

“STUDY OF BUILDING BY-LAWS AND REGULATIONS FOR RESIDENTIAL BUILDINGS”

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Abstract: *The Construction activities and land development taking place in a region should be regulated, especially in case of growing/developing cities. These regulations in India for such activities can be referred from National Building Code (NBC) and the prevailing local city 'Bye Laws'. These local city bye-laws in particular take into account urban development like housing, population density, infrastructure requirement, environment, etc. Hence these have direct implications on the city itself. A home to live in is a prime necessity for human beings. The Government for the same reason has implemented many policies related to Housing to encourage development in the said sector. The utilization and cost of a residential building is determined by the locally available Building Byelaws. Building Byelaws control the numbers of dwelling units, in some cases, that can be accommodated in a given parcel of land by implementing the essential clauses such as Built Up Area, FSI/FAR, Maximum Building Height, Margins to be kept open in front and around the buildings*

Keywords: *Building By-Laws, National Building Code (NBC), Urban Development*

1. INTRODUCTION

Generally, the development plan of a city along with the prevailing bye-laws is designed to meet the need of function /requirements/aspirations of the people residing in it. The Construction activities and land development taking place in a region should be regulated, especially in case of growing/developing cities. These regulations in India for such activities can be referred from National Building Code (NBC) and the prevailing local city 'Bye Laws'. These local city bye-laws in particular take into account urban development like housing, population density, infrastructure requirement, environment, etc. Hence these have direct implications on the city itself. In this Mini-Project, we have tried to compare the different bye-laws prevailing for 'residential buildings' in four cities, namely- Mumbai, Surat, Bangalore, Visakhapatnam and the justification behind the differences, if any along with the consequences. All the residential buildings are referred to as just buildings in generic terms, unless until specified. Also discussed in this project are the effects of 'Violation of Building Bye-Laws' and the reasons behind them along with their consequences.

2. METHODOLOGY

Step 1: Topic- Study Of Building Bye-Laws And Its Violation For Residential Buildings.

Step 2: Literature Review-Refer literature review.

Step 3: Problem Finalization- Finding Violation in Building Bye-laws and suggesting Remedies

Step 4: Collection of Documents- The First step was to collect the relevant documentation of bye laws of four cities-Mumbai, Surat, Bangalore, Visakhapatnam and research papers regarding the assigned topic from primary and secondary data sources.

Step 5: Skin and Skim- The second step was to skin and skim the required data pertaining to the scope of our project, which are the bye laws regarding residential buildings only.

Step 6: Compare and analyze- Compare and analyze the data of the bye-laws of the above said cities, find out the differences, if any.

Step 7: Give out reasons/impacts- After finding out the differences, find out the reasons behind it and also the consequences of such differences.

Step 8: Remedies/Recommendations- Finally after understanding all the differences and their reasons, impacts; find the remedies and solutions which would help in much more efficient creation and use of By-Laws for residential buildings.



3. BUILDING BY-LAWS OF DIFFERENT CITIES

Sr No.	Bye Laws	City							
		Mumbai		Banglore		Surat		Vishakapatnam	
		Min	Max	Min	Max	Min	Max	Min	Max
1	Plinth height from GL Main Building Court Yard Height	30cm 15cm	- -	45cm 15cm	- -	45cm 15cm	- -	45cm 15cm	- -
2	Habitable room area Any habitable Room Multipurpose Room Bathroom Water Closet Combined WC	9.5 Sqm 12.5 Sqm 1.50 Sqm 1.10 Sqm 2.20 Sqm	- - - - -	8.0 Sqm - 1.50 Sqm 1.10 Sqm 2.20 Sqm	- - - - -	- - - - -	- 15 Sqm - - -	9.5 Sqm - 1.80 Sqm 1.20 Sqm 2.80 Sqm	- - - - -
3	Floor to Floor / Room Height Any habitable Room Bathroom Water Closet Combined WC	2.75m 2.2m 2.2m 2.2m	4.2m 4.2m 4.2m 4.2m	2.9m 2.75m 2.1m 2.1m	- - - -	2.8m - - -	- - - -	2.75m - - -	- - - -
4	Loft- Height between Loft and Ceilin	-	1.5m	2.2 m	-	-	2m	-	1.5m
5	Main Entrance	4.5m	-	6m	-	3m	-	-	6m
6	Garage	2.5 m x 5.5 m	-	3m x6m	-	-	-	1m x 2 m	-
7	Parking	-	25% of FSI	-	15% of FSI	-	15% of FSI	-	20% of FSI
8	Basement Height upto beam soffit	2.9m	3.9m	2.4m	4.5m	2.6m	-	2.4m	-
9	Electricity Line Low and Medium Lines High Voltage upto 33,000 V High Voltage above 33,000 V	V2.5m x H1.2m V3.7m x H2.0m V3.7m xH2.0m	- - -	V2.5m x H1.2m V3.7m x H2.0m V3.7m xH2.0m	- - -	V2.5m x H1.2m V3.7m x H2.0m V3.7m xH2.0m	- - -	V2.5m x H1.2m V3.7m x H1.2m V3.7m xH2.0m	- - -
10	Door Size Any habitable Room Bathroom Water Closet	W0.9m x H2.0m 0.7m wide 0.7m wide	- - -	W0.9m x H2.0m 0.7m wide 0.7m wide	- - -	W0.9m x H2.0m 0.7m wide 0.7m wide	- - -	W0.9m x H2.0m 0.7m wide 0.7m wide	- - -
11	Staircase-passage width	≤ 70m Ht - 1.5m ≥ 70m Ht - 2.0m	- -	1m	-	1.5m	-	1m	-
12	Headroom	2.2m	-	2.2m	-	2.2m	-	2.2m	-
13	Stairs on a Flight	-	12	-	12	-	-	-	12
14	Lifts	> 16m Ht - 1 Nos > 24m Ht - 2 Nos	- -	G+3 Floors	-	> 21m Ht - 2Nos	-	> 15m Ht - 1 Nos	-
15	Highrise Building Height	≥ 32m	-	15m	-	17 m	40 m	18 m	-
16	Setback Distance Front setback from roads	3.6m 1.5x width of road	Height / 3 -	1m per 6m Height	-	3 m	-	1m per 3m Height	-
17	Refugee Area Height/ Foor % Floor Area	24m/ 7th Floor 4%	- -	- -	- -	- -	- -	30m -	- -
18	Rain Water Harvesting	≥ Area 500sqm	-	Compulsory	-	-	-	≥ Area 200sqm	-
19	Tree Plantation	5 trees per 100sqm	-	2 trees per 200sqm	-	1 tree per 100sqm	-	1 trees per 80sqm	-
20	Coastal Region Zone (CRZ)	As per CRZ Notice 2011	-	-	-	-	-	As per CRZ Notice 2011	-
21	EIA	Plot Area > 20000sqm	-	Plot Area > 20000sqm	-	Plot Area > 20000sqm	-	Plot Area > 20000sqm	-
22	Energy Efficiency by Competant Aut	-	5% Additional Fungible	-	-	-	-	-	-
23	FSI	Mumbai City 1.33 Suburbs 1.0	-	2	5	-	1.8	-	5

Findings:

- After comparing different Bye-Laws of local bodies in the four cities of Mumbai, Bangalore, Surat, and Visakhapatnam, we discovered that on the same parcel of land, you can construct taller buildings in Visakhapatnam and Bangalore compared to Mumbai and Surat.
- Since Mumbai has a more urban population compared to Visakhapatnam and Surat near the coastal area, special provisions have been given under the bylaws of Mumbai for land development in such areas.
- Environment Impact Assessment is mandatory for all the projects in all the cities having a plot area of more than 20,000 sq.m (basically for residential townships).
- If the residential building has been certified as an energy-efficient building by a competent authority, then 5% additional FSI will be given in Mumbai, whereas no other provision has been made in other bylaws of the remaining cities in the study.
- Rain Water Harvesting (RWH) is compulsory in Bangalore, whereas in Mumbai and Visakhapatnam, RWH is mandatory if the plot area is more than 500 sq.m and 200 sq.m respectively. No such provision is given in Surat's development laws.
- Minimum height of Highrise buildings in Mumbai, Bangalore, Surat, Visakhapatnam is 32 meters, 15 meters, 17 meters, 18 meters respectively. In Surat, a building can be built maximum to a height of 40 meters.
- The height required from the ground level for a refuge area in Mumbai and Visakhapatnam are 24 meters and 30 meters, however, no such height provision is given in Bangalore. Provision for refuge area itself is not given in the regulations of Surat city's bylaws.
- Since the scope of development in Mumbai is up to its saturation point and there is a rise of congested areas, to improve ventilation, lighting, etc, setback distance is more in Mumbai, that is 3.6 meters or total height of the building divided by three. On the other hand, Bangalore's setback distance is 1 meter per 6-meter height; Surat's setback distance is 3 meters and Visakhapatnam's setback distance is 1 meter per 3-meter height.
- There is a mandatory lift installation provision in Mumbai if the height of the building is more than 16 meters; for Surat, it is 2 lifts for a building of height 21 meters; for Visakhapatnam, the height of the building should be more than 15 meters and for Bangalore, the building should be having G + 3 floors or more.

4. VIOLATION OF BUILDING BY-LAWS

Due to the rapid urbanization and charm of living in a big city the rate of growth of population has drastically increased in the cities. The reasons for such a fast growth could be attributable mainly to the development of I.T. hubs, better educational and employment opportunities. Because of high influx of people to the city, there is a great demand for house and house sites. This, in turn, has led to the steep rise in the property values here.

Building bye laws are introduced to regulate construction activities, to prevent construction of buildings in a haphazard manner and to provide better civic amenities. Zoning regulations are also introduced with the same motive and to regulate the land use, control of density of population and to develop the city in an orderly way. However, these building bye-laws and zonal regulations are not strictly followed by the people presumably on the ground that the restrictions imposed are nothing but hindrance in exploitation of the property to the full extent and thereby they construct their buildings at their will. In so doing, they do not mind to forego certain prescribed civic amenities such as having broader roads, playgrounds, parks and other civic amenities.

Broadly, we may classify the violations into three categories viz., violation of Floor Area ratio, violation of site set back and violation of plot coverage. Violation of any one of these three violations would deprive the land owner of completion certificate.

Floor Space Index (FSI)/Floor Area Ratio (FAR):

Floor Space Index (F.S.I) is prescribed separately for intensely developed area, moderately developed area and sparsely developed area. For e.g. In case of Bangalore, F.A.R. used to be high in more intensely developed central areas in view of land values and lower F.A.R. in the suburbs where land values are less. But presently it is on the reverse pattern and the policy is to fix less F.A.R. in the central area to enable decongestant and higher F.A.R in the suburbs to encourage development where the traffic and other problems are less. Similar type of problems pertaining to is FSI faced by Mumbai too.

Non-adherence of sanction plan restrictions and set back

The building bye-laws prescribe for certain set backs on sides of the building to facilitate the people to have proper light, ventilation, privacy and to save them from dust and traffic noise. While framing the building bye-laws, the civic authorities also keep in mind the future land requirements for broadening roads. It is noticed that people take the building permission from the municipal council by submitting the building plan as per prevailing development control bye-laws and rules and get approval of their plan from the municipal council and after that violate building bye-laws by way of additional floor construction, site set back construction, providing stair case on the site set back area, balcony area to be converted into living rooms, etc.

Land use

The Zonal Regulations of the Development Plan prescribe different land uses like; residential, commercial, land for civic amenities etc., for systematic development of the locality. But it is noticed that the residential buildings situated along the main roads and the roads nearer to commercial area are developed and utilized as commercial property. Even several industries also do crop up in these localities in gross violation of zonal regulations. Similarly, residential or commercial buildings do crop up in civic amenities sites meant for parks, play grounds, schools, green belt areas etc.

Sanction Plan for additional constructions

If a part of the building is constructed with deviations, the owners of such property hesitate to approach the plan sanctioning authorities whenever they intend to put up further construction on the property for approval of sanction plans for the reason that deviations will be noticed during inspection by these authorities and thereby proceed to make further construction without the sanction plan. Such people try to develop rapport with the concerned municipal authorities and put up additional constructions without sanction plan and inspection by the planning authority at various stages during the construction.

In a large number of cases, deviations and violations take place with the active support of the officials and the local politicians. Only in rare cases when it is brought to the notice of the competent authority of deviations, action would be initiated by the concerned authorities against which action the land owners knock the doors of the courts and in many such cases courts do grant stay. Thereupon, the building owners do enjoy the property for long period despite violation of the bye-laws since it would take long time for the court to dispose of the matter.

6. REMEDIES AND RECOMMENDATIONS

Violation of bye-laws, deviations of sanction plan, zonal regulations etc., cannot be allowed to be continued for long since it is an unhealthy trend. Therefore, the following suggestions may help in curbing violations of the bye-laws etc.

User friendly bye laws

The building byelaws and zonal regulations of the Comprehensive Development Plan should be user friendly and acceptable to the majority of the public. Further, the byelaws should not consist of too many technical jargons but should be simple to enable the common man to understand and follow. Byelaws should be suitable to the local conditions failing which there would be violation of such laws.

Strict enforcement

When once user-friendly building byelaws with simplified procedure for sanction of building plans are introduced, there should be deterrent punishment if the property owners deliberately deviate from the sanctioned plan or construct their buildings without the sanction of the competent authority. It may be kept in mind that unless strict enforcement of the zonal regulations and building bye-laws is carried out in letter and spirit, there is every likelihood of people violating even the user-friendly bye laws.

Accountability of Engineers

Construction of a building generally takes not less than a year. During this time, frequent visit by the concerned area engineer and supervisor to find out whether the construction is according to sanction plan etc., would prevent violations of the regulations by the land owners. Instead of this, the municipal authorities conduct raids after several years of such construction putting the people to a great hardship and embarrassment. To avoid such a situation, strict enforcement of visit by the concerned engineer must be introduced and if any deviations are noticed later on, the concerned engineer should be made accountable for allowing such deviations and action initiated against him for dereliction of his official duty.

Imposition of heavy penalty for deviations

As a onetime relief, for the existing buildings all deviations in building bye-laws, plans and zonal regulations could be permitted with different slabs of penalty for such violations. The higher the violation, more the penalty. Once user friendly bye-laws are introduced, there should be no leniency whatsoever and every deviation should be punished with severe penalty.

A team of technical officials consisting of town planners, architects, and civil engineers can be formed to educate the people on the need for adherence of the byelaws while at the same enlightening the public of the punishment for violations. Similarly, area committees consisting of revered citizens and the representative of the resident's welfare associations may be constituted to monitor violations.

Revision of Bye- Laws

City	Year	Growth Rate
Surat	2019	4.72%
Bangalore	2019	3.87%
Vizag	2019	2.52%
Mumbai	2019	1.03%

The building bye laws need revision whenever as per population growth rate. The committee constituted to prepare the bye laws should comprise of not only the experts in the field but also the different sections of the public so that the matter could get debated from different angles before arriving at a conclusion. Thereupon, the draft bye laws should be circulated amongst the public to solicit the views and suggestions from people of different walks of life. The print and visual media can play a greater role in this regard.

New Building Permissions

While granting new building permission in congested areas rules and regulation of non- congested area should be made applicable. This is required for making the congested area into a non-congested area in future, otherwise congested area shall remain congested ever and the people living in this area will be deprived of breeze, light, ventilation and smooth transportation on street etc.

Compulsion of RERA

Real Estate Regulation Authority Act came into force on 1st May 2016 which not only gave customers an ease of mind while purchasing real estate but also put the developers under strict scrutiny and regulations due to which the ease in violating the Bye Laws has reduced drastically. However even after knowing the advantages of RERA many states still criticized it and haven't made it mandatory to register their projects under RERA in their respective states.

7. CONCLUSION

The rules, regulations and bye-laws are made by the councils or development authorities taking in view the larger public interest of the society and it is the bounden duty of the citizens to obey and follow such rules which are made for their own benefits. If possible, the citizen of the town should self-participate in the process of development of town. From our study we've observed that there are'nt any major differences in the bye-laws of the cities-Mumbai, Surat, Bangalore and Visakhapatnam. Wherever the changes are present, it is due to the land availability, level of urbanisation in the particular city and people's requirements. For example, Mumbai being a

metropolitan city, has more constraints on space availability and most of the city lies under the 'air funnel' of the Airports authority of India(AAI) and has a Floor Space Index(FSI) of upto 1.33 according to the local prevailing bye-laws and Visakhapatnam which is still not yet a metropolitan city has a FSI of upto 5. Further we have noticed most of the violations occur pertaining to FSI, setback distance, plot coverage and sanctioning of plants. We have also suggested some remedies which would help in mitigating the violations.

8. REFERENCES

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