

Comparative Study of New UDCPR Regulations to Old Bye-Laws in Residential Building for Amravati City

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Abstract— In the absence of building bye-laws, cities will be confronted with excessive coverage, encroachment and haphazard development resulting in chaotic conditions, inconvenience for the users and disregard for building aesthetics. In order to ensure the planned development of city understanding of building byelaws is necessary. Building byelaws help in construction of new buildings, the extension of the existing ones, and the change of use of the building or land to another use. In this paper an attempt has been made to compare the old building bye laws with new UDCPR building regulations. Old D' class byelaws and new UDCPR (Unified Development Control and Promotion Regulations) regulations are taken for the study. The main areas of focus are FSI (Floor space index), building height, setback (marginal spaces) and Special building. Comparative study has been done and the differences have been revealed. From the study it is concluded that percentage of additional FSI has been increased. New Ancillary FSI has come into force. Side and rear marginal distances has been reduced.

Index Terms: Development Control Rules, FSI, Building Height, Setbacks, Special building.

INTRODUCTION

Building bye-laws are legal tools used to regulate building coverage, height, area of construction, and architectural designs to maintain the growth or orderly development of a place. Building bye-laws are necessary to protect any building against noise, fire, earthquakes, structural failures, and any hazardous activity. Many small and medium-sized structures in India don't have building bye-laws and are constructed in the absence of any regulatory mechanism with excessive coverage and dangerous development causing a chaotic situation. Building bye laws are an important part of town planning as in

the absence of these rules, the city might begin to confront encroachments, excessive land coverage and haphazard development which is not at all aesthetically appealing.

In this paper an attempt has been made to compare the old building bye laws with new building regulations. The main areas of focus are FSI (Floor space index), building height, setback (marginal spaces), Special building. Another objective of the paper is to have a better understanding of new UDCPR regulations. This study is limited to non-congested areas of regional and development plan and for residential and commercial uses only.

LITRETURE SURVEY

Vaghani K.B., Dr. Shah N.C. & Dr. Krupesh A Chauhan (2010) In this paper it is concluded that, the impact of building byelaws is significant on housing as parcels of land are sold on available FSI on that parcel of land. DCR (Development Control Rules) shall be made such that maximum number of dwelling units can be accommodated in the available parcel of land to optimize the use of land without affecting adversely the quality of urban life and for controlling land cost factor and minimizing conversion of land under agriculture use to non-agriculture use.

Ar. Shilpa Madangopal, Dr. Rama R. Subramanian (2014) The main basis of this paper is to understand sustainability of built environments from Macro-level to Micro-level. A comparative analysis is made between the Building Byelaws of Bangalore & Portland city to elaborate the scope of sustainable development in the built forms.

This paper is mainly divided into two parts; the first part tries to explain sustainability at various levels to understand the scope of sustainability in the field of built environment. Finally it is concluded by the inference that there is no single sustainable urban form, but rather a variety of urban forms that are more Sustainable than typical generic development Patterns.

Reshmi Banerjee (2015) The main purpose of building codes are to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. Building codes are generally intended to be applied by architects, engineers, constructors and regulators. Building codes have been the primary source for guidance in the design and construction of building structures for many decades. In this context, India has not been an exception. The conclusion is building byelaws are the key policy instrument used by governments to limit buildings pressure on the energy sector and environment while providing occupants with comfort and modern living conditions.

M. SUBASH CHANDIRA (2007) This paper provides a comprehensive discussion on development control rules and building byelaws of Tamilnadu. The author provides critical commentary on the planning and other related statutes, and assesses their impact in controlling and regulating unauthorized constructions and misuse of premises. The author proposes - consolidation of all related organizations under the control of an umbrella organization for effective implementation of building byelaws and regulation of development control rules.

Ar. Yogita Nagpure, Ar. Ashwini Sulekar, Ar. Mayur Survase (2016) This paper is an effort to understand the contribution of Building byelaws in architectural development. There has to be laws or regulations binding on the prospective builders, if

not, the building constructed will be Un-scientific, Unhealthy and Inconvenient for the people to occupy. The building bye-laws should be reasonably rigid and adequately flexible as they have to be sometimes revised according the improvements affected in science and engineering and as per peculiar circumstances existing at the time. The conclusion of this paper is that proper adoption of Byelaws will lead to the most civilized and efficient development and will raise us a step up for growth & enlargement of habitat.

OVERVIEW OF BYELAWS

In India, each municipality and urban development authority had its own building code, which was mandatory for all construction within their jurisdiction. All these local building codes are variants of a National Building Code, which serves as model code providing guidelines for regulating building construction activity.

Now, new UDCPR regulations are applicable to all Planning Authorities and Regional Plan areas of Maharashtra state except Municipal Corporation of Greater Mumbai, Other Planning Authorities /Special Planning Authorities / Development Authorities within the limit of Municipal Corporation of Greater Mumbai, MIDC, NAINA, Jawaharlal Nehru Port Trust, Hill Station Municipal Councils, Eco-sensitive / Eco-fragile region notified by MoEF & CC and Lonavala Municipal Council, in Maharashtra.

1. FSI (Floor space index):- FSI means the ratio between the area of a covered floor (Built up Area) to the area of that plot (land) on which a building stands.

A. In old D'Class bye laws

Table 1: Permissible basic FSI, FSI on payment of premium, Permissible TDR Loading on a plot in non-congested area for Residential, Commercial uses

Sr no.	Road width in meter	Basic FSI	Additional FSI on payment of premium	Maximum Permissible TDR Loading	Maximum Building potential on plot
1	2	3	4	5	6
1	Below 9.00 meter	1.1	--	--	1.10
2	9.00 meter and up to 12.00 meter	1.1	0.30	0.40	1.80
3	12.00 meter and up to 18.00 meter	1.1	0.30	0.65	2.05
4	18.00 meter and up to 24.00 meter	1.1	0.30	0.90	2.30
5	24.00 meter and upto 30.00 meter	1.1	0.30	1.15	2.55
6	30 meter & above	1.1	0.30	1.40	2.80

B. In new UDCPR Regulations

Table 2: Permissible basic FSI, additional FSI on payment of premium, Permissible TDR Loading on a plot in non-congested area for Residential and Residential with mixed uses and other buildings in developable zones like residential, commercial, public-semi-public etc. shall be as given in Table below

Sr no.	Road width in meter	Basic FSI	Additional FSI on payment of premium	Maximum Permissible TDR Loading	Maximum Building potential on plot
1	2	3	4	5	6
1	Below 9.00 m.	1.1	--	--	1.10
2	9.00 m. and above but below 12.00 meter	1.1	0.50	0.40	2.00
3	12.00 m. and above but below 15.00 meter	1.1	0.50	0.65	2.25
4	15.00 m and above but below 24.00 m.	1.1	0.50	0.90	2.50
5	24.00 m. and above but below 30.00 m.	1.1	0.50	1.15	2.75
6	30.00 m. & above	1.1	0.50	1.40	3.00

Note - In addition to above, ancillary area FSI up to the extent of 60% of the proposed FSI in the development permission (including Basic FSI, Premium FSI, and TDR shall be allowed with the payment of premium. This shall be applicable to all buildings in all zones.

2. Set-back (Marginal Distances):-

A. In old D'Class bye laws

Table 3: Marginal Distances and set-back for Residential Buildings and mixed use with Height up to 16 m. or as mentioned in the Table

Sr. No	Description of the road	Min plot size in Sq. meters	Min width of plot in meters	Min setback from road side in meters	Min side margins in meters	Min rear margins in meters	Remark
1	NH/SH	450	15	6.0m for NH and 4.5m for SH or as specified by Highway rule whichever is more	3.0	3.0	--
2	MDR/ODR	450	15	4.5m or as specified by Highway rule whichever is more	3.0	3.0	--
3	Roads 24 meters and above	300	12	4.5	3.0	3.0	--
4	Roads of width below 24m and upto 18m	250	10	3.0	3.0	3.0	--
5	Roads of width 18m and 15m	250	10	3.0	2.25	2.25	Side and rear margins in this row only for G+2 or stilt +2 structure
6	Roads of width below 15m and above 9m	150	8	3.0	1.50 (in case semi-detached building, only one side open space shall be permissible)	1.50	--do-
7	Road of width upto 9m	100	7	3.0	1.50 (in case semi-detached building, only one side open space shall be permissible)	1.50	--do-
8	Row housing on roads of 12m and below	30 to 125	3.50	2.25	0.00 (In case of corner plot, 1.50 or building line of adjoining road whichever is more)	1.50	Side and rear margins in this row only for G+1 or stilt +1 structure
9	Row Housing for EWS/LIG/Slum Up gradation etc. by public authority.	20 to 50	3.0	0.90m from pathway or 2.25m from road boundary	As per Sr.No.7 above	0.90m	Side and rear margins in this row only for G+1 or stilt +1 structure

B. In new UDCPR Regulations

Table 4: Marginal Distances and set-back for Residential Buildings and mixed use with Height up to 15 m. or as mentioned in the Table

Sr. No	Description of the road	Min plot size in meters	Min width of plot in meters	Min setback from road side in meters	Min side margins in meters	Min rear margins in meters	Remark
1	2	3	4	5	6	7	8
1	Roads of width 30 m and above in local authority area	450	15	6.0 in case of A, B, C class Municipal Corporations and 4.50 in case of other areas.	3.0	3.0	Side and rear margins for building upto 15m height (excluding parking floor upto 6.0m height)
2	In case regional plan area. NH/SH	450	15	4.5m or as specified by Highway rules whichever is more.	3.0	3.0	Side and rear margins for building upto 15m height (excluding parking floor up to 6.0m height)
3	Roads of width 18 m and above but below 30 m	250	10	4.5	2.0	2.0	Side and rear margins for building upto 10m height (excluding parking floor up to 6.0m height)
4	Roads of width 15 m and above but below 18 m	200	10	3.0	1.5	1.5	Margins for buildings G+2 or stilt+3 structure
5	Roads of width less than 15 m	80	6	3.0	1.5 (in case of semi-detached building only one side marginal distance shall be permissible)	1.50	Margins for buildings G+2 or stilt+3 structure
6	Row housing on roads of 12m and below	30	3.5	2.25	0.0 (in case of corner plot, 1.50 or building line of adjoining road whichever is more)	1.50	Margins for buildings G+2 or stilt+3 structure
7	Row housing for EWS/ LIG/ by public authority / private individual/ Slum upgradation etc. by public authority	20	3.0	0.90 from pathway or 2.25 from road boundary	0.0 (in case of corner plot, 1.50 or building line of adjoining road whichever is more)	0.9	G+1 or stilt+2 structure only

Marginal distances for Buildings of Higher Heights

A. In old D'Class bye laws

The Requirement for front, rear and side marginal distances are (i) Front Margin Requirements:- Minimum front margin required for buildings in except the marginal distances specified in Table No.3. for the height more than 15m. shall be as follows:-
 (i) Height above 16 mt. & upto 24 m. -- 4.50 m. or as per Table No.4
 ii) Height above 24 mt. & upto 37.5 m. -- 6.00 m.
 iii) Height above 37.5 mt. -- 9.00 m.

(ii) Side or rear Marginal distances Requirements

For height more than specified in Table no.3 side and rear margin would be

H/4 subject to a minimum of 3.0 m for residential building, 4.5 m. for commercial building, and 6.0 m. for special building.

B. In new UDCPR Regulations

Marginal distances for buildings of heights more than mentioned in Table No.4,

(i) Front Marginal distance:- shall apply for all buildings in the height more than 15m. shall be as follows:-
 (i) Height above 16 mt. & upto 24 m. -- 4.50 m. or as per Table No.4
 ii) Height above 24 mt. & upto 37.5 m. -- 6.00 m.
 iii) Height above 37.5 mt. -- 9.00 m.
 (ii) Side or rear Marginal distances Requirements
 For height more than specified in Table no.3 side and rear margin would be H/4 subject to a minimum of 3.0 m for residential building, 4.5 m. for commercial building, and 6.0 m. for special building.

(ii) Side or rear marginal distance :- Side or rear marginal distance in relation to the height of the building for light and ventilation shall be as below: -

The marginal distance on all sides shall be as per Table No.4 for building height or floors mentioned there in. For height more than stipulated in Table No.4 the marginal distance on all sides, except the front side of a building, shall be minimum $H/5$ (Where H = Height of the building above ground level).

Provided further that, the building height for the purposes of this regulation and for calculating the marginal distances shall be exclusive of height of parking floors up to 6m.

HEIGHT OF BUILDING :-

In any case maximum height of building shall not exceed 50 m in both old byelaws and new UDCPR Regulations, subject to approval of Chief Fire Officer of the Authority or Director of Fire services, Government of Maharashtra.

BALCONY :-

Balcony or balconies of a minimum width 1.00 m. and maximum of 2.00 m may be permitted at any floor except ground floor, in both old and new byelaws.

In old byelaws no balcony shall reduce the marginal open space to less than 3 m and the balcony should not be enclosed where as in new UDCPR Regulations no balcony shall reduce the marginal open space (including front) to less than 2m and the balcony may be allowed to be enclosed in the room in such case depth of the enclosed balcony shall not exceed 1/3 of the depth of the room (including the depth of balcony).

Special Buildings:-

A. In old D' Class bye laws

- (i) Multi-storeyed buildings which are more than 16 mt height; or
- (ii) special buildings like educational, assembly, mercantile, institutional, public and semi-public, industrial, storage and hazardous having area more than 500 sq. m. on each floor; or
- (iii) Buildings with mixed occupancies with any of the aforesaid occupancies mentioned in (ii) above, having built-up area more than 500 sq. m. on each floor

B. In new UDCPR Regulations

- (i) Any multi-storied building which is more than 24 m. in height measured from ground level, or
- (ii) Buildings for educational, assembly, mercantile, institutional, industrial, storage and hazardous occupancies having built-up area 500 sq.m. or more on any floor irrespective of height of such building, or
- (iii) Any building with mixed occupancies with any of the aforesaid occupancies in (ii) above with built-up area 500sq.m.or more on any floor irrespective of height of such building.

MAJOR FINDINGS

From the study it is found that,

1. Basic FSI is same in both old and new byelaws.
2. Additional FSI on the payment of premium was 30% of plot area, now it is 50% of plot area.
3. Maximum permissible TDR loading is almost same as it was earlier.
4. In new UDCPR Regulations, Ancillary FSI up to the extent of 60% of proposed FSI i.e. (Basic FSI + Premium FSI+TDR) is permissible for residential use and 80% of proposed FSI for other than residential use. In old D' class byelaws there was no provision of Ancillary FSI.
5. Marginal distances: - In old D' class byelaws for building height more than 16.0m, side and rear margins were $H/4$. In new UDCPR Regulations for building height more than 15.0m, side and rear margins are $H/5$. (Where H= height of building above average surrounding ground level).
6. Definition of special building:- In old D' class byelaws, special building is any multi-storied building which is more than 16 m. in height measured from ground level or having built-up area 500 sq.m. or more on any floor irrespective of height of such building where as in new UDCPR Regulations it is any multi-storeyed building which is more than 24 m. in height measured from ground level or having built-up area 500 sq.m. or more on any floor irrespective of height of such building.
7. Balcony: - The minimum distance from balcony to plot was 3m now it is 2m. The balcony was not allowed to be enclosed in room but now it can be enclosed in room.

CONCLUSION

There is 20% increase in Additional FSI on payment of premium compared to old byelaws. New UDCPR Regulations allow Ancillary FSI up to 60% of proposed FSI for residential use and 80% of proposed FSI for non-residential use. Earlier there was no concept of ancillary FSI. Side and rear margins were H/4 but now it is H/5 it means there is 5% decrease in side and rear marginal distances in new UDCPR regulations. The minimum distance from balcony to plot which required to be left was 3.0m now it is 2.0m only. It is observed that more floor area/ dimensions of rooms are available in new regulations which help design professionals to effectively plan the building as they have more space now compared to old byelaws. More space means it will be possible to fulfill all the requirements of building with comfort and convenience. As the definition of special building has changed it means that up to a building height of 24.0m or floor area less than 500.00sq.m it is not necessary to provide fire escape staircase and fire lift. It is a relief for low rise buildings having height of less than 24.0m. For buildings having height more 24.0m or having floor area 500.00sq.m or more it is compulsory to provide fire escape staircase and fire lift.

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