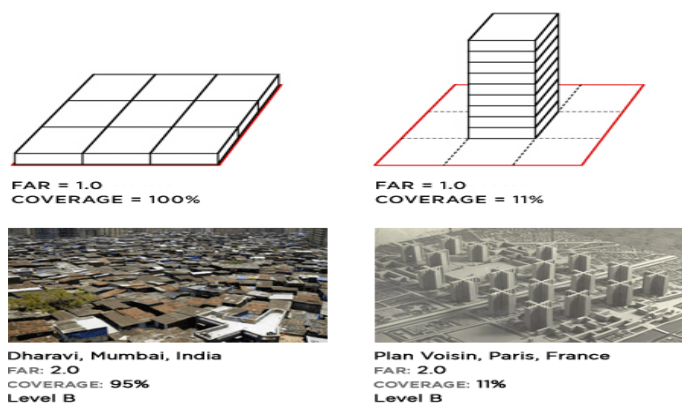


Figure (c)

Figure (c): Less FAR in prime metropolitans like Mumbai city have resulted in urban congestion, urban scape destruction & unsuccessful city development.

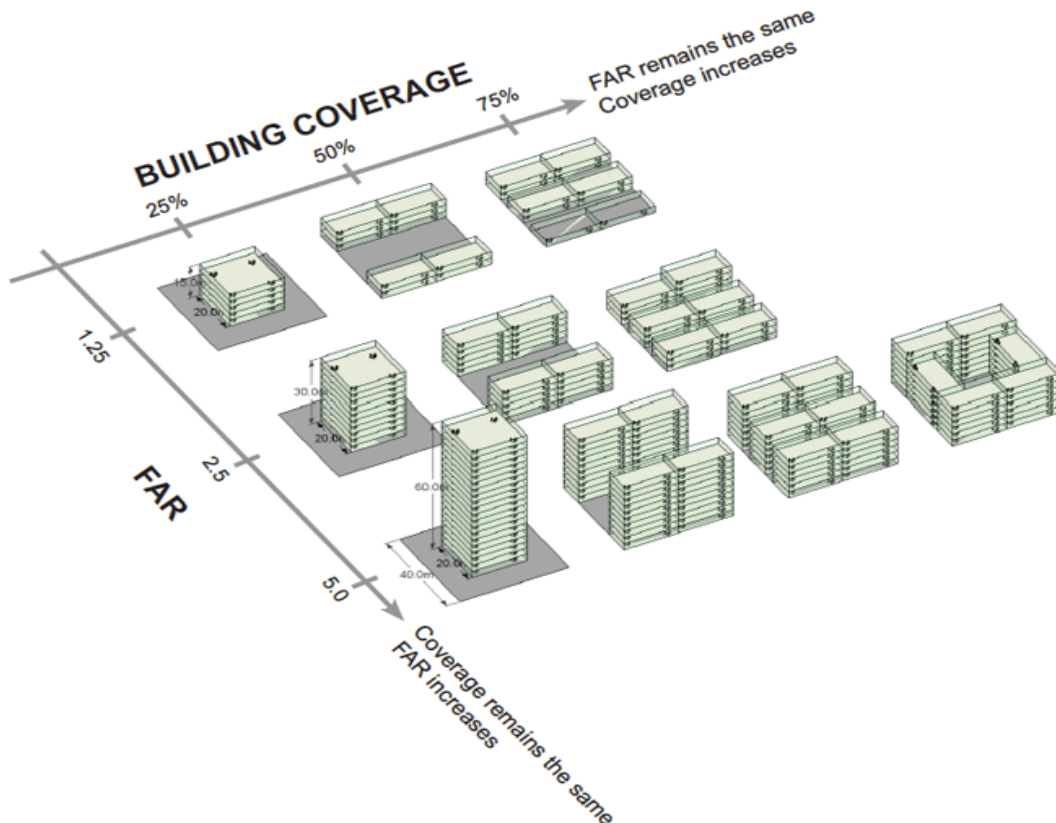
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III. CHANGEABLE FSI & COVERAGE FOR DIFFERENT AREAS



Figures (d)- Varying FSI in different zones of the city.
More FSI in the Central business areas , less and optimum FSI in residential areas

IV. IMPACT OF FSI ON THE NATIONAL CAPITAL

Local governments in many of the Indian cities are currently facing serious problems in infrastructure and investment. The first is the land scarcity in inner city areas, especially in prime urban locations. The second is lack of capital. The FSI which regulates the level of high- density development allowed in the central areas for commercial offices and high-income residential units, is designed to promote vertical growth in high land-value areas. The aim is to provide much needed space for businesses and, at the same time, generate resources to pay for improvements in infrastructure by selling the extra FSI – or, in other words, allowing much higher levels of development to pay for public infrastructure.

V. CITIES MAY GET TALLER , HIGHER FSI

The skyline of Indian cities could soar as the government considers permitting vertical growth with the aim of checking runaway realty prices and generating resources to upgrade urban infrastructure for future growth. Vertical growth of cities would not only expand the supply of prime land but also help raise funds to improve urban infrastructure. higher FSI should go hand in hand with provisions such as amalgamation of plots to make housing more affordable. Many cities were already levying charges for additional FSI in some form or the other. Hyderabad, for

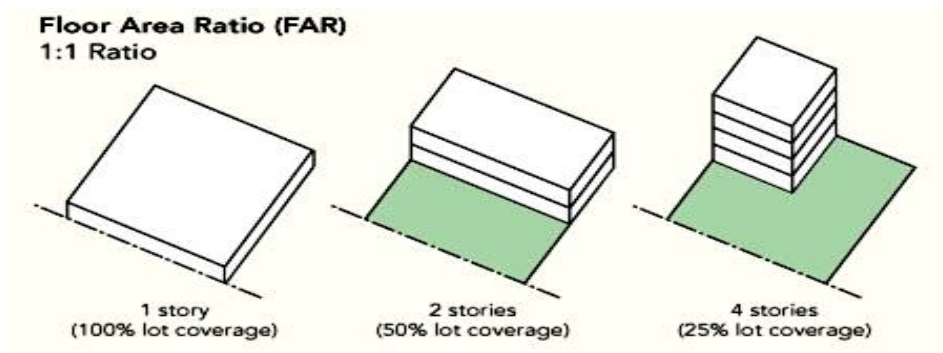
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instance, has a 'city level impact fee for highrise buildings' and Ahmedabad has systematically been selling a limited amount of additional FSI. Rather than the current practice of having a blanket FSI across a city mixed land use promoted through the concept of granular FSI. "Densification with mixed land use as a planning strategy needs to be followed by the authorities to accommodate future urbanization needs. However, this must be done after we put into place wider roads, adequate parking, water and sewage lines, power and recreational open spaces. Increased FAR results not just in more built-up area, but the end-result is higher density of people and vehicles per sq m of land. This increased density of vehicles and people requires wider roads and all other necessary infrastructure ranging from water lines to power and open Consider this - increasing FSI would lead to increased density – more people will occupy the same land parcel leading to increased demand on civic amenities/utilities – water, sewage, power etc. Considering our state of existing civic infrastructure in most metros is on the brink, further increase in density till the infrastructure capacity is enhanced to manage the human burden may create 'breakdown' situations that could have severe consequences like deteriorating hygiene etc." He says that it is FSI that can be increased, provided an integrated development plan also considers creating adequate basic and civic infrastructure capacity to keep pace with demands of human habitation. "Increase in FSI is generally, good for places like Mumbai where there is scarcity of land and the prices are very high. However, the townships which are being constructed in the remote locations, increase in FSI does not make much of a difference."



Figures (e)

Figures (e) : - More the coverage ,less will be site area for running infrastructure services . Less the coverage more will be area vacant for infrastructure services like road network, sewage, ventilation, green pockets etc.

VI. PERIODICAL REVISION

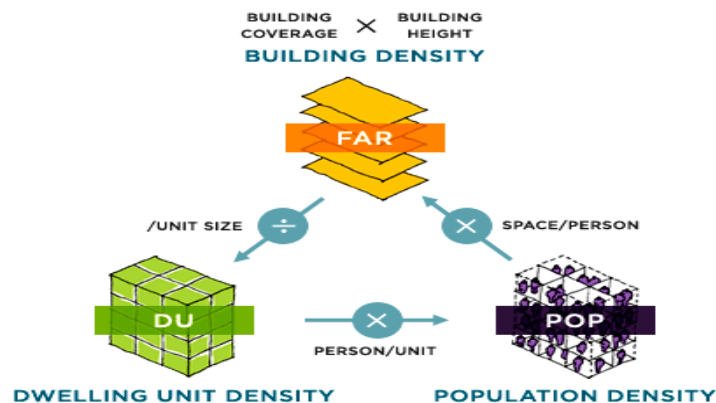
In most of our cities, FSI hasn't been revised for decades. In comparison, some cities in the world have a system of revising the FSI at regular intervals or according to growth and development in society. Proponents of the system argue that such periodical revision has its advantages. Firstly, it allows households and corporate to consume more space at their s. This existing property as their income grows, without relocating to other areas. Secondly, it does not put extra burden on infrastructure like transport and other amenities, as the dispersal rate to other suburbs is less. It places an extra burden on the government and civic agencies to develop suburbs and provide civic facilities such as road, transport, sanitation and health facilities. Moreover, in some cities, policy makers and planners keep the regulated FSI at a higher level as compared to the existing buildings, in order to encourage redevelopment of old and obsolete properties. These practices are yet to find favour with our urban planners.

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Figures (f)

Figures (f) - Interdependence of FSI – Dwelling units – population

For example, two areas may have the same number of dwelling units, but may feel more or less dense based on the relationship of those units to the number of people and the FAR in the area.

VII. CONCLUSION

In conclusion, one has to agree that the industry has a unanimous voice as far as FSI is concerned. And the views are not just for Mumbai but for the rest of the country too, with the exception of Hyderabad. A judicious decision is to be taken weighing all options and taking into consideration the burden that municipal authorities will have the ability to shoulder, the amount of traffic that existing and upcoming transport modules can support, the social infrastructure that is necessary for all round living - these are issues that cannot be pushed into the background. It is time for the industry to play a vital role in creating a strong social and physical infrastructural support system that is essential for consumers, apart from constructing homes and offices that will work in their favour when they present their argument for more FSI.

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BIOGRAPHY



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