

Right to light and air: Applicability with respect to prevailing Building Rules in India

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Abstract: The 'Right to Light and Air' doctrine is based on English common law called a right to ancient lights, which was one of the earliest legal recognitions of an environmental amenity as a property right. India has instituted this right through various legislative, judicial and regulatory through, Inter alia, the Transfer of Property Act (1882), the Easements Act (1882), National Building Code (NBC) of India (2005, revised 2016) and building bylaws of various States. This research paper investigates the legal basis, technical standards, and regulatory lack of a right to light and air in India. It looks at how the rights guaranteed under the Development Control Regulations (DCR) are frequently denied due to the failure of setback rules, Floor Area Ratio (FAR/FSI), height restrictions, and ventilation standards amid rapid urbanisation. The study highlights landmark judicial pronouncements, international best practices and germane solar access rights in the wake of India's net-zero energy aspirations. Moreover, the study identifies architectural practices that ultimately affect nearby premises and residents based on experience. Based on an eminent Indian city, the paper illustrates specific facets where imprinted standards markedly depart from reality. The paper sets forth a framework by which solar easement law and day-lighting-based urban design in India can be effectively strengthened.

Keywords: Ancient Light, Easement Act 1882, NBC 2016, FAR, Setback Regulations, Urban Heat Island, RERA, Building Byelaws, Solar Access Rights

INTRODUCTION

The right to the free passage of natural light and ventilated air across a property boundary is one of the oldest property rights recognised by law. Before electric light and modern building technology, societies recognized that sunlight and fresh air are basic necessities for habitation, health, and dignity. The rule governing the right of luminum stated that one could not construct anything that would excessively blind their neighbours light.

The 'Ancient Lights' principle evolved in English common law. It allowed a property owner to secure a prescriptive easement if he enjoyed light unobstructed by a newer building for 20 years or more. This principle became enshrined in law in the Prescription Act 1832. India imported this principle through colonial-era legislation, most notably the Indian Easements Act 1882, which is still in force today. The Act, in Section 15, specifically acknowledges the right to light and air as an easement obtained by long use. Nevertheless, ever since independence and particularly after the 1991 economic liberalisation cities in India have witnessed a rapid vertical densification that has strained and whittled away the above-mentioned rights. In cities like Mumbai, Bengaluru, Hyderabad, Kolkata, and Delhi, the widespread growth of high-rise developments has resulted in overshadowing, loss of daylight, and reduced ventilation in the existing buildings. The National Building Code of India (NBC) and the 2016 Model Building Byelaws (MBB) deal with regulatory responses in a convoluted manner, further complicated by the state Development Control Regulations (DCR), municipal building bylaws, the 2016 Real Estate (Regulation and Development) Act (RERA), and environmental jurisprudence under Articles 21, 48A of the Constitution of India. Even with all these layers, it is sometimes unclear how a right to light and air is practically protected. This paper identifies the conceptual and legal genesis of the right in Roman law and Indian regulation, maps technical standards set-backs, FAR, height limits, and window-to-wall ratio against documented needs of occupants for light and ventilation, and identifies enforcement gaps to suggest reform based on global best practices.

HISTORICAL AND CONCEPTUAL ORIGINS

i) Roman and English Common Law Roots

Legal protection of sunlight access existed thousands of years ago. The Roman law has recognized servitudes relating to light, which include the 'servitus ne luminibus officiatur' (servitude for not obstructing lights) and 'servitus altius non tollendi' (servitude for not raising a structure above the neighbor's level). This was reflective of the Romans' realisation that coexistence in a city required enforceable limits on development in the common good. The Ancient Lights doctrine in English law evolved through common law from at least the 17th century. The core idea is this: a landowner who has received the benefit of light through a window for a sufficient period of time acquires a legal right, an easement to

continue enjoying it, and may sue for nuisance a neighbour who builds, and through that building reduces the light. The Prescription Act of 1832 (UK) entitles a person to an indefeasible right of light along a defined aperture after a period of 20 years of uninterrupted enjoyment and gives him an action for injunction or damages. Most notably, the English case of *Colls v. Home and Colonial Stores Ltd.* (1904) AC 179 established the quantitative ones where action is able to be taken once the subsequent light is lower than the level required for the comfortable use and enjoyment of the building for its ordinary uses. The dominant legal test which the courts in other Commonwealth jurisdictions have also adopted was to be 'comfortable use' and not a strict reduction in percentage.

ii) The Ancient Lights Doctrine in Indian Colonial Law

The incorporation of the Ancient Lights doctrine took place in the Indian Easements Act of 1882 with respect to British property law codification in India. As per Section 4 of the Act, an easement is defined as a right that aids landowners in enjoying their land i.e. either allowing things on the neighbouring property or disallowing such interference from the overlapping properties. If a person enjoys uninterrupted access to light on another person's land for twenty years, this is an easement by prescription. This codification retained the essentials of the English doctrine: the requirement of peaceable enjoyment; defined aperture; and the twenty-year prescription. Importantly, however, it introduced Indian procedural remedies, through the Specific Relief Act. Before independence, the courts upheld the right of light and air as a property right and granted injunctions.

iii) Philosophical and Health-Based Justifications

Aside from its legal foundation, the right to light and air has strong public health and philosophical foundations. The 19th-century reform movements in Britain spearheaded by Edwin Chadwick showed that lack of daylight, ventilation and access to sunlight caused tuberculosis, rickets and respiratory diseases in overcrowded urban housing. Natural sunlight helps in the synthesis of vitamin D for individuals while natural ventilation helps to reduce airborne pathogens and the risk of Sick Building Syndrome.

India has warm-humid and composite climates that make these rights particularly significant in India. According to Vastu Shastra, the ancient Indian science of architecture, one must orientate and plan in such a way as to enhance solar access and cross-ventilation, which connects one to the health. Modern building science is in complete agreement: studies by the National Institute of Urban Affairs (NIUA) and the Building Materials and Technology Promotion Council (BMTPC) show that buildings with natural light and ventilation perform far better than mechanically conditioned ones on health, productivity and energy efficiency.

LEGAL FRAMEWORK GOVERNING RIGHT TO LIGHT AND AIR IN INDIA

i) The Indian Easements Act, 1882

The principal legislation regarding rights to light and air is the Indian Easements Act of 1882. According to Section 15, if an individual or entity has enjoyed peaceful access and use of light or air for a building for up to twenty years, then that access is automatically granted as an easement. Further, it does not require either registration or adjudication. According to Section 13 of the Act, easements of necessity and quasi-necessity like light and air have also been defined. Section 35 allows easement-holders to stop others obstructing the exercise of the easement. Section 36 provides for the removal of obstructions from an easement. The courts take a broad view of these provisions. When someone refers to the right to light, it is understood to refer to general skylight. Similarly, the right to air refers to the receiving of air which is good enough for comfortable living. In current urban circumstances, the Act has a basic limitation of twenty years prescription. In rapidly developing urban centres, the demolition and fresh construction of buildings takes place over a cycle of 15 to 30 years in many cases, which makes it practically impossible for most property owners to comply with the prescription period. Furthermore, the developer's construction of a building, followed by the sale of flats in that building, may have the effect of interrupting the prescription period of the existing neighbouring buildings.

ii) Constitutional Dimensions: Article 21 and the Right to Environment

For the last forty years, India's Supreme Court has interpreted Article 21 (Right to Life and Personal Liberty) to include the right to a dignified environment which includes access to clean air and adequate light. *Subhash Kumar v. State of Bihar* (1991) was a matter in court where the right to life was stated as that which included enjoyment of pollution-free water and air. Later rulings extended this ambit to natural light and ventilation as aspects of dignified living. Article 48A requires that the state shall endeavor to protect and improve the environment with a view to securing for the citizens a healthful environment. This, along with Article twenty-one, is interpreted by the courts as imposing an obligation on the municipal authorities and the planners to see to it that the building ordinances provide for the right of the residents to sunlight and ventilation. The National Green Tribunal (NGT) has asked local authorities to implement setback as well as height restrictions to ensure access to air as well as light.

iii) Real Estate (Regulation and Development) Act, 2016 (RERA)

RERA, though primarily a consumer protection law, has some effect on the right to light and air. The regulatory condition under Section 14 of RERA directs that the promoter must strictly follow the sanctioned building plans of a project and that such promoter must not materially alter such plan unless prior consent is obtained from two-thirds of the allottees. When building envelope and setback requirements are enforced through sanctioned plans for light and air, the same will be RERA compliant. According to Section 11 of RERA's provisions, a promoter is required to furnish the details of external development. This allows prospective purchasers to evaluate the lighting and aeration within the space of the property that they are looking to buy. Nonetheless, RERA does not create an independent right to light and air, nor does it give a remedy for obstruction of these rights.

iv) Judicial Precedents

Indian courts have decided numerous cases relating to the right to light and air, which have created a complex and evolving body of law. Significant lawsuits involve.

Table 1: Landmark Indian Judicial Decisions on Right to Light and Air

Case Name & Citation	Court & Year	Key Issue	Ratio Decidendi
Bachhaj Nahar v. Nilufar Kasim Saheb (2008) 17 SCC 491	Supreme Court, 2008	Prescriptive easement of light through courtyard opening	Confirmed 20-year peaceful enjoyment as key test; detailed aperture identification required
M.C. Mehta v. Union of India (1996) 4 SCC 351	Supreme Court, 1996	Air quality and right to life	Clean air is part of Art. 21; State must regulate industrial emissions affecting urban habitability
Phiroz Bahadurji Gazder v. Municipal Corp. of Greater Mumbai (2002)	Bombay HC, 2002	Setback violation obstructing light to adjacent flat	MCM obligated to enforce DC Rules protecting light; injunction granted against illegal construction
Ram Baj Singh v. Babulal AIR 1982 All 285	Allahabad HC, 1982	Brick kiln reducing air quality to neighbour's home	Reduction of ventilated air quality constitutes actionable nuisance; right to air includes quality
Ushaben v. Bhagyalaxmi Chitra Mandir AIR 1978 Guj 13	Gujarat HC, 1978	Obstruction of light to residential building by temple additions	Substantial diminution of light measurable by photometric standard; injunction warranted
ITC Limited Vs. Chowringhee Residency Private Limited	Kolkata HC, 2015	An alleged right to obtain uninterrupted ancient light to a building, owned by ITC Ltd.	The case was dismissed.
Anand Patwardhan v. New Khatib Colony Co-op Housing Society (2018)	Bombay HC, 2018	High-rise obstructing daylight to ground-floor units	Directed developer to install reflective devices and reduce floor count in affected zone

Table 1: Summary of key Indian judicial decisions on the right to light and air (1978–2018)

ROLE OF ARCHITECTS AND PLANNERS

The recognition of light and air rights has historically played a role in the field of urban planning and architecture, imposing on architects an important professional and legal obligation. Architects must plan buildings that do not block the natural light and ventilation of neighbouring buildings, especially in congested localities. This responsibility involves evaluating solar orientation, shadow patterns, and wind flow throughout the project's development while ensuring

compliance with setback rules, maximum building heights, and daylight standards outlined within applicable codes. By being aware of these aspects, architects take statutory measures and do not violate ethics of the urban environment. The urban planner adds the role of ensuring existing buildings match with community and environment objectives.

BUILDING REGULATIONS AND THE RIGHT TO LIGHT AND AIR

i) National Building Code of India (NBC 2016)

The National Building Code of India is the building design and construction standard. It was first set up in 1970 and revised in 2005 and 2016. NBC 2016 deals with light and ventilation requirements mainly in Part 3 (Development Control Rules and General Building Requirements) and Part 8 Section 1 (Lighting and Ventilation). Part 3 of NBC 2016 prescribes minimum setbacks (or ‘open spaces’) based on the height and use of building. These setbacks will allow fire safety access and will achieve distance to maintain light and air. According to NBC, the height-to-width (H/W) ratio of building and adjoining open spaces shall not be more than 2.0 for most residential projects because a higher H/W ratio limits solar access and views of the sky. Building Bye-Law regulates under Part 8 Section 1 every habitable room should be provided with at least one window opening to the outside and glazing of windows shall cover not less than 1/10th of the floor area of a room. A minimum area of 1/20th of the floor area should be openable for ventilation. These windows to floor ratio (WFR) specifications define the right to light and air under the NBC.

ii) Model Building Byelaws (MBB) 2016

The Model Building Byelaws (MBB) 2016 was issued by Ministry of Housing and Urban Affairs for the States and Urban Local Bodies. MBB 2016 adds details like permissible built-up area, limits to ground coverage and tables of open space against NBC provisions. Clause 4.4 deals with “Light and Ventilation” and provides for a minimum size of the courtyards of the residential buildings. Internal open spaces within the site helps to ensure adequate light in all rooms with particular reference to metropolitan areas in the city. Further, internal open spaces are the open spaces which are not external setbacks.

Table 2 below summarises the key MBB 2016 provisions relevant to light and air, illustrating the relationship between building height and required open spaces.

Table 2: MBB 2016 — Minimum Open Space Requirements by Building Height

Building Height (m)	Front Setback (m)	Rear Setback (m)	Side Setback (m)	H/W Ratio (Max)	Min. Courtyard Area (sq.m)
Up to 7	1.5	1.5	1.0	1.5	9.0
7.1 – 10	3.0	3.0	1.5	1.75	12.0
10.1 – 15	4.5	3.0	2.0	2.0	18.0
15.1 – 24	6.0	4.5	3.0	2.0	24.0
24.1 – 40	7.5	6.0	4.5	2.5	36.0
Above 40	9.0+	7.5+	6.0+	3.0	As approved by authority

Table 2: Minimum open space requirements under MBB 2016 (Source: MoHUA, Model Building Byelaws 2016)

iii) Floor Area Ratio (FAR/FSI) and its implications

The primary tool used in Indian urban planning to control density is the Floor Area Ratio (FAR) or Floor Space Index (FSI). The plot ratio is the total floor area of the building on the plot. The size and height of buildings are influenced by FAR/FSI limits and, in turn, their impacts on shadow and wind flow in the city. India’s cities have FAR/FSI values that permit anything between 0.5 in particular semi-urban locales and more than 5.0 in high-density Transit Oriented Development (TOD) zones. The link between floor area ratio (FAR) to sky view factor (SVF) the ratio of open sky visible from the ground is not linear. In the case of dense areas, doubling FAR could half SVF which means halving solar access and daylight. The FAR limits and daylight performance in different cities are compared in Table 3.

Table 3: Comparative FAR/FSI Limits and Daylight Impact in Major Indian Cities (2023)

City	Base FAR/FSI	Max FAR (Premiums)	Avg. SVF (Dense Core)	Daylight Autonomy (%)	Key Regulation
Mumbai	1.33 (island)	Up to 5.0 (TOD)	0.18 – 0.25	42 – 55%	MCGM DCR 2034 / UDCPR 2020
Delhi NCT	1.2 – 3.5	4.0 (mixed use)	0.22 – 0.35	50 – 65%	MPD-2041 / DPCC Norms
Bengaluru	1.75 – 3.25	4.0 (IT corridor)	0.28 – 0.42	58 – 72%	BBMP Byelaws 2020
Hyderabad	1.5 – 4.0	6.0 (special zones)	0.24 – 0.38	53 – 68%	GHMC Byelaws 2012
Chennai	1.5 – 2.5	3.0 (metro corridors)	0.30 – 0.45	62 – 74%	CMDA Regulations 2023
Kolkata	2.0 – 3.5	4.5 (KMA)	0.20 – 0.32	45 – 60%	KMC Building Rules 2009
Pune	1.1 – 4.0	5.0 (metro influence)	0.26 – 0.40	56 – 70%	UDCPR 2020 (Maharashtra)

Table 3: FAR limits, Sky View Factor (SVF), and Daylight Autonomy metrics across Indian cities (Source: Compiled from respective Development Control Regulations; SVF data from NIUA Urban Heat Island studies 2021–2023)

iv) **State-Level Development Control Regulations (DCR)**

The Building Massing and Open Spaces regulation is mainly controlled at the state and municipal levels through Development Control Regulations (DCRs) or Development Control and Promotion Regulations (DCPRs), although NBC 2016 and MBB 2016 provide national guidelines. The approach of these rules for light and air differs widely. The UDCPR 2020 of the State of Maharashtra is quite comprehensive as it allows a performance-based FSI system of extra FSI (FSI is incentive for natural lighting strategies) for amenities like green building (BEE or GRIHA) certifications. The UDCPR further mandates for buildings exceeding 40 metres the submission of ‘shadow studies’, entrenching the right to light in development approvals. The CMDA Regulations 2023 (Tamil Nadu) created ‘solar access zones’ in heritage and residential districts within the state. Amongst other things, the essential highlight of the Regulations is the restriction of height of buildings in such zones. This is set to take place based on shadow analysis during the winter solstice. The Regulations recognize the seasonal nature of solar access. Varying technical capabilities in the Indian states structure makes West Bengal's building rules mostly reliant on setbacks and plot coverage ratios, photometric or shadow analysis is not included.

TECHNICAL STANDARDS FOR LIGHT AND AIR: A CRITICAL ANALYSIS

i) **Daylight standards and the Sky View Factor**

The adequacy of natural light in a building or a room is typically evaluated using their Daylight Factor or DF, which represents the ratio of the interior to exterior illuminance at the same point at the same time under the overcast sky expressed as a percentage. The Bureau of Indian Standards in SP:41(S&T)-1987 recommends minimum daylight factors

for bedrooms (0.5%), kitchens (1.0%), offices, and living rooms (2.0%). These thresholds have also been referenced in the National Building Code of 2016. The Sky View Factor (SVF), ranging from 0 (no sky visible) to 1 (completely open sky), complements DF. At the level of the building, SVF measures the exposure of the building to the sky at the urban scale. The IIT Delhi research (Mathew et al., 2019) reveals that the presence of Sub-vegetative Floor (SVF) values under 0.3 raises the intensity of Urban Heat Island by 2-4 °C. This increase in temperature boosts the demand for cooling systems affecting the thermal comfort of the buildings impacted. The rise in temperature has public health and energy consequences that has crippling the responsible provision of the necessary right to light.

ii) Ventilation standards

India's natural ventilation standards are defined in terms of air changes per hour (ACH) and minimum openable window areas. According to NBC 2016 In Habitable rooms it must achieve not less than 2 ACH and in Kitchen, Toilet and Bathroom it must achieve at least 6 ACH by Natural Methods. The above standards are being implemented via the window-to-floor area ratio (WFR) which has already been discussed. Table 4 compares the ventilation standards of NBC 2016 with international benchmarks of ASHRAE 62.1 and WHO Indoor Air Quality Guidelines providing the context of Indian standards vis-à-vis global requirements.

Table 4: Comparative Ventilation Standards — NBC 2016 vs. International Benchmarks

Parameter	NBC 2016 (India)	ASHRAE 62.1	WHO IAQ Guidelines	Comparison
Min. Window Area (% of floor)	10%	Not specified	Not specified	NBC uses simple area ratio; ASHRAE uses volumetric flow rate
Min. Openable Area	5% of floor area	~3-8% typical	Recommends cross-ventilation	NBC broadly consistent
Min. ACH — Habitable Room	2 ACH	0.35 ACH (min)	0.5 ACH (min)	NBC more stringent; assumes natural ventilation
Kitchen ACH	6 ACH	7.5 L/s/person	—	Broadly equivalent
Daylight Factor — Living Room	1.0–2.0% (BIS SP:41)	2% (recommended)	Not specified	NBC at lower bound of ASHRAE recommendation
Shadow Study Requirement	Buildings >40m (Maharashtra only)	Not mandated by standard	—	India behind in mandatory shadow analysis

Table 4: Comparison of ventilation and daylighting standards: NBC 2016 vs. ASHRAE 62.1 and WHO IAQ Guidelines

ii) Graphical analysis: FAR vs. Daylight Autonomy in Indian cities

As shown in Figure 1, FSI/FAR and Daylight Autonomy (DA) the percentage of the year's hours recorded when the natural light in a residential living room provides more than 300 lux of illuminance are inversely related. The CEPT Research and Development Foundation (2022) simulation studies of residential clusters in six Indian cities (IIT Bombay) are the source of the data.

Figure 1: FSI vs. Daylight Autonomy (%) - Selected Indian Cities

City (FSI Level)	Daylight Autonomy — 300 lux threshold (%)	
Delhi (FSI 1.2)		65%
Chennai (FSI 1.5)		68%
Bengaluru (FSI 1.75)		63%
Kolkata (FSI 2.0)		52%
Hyderabad (FSI 2.5)		58%
Mumbai (FSI 3.5+)		46%

■ Adequate DA (>60%) ■ Deficient DA (<60%)

Figure 1: Daylight Autonomy (300 lux, 8am–6pm) vs. FSI level in sample residential clusters. Cities with FSI > 2.0 show DA below the 60% adequacy threshold. (Source: CEPT R&D Foundation / IIT Bombay simulation data, 2022)

Figure 1 reveals a threshold effect: cities with base FSI above 2.0 consistently show residential Daylight Autonomy below 60%, the general minimum for occupant wellbeing and lower artificial lighting needs. Mumbai, where premium FSI grants raise densities above 3.5 despite a base of 1.33, performs worst. This impacts health (vitamin D deficiency, depression), energy use, and property values, areas the right to light is meant to safeguard.

GAPS, IMPLEMENTATION CHALLENGES, AND ENFORCEMENT FAILURES

i) Structural gaps in regulatory design

India has a multi-layered regulatory framework setting, but there are several structural gaps which undermine the effective protection of right to light and air. First, the 20-year easement threshold under the Easements Act rarely gets met in Indian cities. Regular redevelopment due to aged housing and densification and RERA interferes with the prescription period. India does not have a structure similar to England's Right of Light Act or U.S. solar access covenants. The NBC and MBB standards for window area (10% WFR) and setbacks are based on basic dimensions with no consideration for orientation, solar angles, or adjacent buildings. Take the example of a 3m south-facing setback in Delhi which receives far more sunlight than a 3m north-facing setback in Mumbai; both meet the NBC requirement. Approval of lighting without sunlight simulation does not guarantee meeting dimensional requirements is adequate lighting. Third, unclear legal nexus between the private right (Easements Act) and public regulation (NBC, DCR). A building design can comply with all the specifications yet block a neighbor's light. Judicial opinions are inconsistent whether ensuring a regulatory compliant proposal protects developers from easement claims. This creates confusion. Fourth, the organic growth of Indian metro cities leaves irregular land parcels that make it difficult to apply the bylaw uniformly. Also, probably wrong is the inconsistent application of the said rule across urban areas.

ii) Urban Heat Island and climate implications

The climate and health effects of losing sunlight and sky visibility in Indian cities are severe. The Urban Heat Island (UHI) effect, which refers to urban areas being much warmer than rural areas, is largely attributed to low value of Sky View Factor (SVF). According to a study conducted by the National Institute of Advanced Studies (NIAS), Bengaluru (2020), UHI intensities were observed to be 6°C higher in the dense parts. The average SVF were found to be 0.22 in core city areas and 0.58 in suburban areas. Lower SVF and high building density also help reduce wind speeds significantly in urban canyons thus affecting plume dispersion process negatively. The combination of reduced airflow and sunlight in six megacities of India, all among the most polluted in the world, has triggered a public health emergency, due to inadequate urban regulations on light and air.

iii) Enforcement and Institutional capacity

Local bodies in India are weakly enforcing building regulations, including the bylaws. The Comptroller and Auditor General (CAG) reports consistently show differences/similarities between approved and built up Floor Space Index, repeated violations by the developer, and lack of post-occupancy check of the buildings.

According to a survey carried out by the Praja Foundation in Mumbai for 2021, around 68 per cent of the buildings had at least one DCR open space violation. In simple words, overbearing buildings have heckled the legislation rules to take advantage of setbacks that do not provide adequate light and air. Thus, these rules failed to serve their intended purpose. As indicated in Figure 2 below, part of the building approval application, or shadow studies or daylight analysis, has been a significant consideration across a sample of Indian metropolitan planning authorities. Thus, the difference between NBC and implementation is significant.

Figure 2: Proportion of Building Approvals Including Shadow Study / Daylight Analysis (2022–23)

Planning Authority	% Applications with Shadow / Daylight Analysis	
Chandigarh		18%
Pune (PCMC)		14%
Chennai (CMDA)		22%
Ahmedabad (AUDA)		8%
Hyderabad (HMDA)		11%
Bengaluru (BBMP)		16%
Delhi (DDA/MCDs)		9%
Mumbai (MCGM)		32%
Kolkata	Data not available	

■ Good ($\geq 20\%$) ■ Moderate (12–19%) ■ Poor ($< 12\%$)

Figure 2: Share of building permit applications including shadow study or daylight analysis across major Indian planning authorities (2022–23). (Source: RTI data compiled by NIUA 2023; figures are approximate estimates)

INTERNATIONAL COMPARATIVE PERSPECTIVES

i) United Kingdom: Rights of Light and Daylight Planning

In UK law, the right to light enjoys the most sophisticated common law framework, which is further supported by wide-ranging planning policy. Under the Rights of Light Act 1959, a landowner may register a notional structure on the Land Register to prevent a neighbour from acquiring a prescriptive right of light. This serves as an effective tool for developers to overcome the 20-year prescription period, which is absent in Indian law. The BRE Report BR 209 (Site Layout Planning for Daylight and Sunlight) provides quantitative standards such as Vertical Sky Component (VSC) and Annual Probable Sunlight Hours (APSH) which are the standard in planning applications. The National Planning Policy Framework (NPPF) says that local plans should preclude developments that would unreasonably affect the amenity of neighbouring land and buildings, including, courts have said, access to daylight and sunlight.

ii) United States: Solar Access Statutes

In the US, the common law doctrine of ancient lights was replaced with principle of *cujus is solum*, where property owners can build to legally permissible heights. In the 1970s, the energy crisis saw many states adopt solar access laws. The Solar Rights Act of 1978 and the Solar Shade Control Act of 1979 in California were meant to create a legal framework wherein solar easements could be recorded as private agreements which prevent neighboring properties from shading solar installations. Over 30 states have introduced legislation like this. India's National Solar Mission is particularly relevant to this model. A statutory framework for establishing and registering solar access easements, based on the Californian model, can be created with suitable adaptations for the Indian legal context. This would provide private-law protection for solar panels while also offering a legal basis for residential solar access rights.

iii) Singapore: Sky View Factor in Urban Planning

The Urban Redevelopment Authority (URA) of Singapore requires that sky view factor and solar irradiance simulations be conducted for the short-listed buildings for which Development Application (DA) approval is subsequently sought for construction activity. Building envelope controls and urban design guidelines placing performance limits on building massing through shadow and SVF analysis for even very tall and dense projects to achieve minimum daylight standards for public realm and amenity space and for residences. The Singapore model is worthy of India because it accomplishes

superior daylight performance at high densities through mandatory approval of simulations. The BCA Green Mark Scheme requires a minimum level of daylight for green certification. As a result, this requirement has resulted in widespread use of daylight in design. India's GRIHA rating is now also beginning to require the use of daylight in design.

iv) **European Union: The EPBD and Daylighting Requirements**

The Energy Performance of Buildings Directive (EPBD) of the European Union was revised in 2023 to prioritise daylighting and solar access in building energy policy. Member states should promote renovations and new constructions that maximize natural light and solar heat gains while minimizing reliance on artificial lighting and heating. The evaluation of solar potential within this Directive supports the energy performance certificate. Table 5 presents a cross-country analysis of right to light regimes, which may help in evaluating India's standing and possible reforms.

Table 5: International comparative matrix : Right to light and air frameworks

Feature	India	UK	USA (California)	Singapore	EU (EPBD)
Legal Basis	Easements Act 1882	Common Law + Rights of Light Act 1959	Solar Rights Act 1978	URA Guidelines (admin)	EPBD 2023 (statutory)
Prescription Period	20 years	20 years (arrestable)	No prescription	Not applicable	Not applicable
Mandatory Shadow Study	Only Maharashtra (>40m)	Required in planning	Required for solar permits	Mandatory above threshold	Increasingly required
Solar Easement Registration	None	None (but arrest mechanism)	Statutory (state-wide)	Not applicable	Partial (varies by state)
Quantitative Daylight Standard	DF% (BIS SP:41)	VSC, APSH (BRE BR 209)	Varies by municipality	SVF + simulation	EPBD energy performance
Urban Planning Integration	Weak — DCR-based only	Moderate — NPPF	Moderate — zoning	Strong — URA envelope	Strong — EPBD
Enforceability	Low — under-resourced ULBs	High — injunctions common	Moderate	High — mandatory compliance	High — directive binding

Table 5: International comparative framework for right to light and air protections

Case examples:

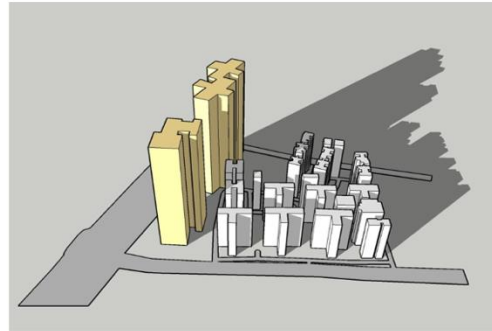
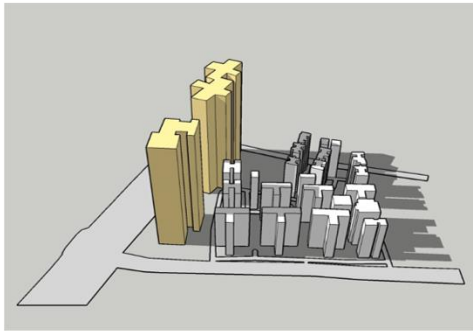
Designers and developers have the design duty to provide proper light and ventilation for the users of the particular building and for other buildings surrounding that building. This prevents the development of dark, energy-consuming urban canyons and ensures the physical and mental well-being of occupants. The following three case studies are few examples which has created significant permanent shadow areas and their impacts on the nearby environments in Kolkata city. Surrounding buildings have been negatively affected as the first phase is more recent. The shadow analysis and model verification of the buildings under the case studies were carried out in SketchUp, it has been carried out to produce 3D models of the buildings and shadow studies under different orientations of the sun.

The shadow study of Case 1 of tall Housing blocks indicates a high shading impact on adjoining medium-rise housing blocks. The tall blocks, which are approximately G+45 high (159 m), create long shadows over medium high-rise housing, which is less tall (G+16 and is about 42-45 m in height). Because of their close proximity and difference in height, relatively low-rise housing blocks receive less direct sunlight for a prolonged duration, particularly in the winter season.

Case 1

May 4 PM

November 4PM

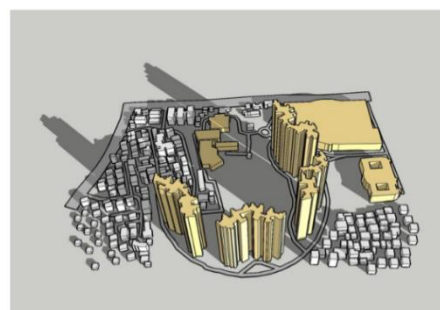
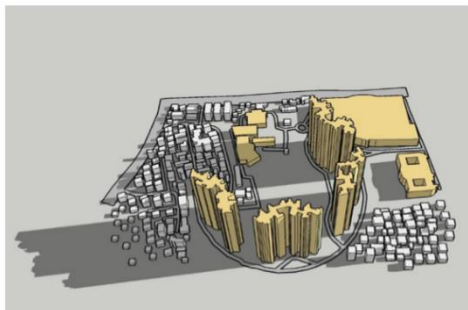


The shadow analysis of residential complex (Case 2) makes it evident that very tall residential towers have huge impact on the surrounding neighborhood. These towers, of approximately 35 storeys (i.e. over 115 m in height), make their shadow on nearby one-storey houses (generally a very dense colony area) and 4–5 storey residential buildings. Results show an integration challenge of super high-rise development(s) into predominantly low-rise urban fabric while achieving adequate access to daylight.

Case 2

May 7 AM

November 7 AM



The shadow evaluation of the housing complex as discussed in Case 3 suggests that the residential skyscrapers of the project overshadow a large part of the neighbourhood. The complex of 10-storey towers casts elongated shadow zones over neighbouring 3–4-storey residential buildings, vacant lands, and water bodies. In the morning, it is more noticeable than in the afternoon because the sun angle is lower.

Case 3

May 7 AM

November 7 AM



When places are constantly or long-term shrouded in shadows, urban spaces can be degraded in a number of ways. They include: less daylight, negative feedback on mood and wellness, persistent dampness and mould plus colder and less usable outside space. Overshadowing of solar panels increases heating demand for neighbouring property in winter, and severely restricts solar panel efficiency. In order to solve these issues, township authorities require developers and architects to do shadow analysis (sciography) to comply with solar access and building regulations.

PROPOSED REFORMS AND RECOMMENDATIONS

i) Statutory solar easement framework

India needs a Solar Easement Act based on a California Solar Rights Act 1978 adapting to constitutional and legal framework of Indian property laws. These acts should provide for (a) the voluntary creation and registration of solar easements as encumbrances on the burdened property, enforceable in the same manner as other registered encumbrances; (b) the automatic creation of a minimum solar access protection zone around residential buildings, within which new construction requires a solar impact assessment; and (c) a compensation mechanism for the involuntary extinguishment of solar access rights comparable to the compulsory acquisition framework of the Land Acquisition Act. Since sunlight access is a part of the right to life under article 21, there is a solid constitutional justification for a comprehensive legislation on it. The All India Bar Association submission on reforming urban property law in 2022 recommended that the Law Commission of India prepare a draft Solar Easement and Daylight Protection Bill.

ii) Mandatory shadow analysis in development approval

Prior to commencement of work, mandatory shadow analysis for all buildings more than 15 m (approximately five storeys) in all metropolitan areas and all buildings more than 10 m in heritage zones, residential neighbourhoods and areas adjoining schools and hospitals should be mandated. The shadow analysis should demonstrate compliance with a minimum Annual Probable Sunlight Hours (APSH) standard proposed at 25% APSH at the base of the adjoining building at the winter solstice as a condition of planning permission. This provision should be phased in: Applicable to buildings of 40 metres and above with immediate effect (extending existing Maharashtra practice), followed by progressive extension lower heights over five years. The Ministry of Housing and Urban Affairs may develop shadow analysis tools integrated with BIM and provide them free of cost to the ULBs and registered architects to overcome the current technical capacity gap in adoption.

iii) Daylight-Based FAR reform

The daylight-based Floor Area Ratio adjustment mechanism should be an addition to the Floor Area Ratio and Floor Space Index (FSI) system. This mechanism states that increments in FSI would be granted only in those cases where shadow studies demonstrate that the new floor area does not compromise the day light performance of any residential buildings across the street. More specifically, the daylight performance of residential buildings should not fall below the threshold daylight autonomy of 60% (300 lux, 8am-6pm). On the other hand, the developers who create buildings that have less bulk, correct orientation, and reflective facades that enhance neighbourhood daylight should be given FSI premiums. An approach based on performance (already piloted in Singapore and becoming popular in London through its 2022 revised daylight planning guidance) would transform the FAR from a blunt instrument of density to a sophisticated instrument that calibrates the intensity of development against the ambient right to light of neighbours.

iv) Integrating Right to Light and Air in Town Planning

The integration of the right to light and air as a core principle in town planning is essential for creating healthy and humane built environments. Planning regulations typically require minimum setbacks, specified building heights, and sufficient spacing between structures to guarantee unobstructed sunlight and natural ventilation for each dwelling. Nevertheless, large-scale projects demand heightened scrutiny during the design and approval stages. Such processes should engage qualified experts capable of evaluating the design's impact on adjacent areas. Floor Space Index and plot coverage standards must be carefully adjusted to prevent overcrowding and excessive building heights that could obstruct daylight for neighboring properties. Building bye-laws should include light-angle restrictions and courtyard requirements, especially within densely populated urban areas. The enforcement of these measures reduces reliance on artificial lighting and mechanical cooling, decreases energy consumption, enhances public health, and promotes sustainable, equitable urban development.

v) Constitutional and judicial developments

The Supreme Court of India should, in an appropriate PIL, be invited to issue a declaratory judgement to the effect that the right to natural light and air in the house is part of the right to live with human dignity under Article 21 and issue directions to the Union and State governments to make appropriate laws. This sort of direction would have the normative force to push all states to legislate all at the same time rather than having state fragmentation. In the meantime, the

National Green Tribunal should be entitled (through an amendment to the NGT Act 2010) to deal with disputes regarding obstruction of natural light and air as an environmental issue as SVF, Urban Heat Island, air quality and public health linkages are acknowledged. The proceedings of the NGT are more simplified and easier to engage with than civil courts. It has the power to award compensation and grant preventive injunctions.

vi) Climate-Adaptive integration

India ratified the Paris Agreement in November 2016. The NAPCC 2008 talks about 'Net Zero Emissions' by 2070. The Right to Light and Air may be construed as important climate adaptation and mitigation tool. A good access to sunlight reduces the energy of the buildings. Also solar rights help to make use of rooftop generation. The natural ventilation reduces the cooling needs and helps enhance public health. Integrating the requirements into the building energy certification systems (BEE Star Ratings and GRIHA), and linking green incentives to verified daylight performance, would better align light-and-air rights with India's energy transition.

CONCLUSION

In India, legal recognition is given to right of light and air. However, there is inadequate protection also in practice. Right to light and air is at intersection of property law, building regulation, environmental policy as well as public health. The modern-day problems caused by urbanisation is not suitably addressed in this contemporary framework which found its origins in the Roman and English legal systems and is codified in the Indian Easements Act, 1882. According to the NBC 2016 and Model Building Byelaws 2016 of India the dimensional requirement of setbacks, windows and open spaces have been defined. However, the requirements lack the parameterized rigorous/ orientation aware/ simulation-based checks for ensuring effective protection. The data from this research on daylight autonomy in Indian cities (Figure 1), on limited use of shadow analysis for getting approvals (Figure 2), and international comparison (Table 5). In Mumbai and Delhi, the most densely built cities, adequate daylight access is less than 60 percent in the highest density zones. In less than one-third of building applications across states, shadow studies are incorporated, and no state has solar easement laws.

The public health, energy, urban climate and constitutional right to a dignified life implications are grave and worsening. The goal of India is to be net-zero and solar-driven urbanisation and climate resilience there cannot be achieved while the right to light and air is eroded in cities. The reforms given here – a) A solar easement act, mandatory shadow analysis, daylight-based FAR adjustments, and expanded NGT jurisdiction and b) Constitutional recognition – can provide a clear, phased, and global standard-based roadmap for modernising India's light-and-air protections. These measures would honour the age-old principle of ancient lights while allowing our rapidly urbanising, climate-hit nation to adapt to today's needs.

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