

The Poetics of FSI

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It is clear from the present state of our cities that the system of blanket FSI (Floor Space Index)¹ and building by-laws, often standardized for an entire city, have failed to create coherent urban form. These rules result in an all-pervasive building pattern — regardless of whether they are single room tenements or luxury apartments, offices, hospitals, or even schools. What is incredible is that these stipulations are imposed somewhat evenly across the city, be they new greenfield sites or existing historic city centres. In short, the implication of this approach is that entire cities will be re-cast in the same image — look-alikes in terms of their urban form. And this will continue to obliterate any sense of cities being viewed as a group of precincts, neighbourhoods and communities with their differing physical forms, expressive of their particular climatic conditions, economic situations and lifestyles.

In addition, the idea of blanket rules applicable to the entire city or large portions of it, by definition cannot be responsive to the topography and natural environment. Even virgin landscape, swallowed by our expanding cities, is being inundated by the high-rise typology. And so, if buildings on the waterfronts, hills and the hinterland were to be essentially of the same form, height, mass, etc, the natural features and terrain would inevitably be destroyed.

This is obvious in Bombay's Malabar Hill, where similar densities could have been achieved in the form of low-rise terraced apartments. This would have conserved and perhaps enhanced its natural topography, while encouraging a building pattern which could have to be affordable to a wider spectrum of income groups.

However, high-rise buildings should not be discouraged *per se* — for, apart from

orienting one in the city, they symbolize its economic strength. Besides, if appropriately located, they could enhance the skyline as well as be an expressive form of urban imagery. But our present by-laws and blanket FSI ensure that they are unnecessary, yet repeated through the urbanscape. This, combined with a lack of attention to site planning, brings their worst qualities to the fore. Take for example the new Cuffe Parade development in Bombay which is built on reclaimed land. There has been no attempt to structure the precinct by responding to its situation on the waterfront. Here, high-rise buildings could have been used to funnel views to the sea's edge. But, on account of bad site planning and the relentless repetition of high-rise buildings, the presence of the sea is non-existent when one enters the canyon-like streetscapes that characterize the area.

Thus, the issue is not to make a case against high-rise buildings, but to limit the use of a single building typology in the city and, therefore, curtail the monotony that ensues in the urban landscape. Today, cities have become far too large, pluralistic and complex to impose on them a singular building typology. So the issue at hand really is how to combine the different building typologies in a city in order to achieve a desirable urban form — without destroying the inherent qualities of these various typologies, whether high-rise buildings or low-rise high density ones!

Before the FSI concept and blanket by-law system were introduced, buildings and the overall form of a city were governed by height restrictions, and setbacks — stipulations which usually varied precinctwise. Open space requirements, which are now stipulated on a plotwise basis, were not stringent and the open space requirements were dealt with at the neighbourhood or precinct level.² In fact, what was employed earlier,

(although not explicitly) was a 'global FSI' system where, instead of considering laws and dealing with the urban form on a plotwise basis, it was considered for an entire precinct. This allowed for building rules to be formulated in response to prevailing design attitudes and contemporary aspirations, resulting in a much richer overall form of the city, with each precinct form expressing the advantages of its location as well as contemporary attitudes to design in its physical form.

To achieve a desirable mix of urban form, if we were to use a global FSI concept, where an entire area is considered instead of an individual site, we could calculate the total FSI available to us in a district or even in an entire city and redistribute it. This would allow us to put more pressure (by designating a higher FSI) on nodal points in the city, where the infrastructure of roads, trains, buses and other services could cope with the densities created by high-rise buildings, and less on land that forms natural features worth preserving for ecological necessity, or visual appeal. Similarly, such designations could also be used to control the prices of land in order to make it affordable to lower income groups.

This could possibly eliminate the kind of situations that one finds today, of the urban landscape being ploughed through by faceless and hostile high-rise buildings, which are, in any case, unaffordable to a majority of the urban population. It is to safeguard against such irreversible damage that one could, for example, permit high-rise buildings only in specific zones, reserving most waterfronts and hills for other typologies like row houses and other forms of low-rise high-density building patterns that are compatible with the visual appeal of a city's natural features as well as its social and economic realities.

In order to achieve this, a city could be divided into zones based on a combination of topographical as well as land use criterias. Thus, land-use categories should be discussed in the context of their location in a city — residential or commercial areas along the waterfront, commercial areas and mixed-use areas at transport intersections, residential areas on hills, etc.

Categorizing the structure of a city into these areas will enable each area to have its own particular by-laws and building policies, a crucial deviation from the blanket by-law system which assumes, and makes inevitable, that all precincts take on the same physical character. By evolving by-laws specific to an area, the urban form could be fine-tuned to respond to the particular topography, perceived needs and opportunities that the area offers. In fact, the only by-laws that should be invariable are those that relate to hygiene, public health (ventilation) and safety (fire, etc.). All other laws which have an impact on the urban form should be evolved precinct-wise.

A precinct or such a planning unit could be defined on criteria which take into account physical as well as social and economic factors — a sort of urban fabric definition that goes beyond the simplistic definition of a neighbourhood. For example, the criteria would chart economic levels of the residents, patterns of use, typologies of building form from an affordability angle as well as social mix. This could then, help us define a basic planning unit which displays some cohesiveness and consistencies beyond its topographical and architectural characteristics.

After that it would be possible for policies to be written up to focus on the problems of each such area. For example, the by-laws for each area could help ensure that displacement does not occur on account of dramatically changing land values on account of revision in land use zones or by-law stipulations for the entire city. Similarly, once policy makers recognize the characteristics of a particular area, laws could be evolved to make the urban form respond not only to its physical constraints, but the social and economic realities of that part of the city.

This would mean that the FSI designated for a precinct could be coupled with by-laws that encourage particular building typologies suitable for that precinct. By identifying the characteristics

of a precinct, the by-laws should re-enforce these very characteristics — size of plot, the height of buildings in relation to width of the street, the manner in which they are situated, say around a lake or a hilly terrain. Precisely those qualities that our blanket FSI and by-laws have destroyed! Once the overall form of a precinct is determined down to the building envelope, the quality and style of architecture will easily respond to reinforce a particular urban gesture. This would be a crucial shift from the present phenomenon where architects, in their concern and responses, are extremely specific to the site they are building on, perpetuating the phenomena of a city of disconnected parts!

In the present blanket FSI system, the realizable built-up area on a property is more or less the same, irrespective of its location in the city. Therefore, to ensure an equitable monetary realization for property owners in areas where lower FSI has been designated, a system of 'Transferable Development Rights' (TDR) could be applied, as is beginning to happen in Bombay. Then, the portion of FSI reduced on a site can be transferred or sold by the property owner in designated areas.

However, in existing cities, the obvious difficulties in this system are two-fold: The identification of receiving plots for the transferrable FSI; and insuring that compatible financial gains are realized by the property owner on the designated plot. Thus, to make the instrument of TDR truly equitable, the FSI should be indexed depending on its location. If FSI is transferred from the city centre to the periphery of an urban area, a multiplier index (in proportion to the difference in land values between the two areas) will have to be applied in order to ensure that TDR values are equally realized, irrespective of the location to which they are transferred.³

These dynamic by-laws and shifts in attitude would infuse qualitative factors to compliment the abstract, number-crunching exercises that characterize most urban planning in the country. Similarly, it is imperative that Urban Arts Commissions and Conservation Groups widen their emphasis from the present obsession with architectural style to issues of urban form. In order to create new city centres or to conserve precincts and districts within the city, it is not solely the

style of architecture that needs attention, but the overall urban form that will make possible an appropriate architecture. It is extremely difficult to legislate anything as nebulous as aesthetic taste. At best we could influence and advocate a change in the form of the cities, their skyline and mix of building typology — both from an aesthetic as well as affordability angle. And it is here that planning instruments such as FSI designations and set-back laws have to be re-oriented in order to bring about a qualitative change in our emerging city form. It is about time planners and city authorities began addressing issues which would go beyond merely exploiting FSI and begin to understand its potential and Poetics! †

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Footnotes

- 1 FSI (Floor Space Index) or FAR (Floor Area Ratio), as it is referred to in some cities, is the ratio of the combined gross floor area of all storeys of a building (including the area of walls) to the total area of the plot or premise. In short, the ratio stipulated is what determines the square feet that can be built on a particular site.
- 2 This concept of FSI was introduced in Bombay for the first time in the 1964 Development Plan and indexes fixed for different areas in South Bombay. These indexes varied from 1.33 to 2.45 and those for the New Backbay Reclamation (Nariman Point and Cuffe Parade) from 3.5 to 4.5. Subsequently, in 1977, the FSI index was reduced to 1.33 to 1.0 for South and North Bombay areas respectively. This was the first time when the idea of a more or less blanket index was imposed across the city. Before the FSI concept, the development of South Bombay was mainly governed by height restriction rules permitting maximum height up to 70 ft for most buildings. The open space requirements were not stringent either and a minimum front open space of 1.5 m was also allowed.
- 3 An indexing FSI could, in some situations, become a complicated process (especially in existing cities). Ideally transfers of FSI should occur within a precinct or area. In some cities, the shifting of FSI across precincts could effect historic areas where densities might be lower than the rest of the city. Similarly, as in the case of Bombay, it could result in an overloading of the suburbs. Ideally, TDR should be operational within a precinct, where potential receiving plots are identified at areas linked to each other for such transfers.