Grant Thornton
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Confederation of Indian Industry

Emerging trends in real estate

India | 2012

Contents

About the study

We are delighted to release **"Emerging trends in real estate | India 2012"** report as knowledge partner for the 8th International Conference on Real Estate organised by the Confederation of Indian Industry (CII) in New Delhi.

The report is third in the series of collaboration between Grant Thornton India LLP and CII that began in 2009-10. It strives to map industry opinions and interpretation of the emerging trends in the real estate sector in India.

The report is based on an online and interview-based survey, and presents a mix of quantitative and qualitative analysis.

Key highlights

- the real estate sector in India is in a phase of consolidation
- regulatory environment is evolving constantly to promote and support this consolidation
- a thought-out risk management framework has now become an imperative
- technology is the key to drive efficiency and take the sector to the next level
- adopting green practices is no more an option, they are fast emerging as tools for sustainable and harmonious growth in the long term

Survey participants' profile

28%	21%	19%	16%	9%	7%
CMD/MD	CXO	Government	VP/Director	Architect/Planner	Academician

Foreword

The real estate sector in India has come a long way from being dominated by a handful of players in the 90s to an expanding base of developers, investors and global stakeholders buoyed by the growing construction industry in the country. The sector has been undergoing corporatisation and professionalisation and recognised as a key sector contributing to the economic development of the country.

After witnessing strong growth in 2010, the sector witnessed a slight correction in the year 2011. The downside for the sector was a weakening in demand due to the global economic scenario, a slowdown in the domestic economic conditions, escalation in input costs including interest costs and controversies over land acquisition. The current easing stance of RBI has rejuvenated sentiments in the sector. However economic conditions can be termed challenging in the short term. In the long run, urbanisation is inevitable and this will bring significant demand for real estate, and therefore we are very optimistic about the sector's growth prospects.

The year 2012 has begun on a sluggish note for the Indian economy, with the GDP expanding by 5.3% in March 2012, the lowest in nine years. However, the tough economic conditions have led developers to adapt quickly to the changing economic situation. While developers in the commercial segment are offering flexible leasing terms to attract occupiers, real estate companies in the residential space are concentrating on building affordable homes, thereby widening their consumer spectrum.

Another factor that can help real estate companies tide over the difficult times would be the ability to judiciously use cash by liquidating existing inventories. The government has taken initiatives such as relaxation in external commercial borrowing norms, capping subsidies as a fraction of the GDP, new manufacturing and telecom policies to revive global investor confidence. These steps are expected to generate positive results and will assist in generating investor inflows.

The government is committed to introducing FDI in multi brand retail, introduce changes in the existing SEZ policy to resurrect developer interest and expand the role of the private sector in infrastructure development.

Foreword

Implementation of key economic reforms is likely to result in a gradual improvement in macro-economic conditions in the coming few months. This, coupled with a slow and gradual economic recovery in the Eurozone, is likely to result into a revival in demand in the real estate market.

To enable the stakeholders to have a clear perspective of the macro environment surrounding this sector, a survey was conducted by CII and Grant Thornton India LLP. The results of the survey are included in this report, which also presents broad themes for discussion in this Conference – regulatory environment, governance & risk management, technology and green initiatives.

CII has been actively engaged with the real estate sector addressing their key issues relating to policy matter and developing a roadmap to leverage the growth potential of this sector. The **8th International Conference on Real Estate: REALTY 2012** is another step forward in this direction.

We convey our sincere thanks to all the respondents associated with the survey for their tremendous support and valuable inputs. Hope that you would find this report insightful and enriching.

Anshuman Magazine
Conference Chairman
Former Chairman, CII National Committee on Real Estate & Housing
Chairman & MD, CBRE South Asia Pvt. Ltd

Vishesh C. Chandiok
National Managing Partner
Grant Thornton India LLP

Future cities: a perspective

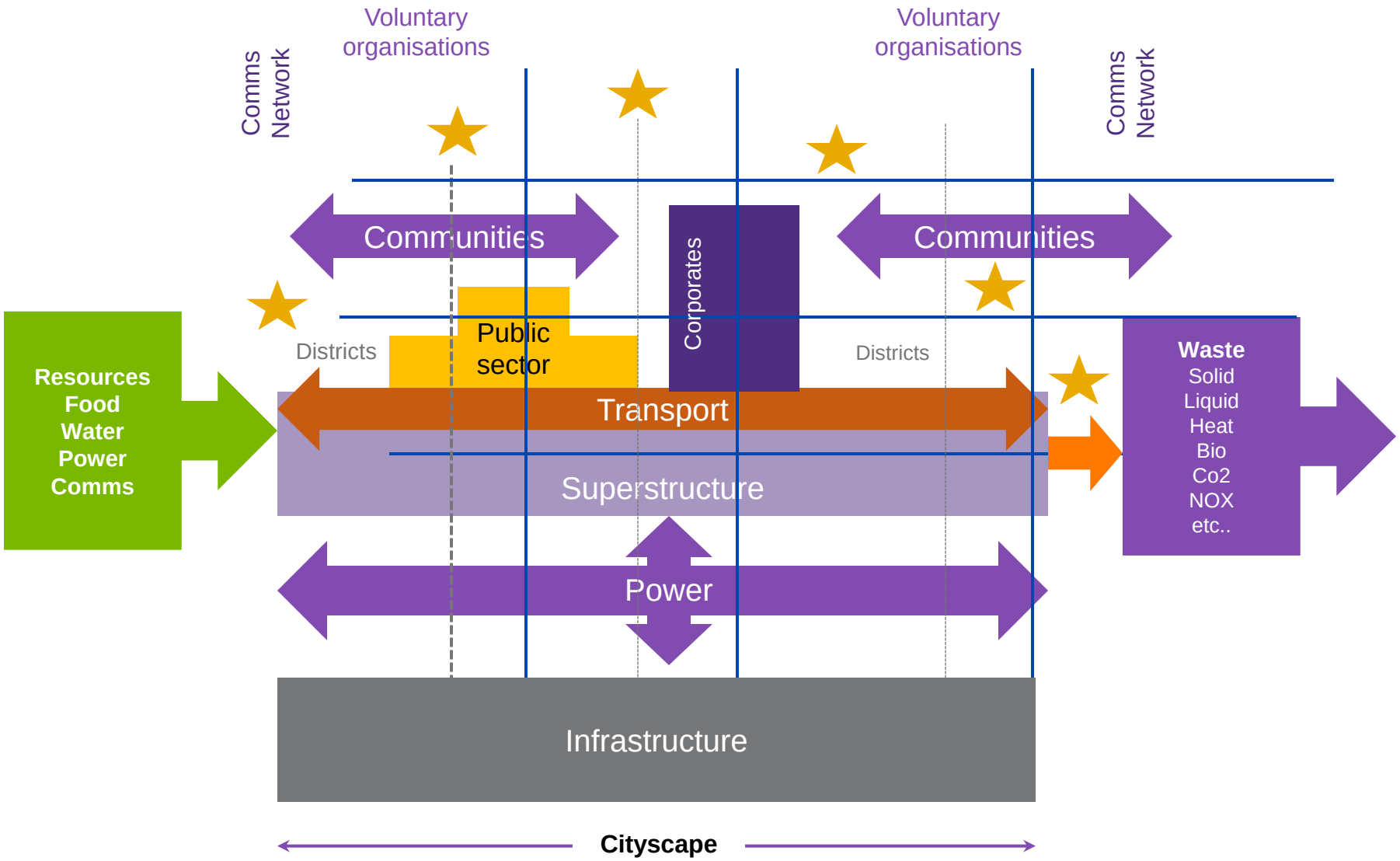
The complexity of cities

Cities are complex organic entities. The complexity of the cityscape (see Figure on the next page) in part derives from the diversity of stakeholders within cities, including citizens, communities, local government, the health service, universities, emergency services, transport authorities, housing associations, utilities, large corporates and SMEs across a broad range of sectors.

A city schematic in two dimensions underlines this complexity. Organisational structures have become more fragmented in both public and private sectors in recent decades as responsibilities have been devolved and business supply chains have become more complex and the players more specialised.

The challenge cities face is putting these pieces back together to deliver an integrated approach to sustainability.

This requires a complex governance process and collaboration between diverse parties to deliver city-wide agendas. If defining and measuring sustainability has the potential to be a life's work, creating structures for consensus and engagement around a common set of goals among these stakeholders could easily be another.



Developing sustainable cities

What does sustainability mean?

Grant Thornton defines sustainability as assessing the long-term viability of a project, programme or initiative in terms of its use of resources and its environmental, social and economic impacts. Clearly the key words are 'long term' and 'viable'.

There is plenty of room for debate. Nevertheless, both businesses and public bodies are now making a strong link between the sustainability of the environments in which they operate and their own long-term sustainability and viability.

The four pillars of sustainability

There are four key aspects to sustainability, which are widely documented. They can be illustrated as 'pivot of sustainability'.

The **social:** a good quality of life for citizens, good public health, mechanisms to tackle deprivation and inequality, and creation of an attractive community or communities to live in.

The **economic:** which is the requirement for the city to sustain its competitive position and thrive in business terms.

The **environmental:** which is about both the physical envelope in which a city exists, and the 'footprint' of the city as it draws on basic resources.

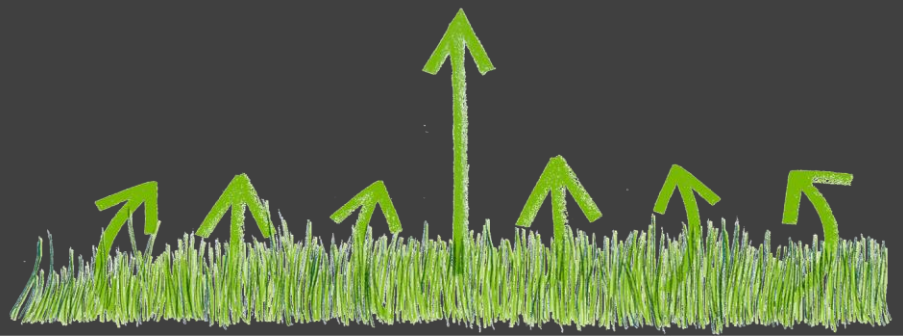
The **institutional** dimension: This plays an interlocking or supporting role to the other 'pillars' – creating sustainable institutions and governance mechanisms which align with long term sustainability objectives. The recent institutional history of India is one of profound change, often leading to fragmentation and instability.

The relationships between the individual, the businesses that sustain, the institutions that govern and the communities that provide the social context, have changed beyond recognition in the past two decades. Addressing the institutional, or governance dimension, is therefore a major component of any sustainability strategy.

Pivot of sustainability

A sustainable city measures itself at the moment in qualitative terms – by the leadership and governance arrangements that are in place to ensure that the characteristics of a sustainable city are funded, protected, influenced and managed effectively. For example:

- what policy statements and commitments have been made to tackle climate change and sustainability?
- how are these policies tied to the strategic long-term planning for the city?
- how informatively are carbon emissions and energy usage measured?
- how are responsibilities for climate change, energy use and sustainability managed across the city?
- what level of collaboration exists between the city authorities, other public sector bodies, third sector and businesses to deliver an agenda focused on the city itself?
- how successfully are behaviours being changed to move towards households and businesses becoming sustainable? And what is the role played by communities in this process?



Regulatory environment: the changing dynamics

Regulatory environment: the changing dynamics

Finance has unequivocally been the biggest challenge for the real estate sector of India. Hardening of interest rates has a major impact on the borrowing costs of the developers. At the same time, it has affected demand for real estate, which is largely driven by bank finance.

The real estate sector was looking forward at the Budget 2012 to come with some major policy decisions, such as the long standing demand of granting realty sector an industry status, which would have eased the borrowing cost and avenues for raising funds for the developers; an upward revision of the present limit of Rs. 1.5 lakh on interest cost deductibility on self-occupied houses; re-introduction of profit based deduction for affordable housing and to exclude real estate development from the purview of service tax.

General Anti-Avoidance Rule (GAAR)

Mounting levels of fiscal deficit in the Indian economy has put tremendous pressure on the Finance Ministry. In order to control it the income tax authorities have adopted a pro-revenue attitude like never before.

The Supreme Court (SC) settled, what was arguably the most eagerly tracked tax litigation in recent times, the case of Vodafone International Holdings BV vs. Union of India wherein the SC held that an indirect transfer would not be taxable in India. However the Finance Act 2012 with retrospective effect from 01 April 1962 amended section 9 of the Income-tax Act, 1961 (ITA) to tax the indirect transfer of an asset in India.

Also with the inclusion of GAAR in the ITA (the applicability of which is deferred by one year), the tax authorities have been granted the wide ranging powers with respect to certain kinds of transactions if the main purpose or one of the main purpose of a transaction of a part of the transaction is to avail tax benefit. The introduction of GAAR by the Budget 2012 was widely criticised internationally. One of the biggest concerns was that onus of proving lack of tax avoidance was on the assesse.

However, the FM has assured that the onus would be on the department. There would be more clarity as events unfolds from now till the next fiscal when GAAR becomes applicable and the guidelines are framed for its application. The success of an anti-abuse measure lies in astute selection and vigilantly supervised employment. The real estate sector will have to bear the brunt of GAAR as due to business and regulatory (such as land ceiling) needs, the transactions are structured in a manner that involve several steps and/or entities. One only hopes that there would be some free play in the joints and the unassailable evidence of commercial prudence for each transaction is not required to be maintained.

Regulatory environment: the changing dynamics

The recent growth in the Indian economy has stimulated demand for land and developed real estate across the country. Taking into consideration the rising demand for residential, commercial and retail real estate, the Finance Bill 2012 had proposed insertion of section 194LAA in the ITA to deduct tax by way of TDS @ 1% on consideration for transfer of immovable property (other than agricultural land) if the value of the property exceeds Rs. 50 lakh in urban areas and Rs. 20 lakh if the property is situated in any other areas.

The genesis behind such proposed amendment seems to be to reduce the flow of black money in the market and ensure reliable data collection, apart from collection of tax at the earliest point on transactions of immovable properties. However the proposal was dropped deferring to the plea that it will put extra compliance burden on the consumer.

Real Estate (Regulations & Development) Bill, 2011

Of late, the Government reintroduced the Real Estate (Regulations & Development) Bill, 2011, the exposure draft of which was available for comments. The bill seeks to establish the Real Estate Regulatory Authority for regulation and planned development in the real estate sector. The objective of the Authority shall be to take all possible measures for the growth and promotion of a healthy, transparent, efficient and competitive real estate sector.

The Bill also provides for establishment of an Appellate Tribunal to adjudicate disputes and hear appeals from the decisions or orders of the Authority.

Some of the key provisions of the Bill are:

- mandatory registration with the Real Estate Regulatory Authority for any project to be spread over 4,000 square meters
- the real estate developer shall be required to deposit at least 70% of the funds received from end customers into a dedicated project account, which can be utilised only for the purposes of the project
- no advance can be received without entering into an agreement with the customer. Sales opportunity through pre-sales/soft launch may be curtailed
- registration can be extended only up to two years beyond the original period for development granted by the local licencing authority
- mandatory web-presence of the developer on the authority's website
- the Authority has the power to take over development work etc, in case of lapse/cancellation of the registration

Regulatory environment: the changing dynamics

In overall, the efforts of the Government are otherwise laudable and the consumer would benefit by increase in transparency and regulations. However, there is a need for reforms on the matters related to land title and registration. Without the digitisation of land records, the condition itself may be ineffective. Further, though a mechanism for registration within 30 days has been introduced in the Bill, there may be a reduction of supply due to delayed and denied registrations.

Major amendments by the Finance Act 2012 – Real Estate

The slabs for individual taxation have been raised only a little bit and the consequent tax saving will be too insignificant to provide additional funds to young first time home buyers, whose share in the customer base of residential real estate is increasing. Transfer pricing provisions, which were thus far applicable only on international transactions, would now be applicable on specified domestic transactions between related parties. Now transactions with the related parties will have to be benchmarked to demonstrate that they are at arm's length. In the last year 100% upfront deduction of capital expenditure incurred prior to the commencement of business of "developing and building a housing project under a scheme for affordable housing formed by the central government or a state government" was introduced.

Real estate development (especially housing which has a sale model) is capital intensive but the investment is not a 'Capital expenditure'. Realising this, now a weighted deduction of 150% of capital expenses has been introduced.

The Income Tax rules provide that for a project to qualify under affordable housing scheme, it has to fulfil certain conditions.

Some of the key conditions are as follows:

- the project shall have the prior sanction of the competent authority
- the project shall be on a plot of land which has a minimum area of one acre
- the layout and specifications including design of the project to be developed and built shall be approved by the State or Union Territory Government or its designated implementing agency
- the project shall be completed within a period of 5 years from the end of the financial year in which the project is sanctioned by the competent authority

Regulatory environment: the changing dynamics

Further, realising the need to fund low-cost housing and in order to make the scheme of affordable housing more feasible, the Government extended the benefit of External Commercial Borrowing (ECB) to affordable housing project. Further the budget also extended a beneficial rate of only 5% on interest to non-residents who fund such projects.

Affordable housing thus continues to be the focus of the Government. An enhancement in the scope of deduction for the business of developing and building housing project under the scheme for affordable housing framed by the Government will lead to a consequent increase in the investment in this sector.

The rate of service tax and excise has been increased. It is anticipated that the increase in the rate of excise on steel and cement (along with the increase in service tax) will push the price, by approximately 1.5%. With the ever increasing inventory, the industry may find it difficult to pass on the additional tax cost to the consumer.

Floor Space Index (FSI)

The Planning Commission in its recent report has recommended vertical growth of Indian cities by selectively providing additional FSI beyond the permissible index at an extra charge of at least 50% of the area/ circle rates.

In the present scenario, FSI values in India vary from city to city however on an average it ranges between 1 and 4 (including all product mix – residential, commercial, retail etc.). However, this is far below considering other cities in the world; for example FSI in New York and Manhattan is 15, in Shanghai it is 13.1 and in Hong Kong (Central Business District area) it ranges up to 15.

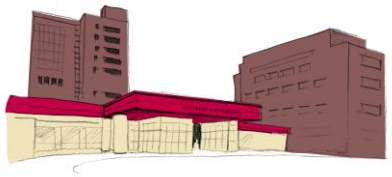
With respect to Indian cities, the concept of low rise-low density has worked well considering the fact that sufficient land was available for horizontal growth. However with the exponential population growth and limited availability of land parcels for urban/ rural sprawl, going vertical with high rise-high density seems to be an optimal solution. But this underlines the need for increased and stronger infrastructure considering additional load on services such water, electricity, sewage, parking and most important security.

Regulatory environment: the changing dynamics

Urban planning in India, which is largely based on low rise-low density principle, has now led to either sprawl or even worse, a situation of informal densification without any supporting infrastructure. However, in smaller cities the prescription of setbacks and building height generally governs the built up area.

The first consideration of low FSI in Indian cities has been the prevailing carrying capacity of basic amenities such as water, power, drainage, parking, transport and communication, and the second has been that low FSI shall limit the population size of the city. Despite all shortcomings, the cities kept growing. Extraordinary low FSI in certain cities like Mumbai and Delhi has even led to an artificial increase in the land prices and rental values.

Various cities have tried different mechanisms to increase FSI and in turn devise a system to improve the spending for infrastructure development to cater to the needs of additional population coming in the area due to the result of increased FSI.



1. Mumbai: TDR concept

The transfer of development rights (TDR) concept was introduced in Mumbai through regulation no. 34 (Appendix VII) in the Development Control Regulations for Greater Bombay 1991.

Need for TDR in Mumbai

The urban local body, the Brihanmumbai Municipal Corporation (BMC), is responsible for the development and provision of public amenities as per the provision of 12th schedule of 74th Constitutional Amendment Act.

Due to finance-related constraints, BMC could not acquire land for public amenities from private owners. In a few cases the corporation attempted to provide monetary compensation to the owner in lieu of the land acquired but that was felt to be inadequate. Hence the concept of TDR was introduced as an alternative to monetary compensation.

To rehabilitate slums, the Government of Maharashtra introduced TDR as an incentive to attract developers to the slum redevelopment scheme and slum rehabilitation scheme where an owner or a builder redevelops slums free of cost and gets TDR as an incentive.

Regulatory environment: the changing dynamics

Permissible FSI

The permissible FSI, including the TDR on a plot, has a maximum capping of 2. The permissible base FSI in the suburbs was 1 with a balance of 1 to be utilised for TDR. The base FSI has been increased from 1 to 1.33, hence reducing the TDR component to 0.67. The additional 0.33 FSI can be utilised on a payment of an amount (30% to 40% of the land value) fixed by BMC.

It allows the BMC to finance the infrastructure required to support the increased FSI in the receiving areas and controls the flow of TDR in the market.

2. FSI bank: Bandra-Kurla Complex (BKC), 'G' – Block (Mumbai) - 2009

An additional built-up space was generated following the government decision to hike FSI at BKC from 2 to 4. The revised availability of built up space in G-block provided 23 lakh square metre of construction space.

Under the previous FSI norm of 2, the built up space was 8 lakh square metre. Moreover, this move also resulted in an estimated revenue of Rs. 13,000 crore from the sale of extra built-up space.

3. Andhra Pradesh – Limitless FSI

Andhra Pradesh is one state that does not limit vertical growth and where there is no limit on the FSI. However to check the pressure on the existing infrastructure in the surrounding area an additional fee called the "Infra Impact Fee" is charged in case a building is required to go beyond the specified height in that particular area as per the building bye-laws.

In this case the additional FSI can be built by paying an infra impact fee to the tune of Rs. 30-50 per square feet (on an average, it may differ from area to area). This additional collection by the corporation is then utilised to improve the infrastructure of that area.

The change has impacted the skyline of many cities in the state and there is a visible shift from FSI of 1.75 (prior to 2006 – when the new regulation came into being) to 4 to 6 in peripheral cities and 3 to 4 in cities. Though there can be an endless list to the above, the question still remains the same, are the cities of India ready to go vertical with the existing situation of urban infrastructure?

Regulatory environment: the changing dynamics

Land Acquisition and Rehabilitation and Resettlement Bill (LARR), 2011

Development along with urbanisation demands for land acquisition at one point or the other. Considering the scarcity of land and growing pressure on the existing infrastructure, efforts have been to try other initiatives like increasing the FSI or increasing the density in the given areas to cater to growing population, however additional land shall still be required as many cities have reached the threshold of their carrying capacities.

To cater to such needs either private parties buy land themselves or government helps in land acquisition particularly for public purposes, however it has never been a smooth process and project affected people have more or less been neglected or under compensated. This has given rise to agitation and in worst situations, it results in stalled projects.

With regards to public welfare and development needs, land acquisition has to be a fair mechanism, which ensures that there is no loss of livelihood of the affected people. In order to facilitate land acquisition along with proper compensation mechanism Draft Land Acquisition and Rehabilitation and Resettlement Bill (LARR), 2011 was introduced by the Government.

Under our Constitution, land has been recognised as a State subject however, land acquisition is a concurrent subject. Till date, before the draft LARR was introduced, the basic law governing land acquisition has been Land Acquisition Act, 1894. Although there are 18 other such laws of the central government for land acquisition (like for SEZ's, railways, defence, highways, etc.), the draft LARR shall enjoy the primacy over such specialised legislations that are currently in force. This draft Bill shall be in addition to and not in derogation of the existing safeguards currently provided for in these laws.

FDI in organised retail sector

In January 2012, the Department of Industrial Policy and Promotion (DIPP) permitted 100% FDI in Single Brand Retail Trade (SBRT) under Government approval as against the current limit of 51% FDI in SBRT. All the key features of the policy liberalisation have been retained along with the following additional clarifications/ modifications:

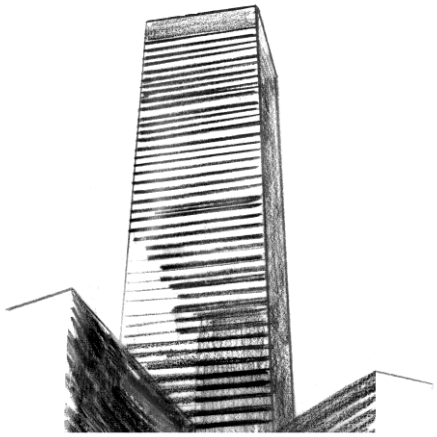
- with respect to proposals involving FDI beyond 51%, mandatory sourcing of at least 30% of the value of products sold would have to be done from Indian 'small industries/ village and cottage industries, artisans and craftsmen'
- 'small industries' would be defined as industries which have a total investment in plant & machinery not exceeding US$ 1 million

Regulatory environment: the changing dynamics

Need for a new Law

Though there have been amendments in the original Land Acquisition Act, the principal law continues to be the same which is outdated and requires more focus on the need of the country. There has been no national/ central law to provide for resettlement, rehabilitation and compensation due to land acquisition.

LARR, in this scenario, attempts to address the concerns of farmers and those who are dependent on land being acquired and facilitate land acquisition to cater to need of urbanisation, industrialisation and growing demand for infrastructure development.



Scope of LARR, 2011

a) Land Acquisition and R& R provisions shall apply under the conditions as below:

- land acquisition by the government for its own use, hold and control
- land acquisition by the government to be transferred to private companies for stated public purpose (including PPP projects but other than national highway projects)
- land acquisition by the government for immediate and declared use by private companies for public purpose

b) Only R & R provisions shall be applicable under the conditions as below:

- partial land acquisition by government for private companies for public purposes
- buying of land by private companies on their own for equal to or more than 100 acres

Though there have been many checks and balances imbibed in the new Bill to resolve the concerns pertaining to project-affected people, there may be a threat towards notional increase in the land prices as according to the bill it implies **"in case of urban areas the compensation amount would be not less than twice that of the market value so determined and in rural areas it would not be less than six times the original market value"**.

Regulatory environment: the changing dynamics

Revised Guidance Note on recognition of revenue by real estate developers

The real estate sector in India has been evolving consistently over the past few years. This transition from being a highly unorganised business to an organised sector underlines the need to review varied accounting practices being followed by the real estate companies.

The introduction of the "Guidance Note on Accounting for Real Estate Transactions" by the Institute of Chartered Accountants of India (ICAI) is a step forward in addressing subjectivity and ambiguity in a number of areas, and is all likely to bring uniformity in accounting practices. The Note, which supercedes the existing Guidance Note issued in 2006, will also ensure comparability of financial statements.

The objective of this Guidance Note is to recommend the accounting treatment by enterprises dealing in 'real estate' as sellers or developers.

Key changes

The scope of the Guidance Note has been significantly enlarged to capture all models/ structure of transactions including sale of development rights, joint development arrangements and transactions involving exchange of land with developed property.

Definition of project: As per para 2.1, a project is defined as "a group of units/plots/saleable spaces which are linked with a common set of amenities in such manner that unless the common amenities are made available and functional, these units/ plots/ saleable spaces cannot be put to their intended effective use". A larger venture can be split into small projects if the basic conditions as set out.

The pre-conditions to be satisfied for Revenue Recognition are as follows:

- all critical approvals necessary for commencement of the project have been obtained
- expenditure incurred on construction and development is higher than 25% of the construction cost (excluding land cost)
- at least 25% of the saleable project area is secured by eligible contracts or agreements
- at least 10% of the total amount collectible in respect of an agreement to sell (ATS) has been so collected at reporting date

Regulatory environment: the changing dynamics

Revenue should be recognised for "legally enforceable contracts" only when there are no outstanding defaults of the payment terms in such contracts.

Way forward

Transition: long term projects where even a small portion of revenue has been recognised before 1 April 2012, will be continue to be accounted for on the basis of the existing guidance note. For the initial years, the companies may have to keep two separate revenue recognition computations – for projects pre and post the implementation of the revised GN

Project: Identification of common set of amenities within a project would be key for evaluating the project definition. Resultantly any reassessment of project definitions may lead to significant changes in the revenues/ profit calculations.

Payment defaults: It is not clear if post balance sheet date defaults or payments to be considered. A complete track of the defaults made by the customers need to be maintained on a real time basis. Recognised revenues may result in subsequent reversal adjustments as a result of delayed cash inflows.

Impact on the tax assessments: One of the key considerations of this change should be acceptability of the proposed accounting principles by the income tax authorities.

Communication with stakeholders: On deferral of revenue, some of the debt covenants may get broken. Time and effective communication with different stakeholders is going to be a key in managing the transition to the new accounting rules.

"This new accounting development is a welcome step for the companies in the real estate sector. Apart from bringing in some common set of principles for accounting, these new accounting rules will also take into consideration the current uncertainties impacting the sector and shall ensure a more realistic picture of revenues for these companies."

David Jones
Partner & Practice Leader – Real Estate
Walker, Chandiok & Co

Regulatory environment: the changing dynamics

Delhi Master Plan 2021

Urban planning is core to the development of sustainable cities, which have sufficient resources and infrastructure to support continuous increase in population. The steps leading to the creation of sustainable cities need to be augmented with provisions for adequate and sustainable human settlements and services to support rapid urbanisation. In recent times, the phenomenal rate of urbanisation and migration has exposed cities to the challenges of urban planning and governance. Suffering from a lack of urban infrastructure, cities succumb to the issues emanating from the proliferation of urban slums, squat and informal settlements.

Following the enactment of the Delhi Development Act 1957 to streamline the process of planned development in the national capital, the Government drew up the Master Plan of Delhi in 1962. Widely considered as one of the first steps towards modern planning in India, the Plan was prepared with a perspective of 20 years. In order to cater to the changing requirements of the city, the Plan was amended under Section 11A of the DDA Act.

Known as the Master Plan 2001, the modified Plan was approved by the Government in 1990. Further, the Government undertook the modification and revision of the Master Plan 2001 to develop an urban plan that was integrated with the projected need of housing in the national capital. This Plan, which is commonly known as the Master Plan 2021, was notified on 07 February 2007.

With the passing of the National Capital Territory of Delhi Laws (Special Provisions) Second Bill, 2011, the deadline of finalising policies for achieving the Master Plan's targets have been extended for three years to 31 December 2014. The Ministry of Urban Development plans to utilise the extended time buffer provided by the Bill to review the Master Plan 2001, and modify it to chart an urban plan that complies with the pace of increasing population in the city in the next 25 years.

To develop a visionary plan that supports the development of the national capital as a global metropolis, the Government is also using remote sensing and GIS (Global Information System) tools. The mapped data would be used to ascertain the pattern of increasing population, and detect and prevent encroachment on public land. Further, the data will be consistently updated in order to monitor the success of the Master Plan. The Master Plan also aims at delineating policies especially targeted for the protection of green belts and conservation of heritage infrastructure of Delhi.

Regulatory environment: the changing dynamics

The Plan also intends to explore the Floor Area Ratio (FAR) laws to optimise the monetisation of the available land, innovative models of Public Private Partnership (PPP), etc. As part of the initial review of the Plan, the prevailing guidelines for land use, floor area allotment, regulation in influence zone along metro lines and industrial areas, notification of new commercial and industrial areas, etc. are being evaluated.

Delhi Master Plan 2021 is poised to revamp the national capital with sweeping changes and aims to transform the city into a world-class city which provides its people with a sustainable environment. The guiding principle of the Master Plan is to use the 27,628.9 hectares of unutilised land in the city for achieving its objective of making the city slum-free, and to develop residential units equipped with essential civic amenities, within a span of 10 years. As per the latest estimates provided by the Ministry of Housing and Urban Development, the national capital will face a scarcity of about 24 lakh dwelling units for housing an estimated 23 million people by the end of 2021.

The Master Plan, which is to be re-implemented with the land development policy, intends to ease the pressure on urban planning in the city, including congestions and shortages of civic amenities, by constructing residential projects. Structured over distinct sequential stages such as social and physical infrastructure, mixed land-use regulations, development code and monitoring, the Master Plan aims to explore options for developing housing projects with amenities better suited to meet the challenges of urban planning in the national capital.

Guide for achieving slum free vision

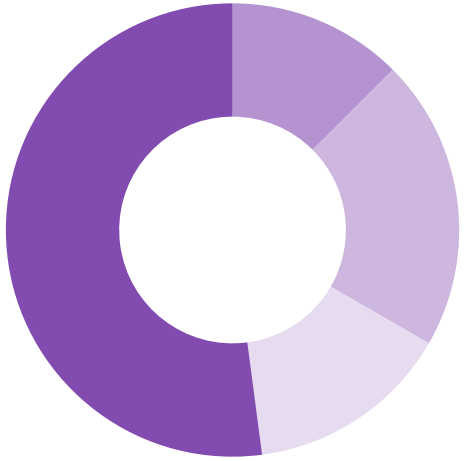
The Master Plan will serve as a guide for all action towards its aim to provide rehabilitation in the form of built-up houses with all civic amenities to the slum dwellers of the city. With an intent to reinforce the capacity of the city to deal with the issue of unauthorised development of slums and other informal dwellings, 23 slum areas have been identified by the Delhi Development Authority (DDA) for rehabilitation of dwellers living in these areas in sub-standard conditions.

The road ahead

Once ready and implemented, the Delhi Master Plan 2021 is expected to provide holistic benefits to the city, in the form of amenities better suited to suffice the needs of its ever-burgeoning population, and an infrastructural framework that is conducive to the economic growth of the national capital. However, the success of the Master Plan 2021 in realising the vision of making Delhi a global metropolis is subject to the implementation of strategies, schemes, guidelines, policies and programmes. Further, it is imperative to enforce a monitoring process at every stage of the implementation cycle to not only evaluate and validate the enactment of the Master Plan with the established goals, but also to realign strategies to overcome its shortcomings.

Industry point of view

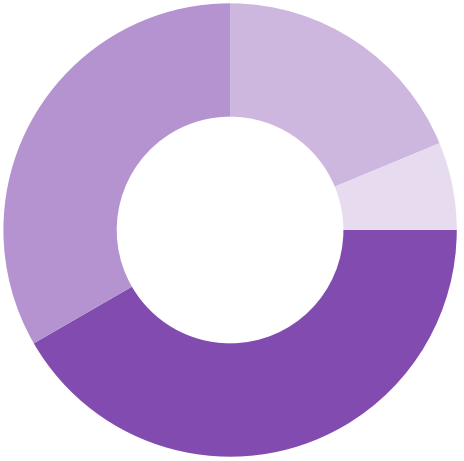
Does the increase in supply, due to increased Floor Space Index (FSI) would result in crash of land prices in Delhi?



Definitely Yes: 14%
Definitely Not: 20%
Maybe: 52%
Can't say: 14%

14% Definitely Yes

Should the FSI be incremental based on the ratio of the population of the city to the city area or should it be constant for tier I, II and III cities?



Yes for second option – Strongly agree: 6%
Yes for second option – Agree: 18%
Yes for first option – Agree: 41%
Yes for first option – Strongly agree: 35%

41% Yes for first option – Agree

Industry point of view

Should the FSI be constant throughout the city for a particular product mix (residential/ commercial, etc) or it may vary within the city limits depending on the predefined parameters? If yes, then what should be the parameters (example density, location, connectivity, etc)?

Yes for second option – Strongly agree: 23%
Yes for second option – Agree: 27%
Yes for first option – Agree: 31%
Yes for first option – Strongly agree: 19%

31% Yes for first option – Agree

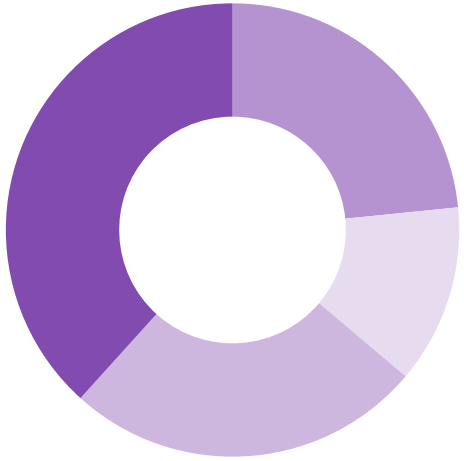
Will the concept of selling additional FSI (if so increased) to developers at a premium price be welcomed by the developers in Delhi? Since this additional money so coming to the DDA will help in infrastructure development.

Definitely Yes: 34%
Definitely Not: 10%
Maybe: 46%
Can't say: 10%

46% Maybe

Industry point of view

Will the new Rehabilitation & Resettlement (R&R) Bill solve the problem of project affected people or will it add to the increase in the land prices?

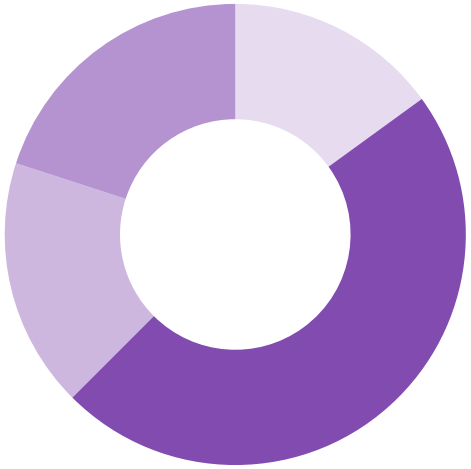


- Definitely Not, it will add to the increase in land prices: 14%
- Definitely Yes, it will solve the problem of project affected people: 25%
- Maybe: 38%
- Can't say: 23%

25% Definitely Yes

Industry point of view

Which of these proposed covenants of the Draft Real Estate (Regulation & Development) Bill do you find to be the most regressive:



- After the expiry of the initial project period, maximum of only two years extension is provided. There is no specific provision for exigencies and exceptional circumstances: 15%
- No advance can be received without entering into an agreement with the customer. The sales opportunity through pre-sales/soft launch is curtailed, as typically builders buyers agreement is executed only after first few advance payments have been made: 17%
- Each project needs to be registered with a regulatory authority. An industry which is already reeling under multiple approvals, an additional registration requirement has been introduced instead of making it a single window registration: 47%
- The requirements to keep 70% of the amounts realised for project in a separate account and use it only for the purposes of the project. This limits the ability of the developer to effectively manage the treasury: 20%

47%

Each project needs to be registered with a regulatory authority. An industry which is already reeling under multiple approvals, an additional registration requirement has been introduced instead of making it a single window registration

Managing risks for a long-term sustainability

Managing risks for a long-term sustainability

Sound corporate governance is critical to positive valuation outcomes for both public and private real estate companies. If the enterprise is publicly traded, its rigorous focus on effective governance is mandated stringently by regulations, which set high standards for corporate transparency, internal organisational controls and executive accountability.

A public company's management is responsible for assessing the quality, comprehensiveness and accuracy of internal corporate controls and financial reporting practices. In addition, the company's external auditors are expected to express an independent opinion relative to management's assertions concerning the quality, comprehensiveness and effectiveness of those controls and practices.

The present day challenges of the real estate sector are increasingly complex and diverse. The industry is facing the headwinds of recent regulatory changes, inflation, declining demand, scarcity of skilled manpower, high cost of finance, stagnating selling prices and increasing land cost. Also, maintaining credibility while meeting customer expectations in terms of quality and timely delivery is another major challenge plaguing the sector.

This has created a need for companies to introspect and work out a framework for improved governance. Doing this will help them in optimising their internal efficiencies and manage risks successfully to face the ever increasing challenges in this dynamic environment.

The increasing investor, regulatory, and public concern regarding corporate governance makes this an opportune time for real estate companies to assess the quality and structure of their governance framework.

The quality of corporate governance can be an important driver of shareholder value as companies with strong governance systems have always outperformed their peers in a wide range of settings. The composition and structure of corporate boards have been instrumental in determining the companies' ability to cope and react to situations such as declining operating margins, and increasing internal and external risks, external challenges like regulatory changes, etc.

Corporate governance has to be perceived as a big opportunity for real estate companies in order to improve their enterprise value.

Managing risks for a long-term sustainability

Fundamentals of a sound corporate governance structure

What constitutes sound corporate governance will evolve in the light of the changing circumstances of a company and must be tailored to meet those circumstances.

An in-depth understanding of the fundamentals of corporate governance is essential for establishing a sound corporate governance framework. These fundamentals include the below:

- establishing the roles of senior executives and the board
- maintaining a balance of skills, experience and independence on the board, which is appropriate to the nature and extent of the company's operations
- ensuring integrity among those who can influence a company's strategy and financial performance, as well as responsible and ethical decision-making, while taking into account not only the legal obligations but also the interests of the stakeholders
- providing a timely and balanced picture of all material matters
- clearly recognising and upholding the rights of company owners, that is its shareholders
- meeting the need for information of a modern investment community is also paramount in terms of accountability and attracting capital. Presenting a company's financial and non-financial position requires processes that safeguard, both internally and externally, the integrity of company reporting
- exercising effective oversight and internal control to manage the uncertainty and risk inherent in business
- providing rewards and incentive schemes to attract skills and talent into the company
- achieving the benchmark performance expected by various stakeholders

Managing risks for a long-term sustainability

Establishing an efficient corporate governance structure within the organisation

Lay down solid foundations for management and oversight

Companies should recognise and disclose the respective roles and responsibilities of the board and management.

The company's governance framework should be designed to:

- enable the board to provide strategic guidance to the company and effective oversight to the management
- clarify the respective roles and responsibilities of board members and senior executives in order to facilitate their accountability to both the company and its shareholders
- ensure a balance of authority so that no single individual has unfettered powers

Companies should recognise and disclose the functions reserved for the board and those delegated to senior executives.

Structure the board to add value

Companies should have a board having an effective composition, size and commitment to adequately discharge its responsibilities and duties.

- an effective board is one that facilitates the effective discharge of duties imposed by law on the directors, while adding value in a way that is appropriate to the company's circumstances. The board should be structured in such a way that it:
  - has a proper understanding of, and competence to deal with, the current and emerging issues of the business
  - exercises independent judgement
  - encourages enhanced performance of the company
  - can effectively review and challenge the performance of the management

Managing risks for a long-term sustainability

Promoting ethical and responsible decision-making

Companies should actively promote ethical and responsible decision-making.

To be successful, companies need to have regard for their legal obligations and interests of a range of stakeholders including shareholders, employees, business partners, creditors, consumers, the environment and the broader community in which they operate. It is important for companies to demonstrate their commitment through appropriate corporate practices and decision-making. Companies should:

- clarify the standards of ethical behaviour required from the board, senior executives and all employees, and encourage the observance of those standards
- comply with their legal obligations and have respect to the expectations of their stakeholders

Companies should establish and disclose a code of conduct pertaining to:

- the practices necessary to maintain confidence in the company's integrity
- the practices necessary to take into account their legal obligations and the expectations of their stakeholders
- the responsibility and accountability of individuals for reporting and investigating reports of unethical practices.

"It's hard to think of a time when corporate governance was more important for Indian real estate companies. While the sector is growing significantly, there is increasing competition, both buyers and institutional investors have more choice and all stakeholders are getting cautious. A major differentiator is how well a company demonstrates transparency, efficient use of money and business process effectiveness for quality and timely project execution. It is for this reason that governance framework and risk management in real estate is now much more than just a means to regulatory compliance."

Lav Goyal
Partner & Practice Leader - Business Risk Services
Grant Thornton Advisory Private Limited

The importance of transparency

While there are various reasons for the position in which the real estate sector finds itself today, there should be no question that improved transparency is required.

Real estate has emerged as a mainstream investment asset class, with explosive growth in cross-border capital investment via direct equity and indirect asset-backed capital markets products. Within this context of globally distributed and highly leveraged real estate risk exposure, the bursting of the real estate asset bubble yielded disastrous consequences for many investors and lenders.

A lack of investment in market transparency and risk management has allowed asset performance data to remain siloed, tangled, disparate and error-prone. Data inconsistency, incompleteness and fragmented information flows mean that investors are making business decisions with a limited grasp of the far-reaching financial, risk and compliance implications.

While the boom years for real estate allowed this situation to proliferate, today's market pressures on asset valuations and profit margins, combined with a tsunami of regulations, make appropriate risk management and true investment transparency a prerequisite for attracting and retaining capital going forward. Successful investors will be the ones who can retrieve accurate data, translate it consistently and present it according to user requirements.

Managing risks for a long-term sustainability

Safeguarding integrity in financial reporting

Companies should have a structure to independently verify and safeguard the integrity of their financial reporting.

This requires companies to put in place a structure for review and authorisation designed to ensure the truthful and factual presentation of the company's financial position. The structure would include, for example:

- a review mechanism that also considers financial statements by the audit committee
- a process to ensure the independence and competence of the company's external auditors
- a structure that does not diminish the ultimate responsibility of the Board to ensure the integrity of the company's financial reporting. The board should establish an audit committee

Make timely and balanced disclosures

Companies should promote timely and balanced disclosure of all material matters with regards to the company.

Companies should put in place mechanisms designed to ensure compliance with the requirements such that:

- all investors have equal and timely access to material information pertaining to the company
- the information shall include its financial position, performance, ownership and governance
- company announcements are factual and presented in a clear and balanced way. "Balance "requires disclosure of both positive and negative information

Companies should establish and disclose written policies and procedures designed to ensure compliance statutory disclosure requirements and to ensure accountability at a senior executive level for that compliance.

Recognise and manage risk

Companies should establish a sound system of risk oversight, risk management and internal control.

Risk management is the culture, processes and structures that are directed towards taking advantage of potential opportunities while managing potential adverse effects.

A risk management system should be designed to:

- identify, assess, monitor and manage risks related to the clear title of land, compliance to the various statutory norms, adherence to the tight project schedules, frequent design changes, improper construction planning, frequent changes in the prices of steel and cement, improper reporting and monitoring of the projects, inadequate labour force to ensure timely completion of work at the sites, and to manage timely availability of the material at the sites

Managing risks for a long-term sustainability

- identify inadequate tracking of the material being used in construction activities, inadequate quality inspection of the material used/ installed and material changes to the company's risk profile
- provide solutions to enhance the environment for identifying and capitalising on opportunities that create value

Risk profile

The board should establish policies on risk oversight and management. It should set out the company's appetite for risk and have regard to the material business risks faced by the company as identified by the company's risk management system. The risk profile should be regularly updated and reviewed.

Remunerate fairly and responsibly

Companies should ensure that the level and composition of remuneration is sufficient and reasonable and that its relationship to performance is clear.

The awarding of remuneration is a key area of focus for investors. When setting the level and structure of remuneration, a company needs to balance its desire to attract and retain senior executives and directors.

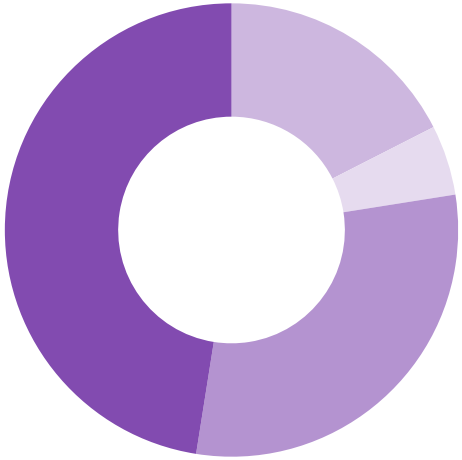
It is important that there be a clear relationship between performance and remuneration, and that the policy underlying executive remuneration be understood by investors. The board should establish a remuneration committee.

Conclusion

Corporate governance is a big opportunity for real estate companies to effectively manage risks, improve compliances and optimise process efficiencies and costs. This can help companies to meet customer expectations in terms of quality and timeliness of delivery thus helping them to outshine in the industry by enhancing credibility.

Industry point of view

Do you feel that formal risk management process helps the real estate business?



Disagree: 7%
Strongly disagree: 7%
Agree: 55%
Strongly agree: 31%

86% Agree

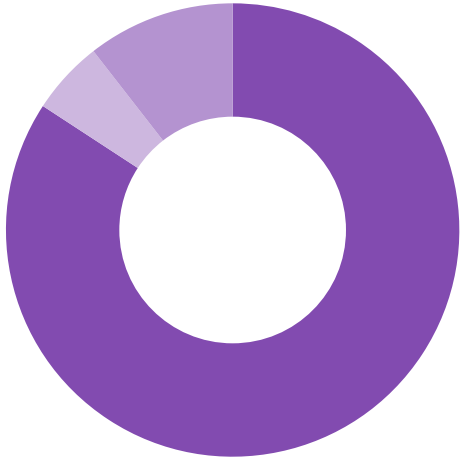
Does your company runs a formal risk management process?

Yes: 47%
No: 53%

53% No

Industry point of view

Does categorisation of risks based on the risk appetite supports the objective of the business?



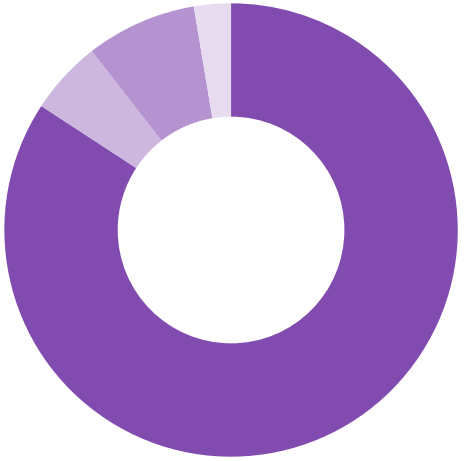
Disagree: 6%

Strongly agree: 10%

Agree: 84%

84% Agree

Does a robust process for monitoring company's risk appetite help approaching organisational objectives in a better way?



Strongly disagree: 2%

Disagree: 7%

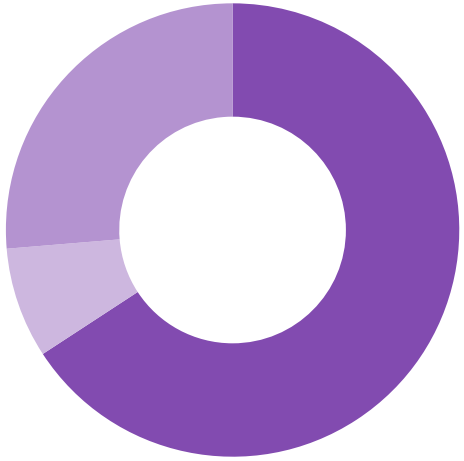
Agree: 84%%

Strongly agree: 7%

84% Agree

Industry point of view

Does effective mitigation planning across departments help company control the risks in a timely manner?



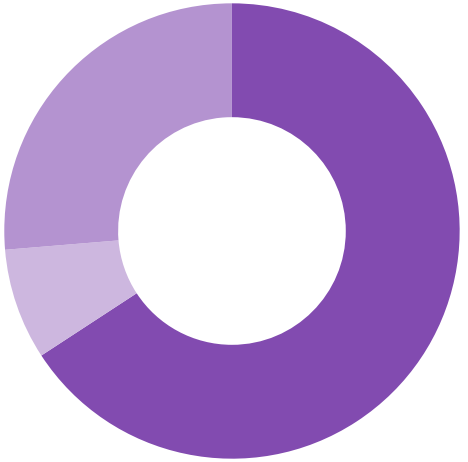
Disagree: 7%

Strongly agree: 28%

Agree: 65%

93% Agree

Do you support having an established risk culture without documenting the risk strategy?



Disagree: 9%

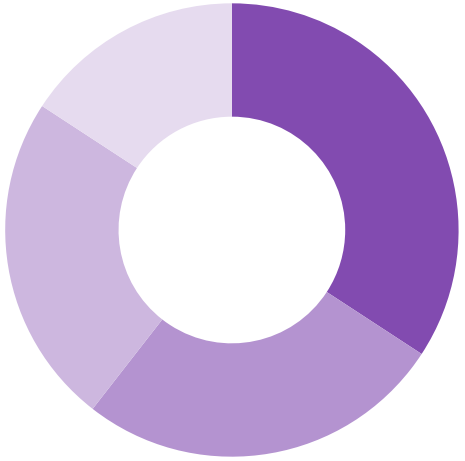
Strongly agree: 26%

Agree: 65%%

91% Agree

Industry point of view

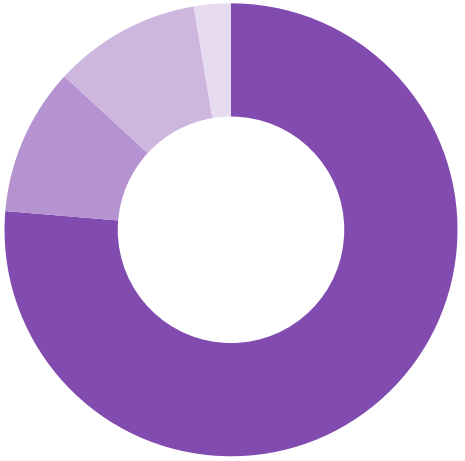
How are the risk management strategy and/or policy applied in practice?



- Strategy or policy not in place or not applied: 15%
- Strategy implemented by departmental instruction to other staff members: 23%
- Application of documented strategy and/or policy by management: 34%
- Strategy and/or policy verbally communicated but application not monitored: 26%

34% Application of documented strategy and/or policy by management

Does risk management believed to play a significant part in achieving organisational objectives?



- Disagree: 10%
- Strongly agree: 10%
- Agree: 76%%
- Strongly disagree: 4%

76% Agree

Technology: the game changer

Technology: the game changer

Operating in a dynamic environment, the success of real estate companies hinges, in large part, on their ability to deliver innovative, user-accepted products and services in a timely, seamless manner. With so much riding on the prosperity and future of their companies, more and more developers are turning to advanced technology as a tool for optimising the value of their businesses in the marketplace.

This section discusses how emerging technological trends are redefining the real estate space of India and taking it to the next level, for both now and in the future. Technology is emerging as a catalyst of change for the real estate companies of India – be it construction, project management, marketing, business management or customer service.

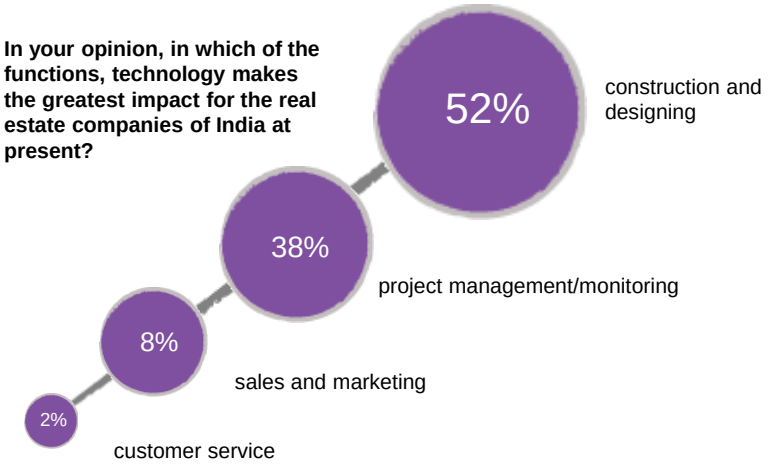
Today, the real estate sector is grappling with a number of challenges such as shortage of skilled manpower, escalating project cost and prolonged construction period. Technology holds the key to not only address some of these issues, but also a promise for the sector to react to the changing market conditions more effectively and efficiently.

The widespread deployment of technology across the various operational phases is expected to enable the sector to rationalise construction-related processes and improve the quality, cost-effectiveness and timeliness of project delivery, while also ensuring that the projects are developed and completed in consideration of long-term sustainability and environment-related concerns.

In countless industries, deployment of technology has contributed to enhanced productivity and better business performance. Even in the real estate sector, increased usage of technology has permitted real estate players to markedly improve the construction efficiency, while also inculcating sustainable practices across the construction cycle.

Research proves that the implementation of advanced technology has permitted the sector to significantly reduce the time wasted in coordinating activities and in managing, moving, and installing materials for construction. From the commercial perspective, technology has enabled the sector to reduce the losses arising due to lack of interoperability, as well as the transactional costs required to resolve disputes and claims associated with construction projects.

Technology: the game changer



Use of technology in construction and design

The rapid advances in technology present promising opportunities for real estate developers to make informed decisions in the context of schematic phases of building design. Through the integrated and concurrent implementation of multiple simulation tools and technologies, developers can gain insights for improving the efficiency of the building over its entire lifecycle, from design, through construction and commissioning, to operation and demolition. Technological advances including computer-aided design and drafting (CADD), laser scanning, cost-estimating and scheduling tools, and three-and four–dimensional (3D and 4D) visualisation and modelling programs permit real estate developers to design buildings which are able to fulfil the continuous demand for better structures - with respect to a variety of performance considerations, such as environmental impact, comfort, cost, etc. 3D and 4D model is another widely implemented technology in the design phase of the construction cycle.

The performance of the building over its entire lifecycle is assigned to performance indices. Deployment of modelling techniques permits architects and design engineers to determine the values of performance indices, and hence, predict the performance of the building over its entire lifecycle. The traditional techniques of sketching and drawing building plans, sections, elevations, etc. have currently been overtaken by new simulation techniques, largely due to the emerging need for architects and design engineers to have more accurate performance information of the building.

In some countries, simulation models have been applied for developing lighting, energy and environmental impact analyses of buildings over their entire lifecycle. Once the performance of the building has been predicted, technology is also applied to compare the possible solutions for improving the performance considerations. The understanding, quantification and evaluation of the performance considerations permits real estate developers to design strategies and deploy technologies that can strike a balance between the various specific performance criteria by comparing all the available options.

Technology: the game changer

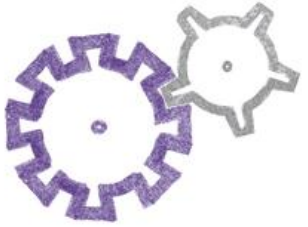
In addition to CADD and simulation modelling tools, the design phase of the construction cycle also requires the deployment of simulation algorithms that permit developers to evaluate the energy performance considerations of the buildings. By forecasting the performance of the building components and systems over their entire lifecycle, technology assists decision-makers in improving the standards of building performance as per the potential occupancy patterns.

The deployment of technology in the real estate sector has facilitated real estate players to create advanced national and international infrastructures and a built-environment that has significantly liberated human intervention from building construction sites. Further, technology has also been instrumental in enabling real estate players to align real estate activities with the pace of urban development.

However, the current challenges of urbanisation and sustainable development make it imperative for real estate developers to explore new, innovative and advanced technological processes that can revolutionise the way buildings are being constructed, operated and maintained.

To meet the demand of housing and commercial buildings that can match the unprecedented pace of urban growth, developers are increasingly adopting prefabricated building materials. By using cleaner resources which also save the energy consumed during the construction process, prefabrication techniques significantly contribute to sustainable development. Further, the development and application of prefabrication techniques in the construction of buildings is often supplemented with mechanisation, computer aided manufacturing, and intelligent building management systems.

India Concept House, a housing solution being developed by US-based architecture firm KieranTimberlake in partnership with ProjectWell, RICS South Asia, and Sam Circle Venture, will design and manufacture an entire house in factories and assemble it at the construction site. As per an estimate, it will just take six weeks to assemble a 98 square metre house.



Technology: the game changer

Use of technology in marketing

Increasing competition, trimming marketing budgets and need to identify and target potential customers cost-effectively is compelling real estate players to explore new and innovative strategies and technologies for marketing their projects. Deploying technology for marketing projects helps marketing teams to design and deliver innovative marketing programmes that are much more efficient.

The traditional methods of marketing construction projects have proved to be extremely time-consuming and ineffective at offering useful information of buildings such as design and planning to potential customers. With customers seeking more information for making informed decisions while making purchases, deployment of technology provides an opportunity to savvy developers to differentiate their marketing efforts from that of their competitors. Across the sector, developers are investing in providing virtual tours of their projects to their potential customers to effectively market their projects while saving both time and cost

Providing a virtual tour of a property to a potential customer is fast emerging as a preferred tool for realtors and buyers alike. Housing projects are increasingly being shortlisted by customers and often also selected on the basis of a virtual tour of the property.

Use of technology in customer service

For the new age consumer, customer service forms an extension of the overall marketing process. This provides an immense opportunity to real estate developers to tap this facet of marketing to differentiate themselves from their competitors. By effectively leveraging technology solutions in the context of customer service, real estate players can transform the experience of end-users.

Technological platforms, including web portals, social media, online forums and mobile applications, are increasingly being tapped by real estate developers to enhance the efficiency of their customer service processes. Further, technology also empowers marketing teams of real estate companies to gather deep understanding of evolving customer needs and expectations.

This understanding permits them to integrate relevant information into traditional marketing channels to build successful customer service models. Despite the efficiency of technology in providing rapid access to marketing teams to specific customer information, the widespread implementation of technology to markedly improve customer service productivity is still at a nascent stage.

Technology: the game changer

Among the several barriers to the overall deployment of advanced technologies in the customer service function, cost and complexity of implementation are of prime significance.

One of the most widely implemented technologies in the customer service function is Customer Relationship Management (CRM). Deployment of CRM tools enable real estate companies to transform their existing business models and create entirely new ones which are far more efficient at analysing the diverse needs of customers and empowering teams to develop better strategies to interact with their customers.

By enabling teams to efficiently manage pre-sales, sales and post-sales forces, CRM tools enable companies to overcome the challenges emanating from increasing dynamism in market demand.

Homebuy360.com, a Koramangala-based technology start-up, connects builders and buyers over the internet to facilitate transactions. The company provides an online application-based account which enables buyers to monitor the progress as well as any other relevant information pertaining to their homes. Developers, on the other hand, are provided online modules to track billing, collection and customer service related matters.

Use of technology in project management

Project management in real estate sector is extremely complex, owing largely due to the long lifecycle of projects, multi-units involvement in executing projects, unorganised nature of the sector, etc. Technology including project management, material management and sales and marketing tools is widely being considered as the solution to integrate the various phases of the construction projects. Advances in technology have largely overtaken the design and construction phase of real estate projects and have created value for countless real estate companies by increasing the efficiency of their operational processes markedly.

IP surveillance system permits builders to monitor and supervise the progress of their projects and address delays in project completion by taking timely measures. Besides remote monitoring, video conferencing solutions, installation of Closed-circuit television (CCTV) cameras at the project site and Geographic Information Systems (GIS) tools also permit builders to keep a close eye at the progress of their projects. Witnessing the vast potential of tapping technological advances to markedly improve project management, several real estate players are also exploring and evaluating solutions for connecting their managers, operating at remote sites, to update their project status, send bills for payment, etc.

Technology: the game changer

By deploying technology including enterprise mobility solutions, document management solutions, Management Information System (MIS), Enterprise Resource Planning (ERP) system, etc. businesses across industries have nonetheless become far more efficient and robust. In the real estate sector, particularly, ERP has been deployed by builders, property dealers and landlords to boost the productivity of their businesses. With ERP, the complex task of effectively managing property business, and data pertaining to ownership history, amenities, property address, etc. has significantly eased. Further, ERP is also beneficial at maintaining records of legal documents, including property documents, loan functions, agreements and loan history for the real estate players and potential customers.

The benefit of improved project management is another benefit of ERP systems. By integrating ERP modules across various phases of the project lifecycle, project managers can substantially enhance operational and performance efficiencies of the systems associated with project execution and completion. ERP also replaces the traditional systems of project management to improve the processes of budgeting, planning and allocating resources as per the needs of the phases of the project by contributing at estimating, costing, planning, scheduling and execution of real estate projects.

With its far-reaching functionalities, ERP also enables prospective buyers and developers to view the exact location of the construction site and assess the exact distance of this site from a particular point. Further, across numerous real estate companies, ERP plays a crucial role in keeping a track of expenses and financial accounts.

Conclusion

In essence, continued improvements in technology have significantly revolutionised the way real estate companies operate in the current business environment. However, the impact on the performance of the real estate sector with the deployment of technology is largely dependent upon the depth of its involvement across the various facets of the operational processes. How real estate players innovate and respond to technological advances will undoubtedly play a major role in differentiating the companies, their projects and offerings in the minds of consumers.

In the long-run, the advent of technology exposes the players to numerous challenges, as well as renders new opportunities to improve innovation, product development and customer support. The key to driving growth in such a scenario will nevertheless be dependent upon the willingness of real estate players to accept sophisticated technologies and seamlessly integrate them within their business operations.

Innovation and convergence of technologies

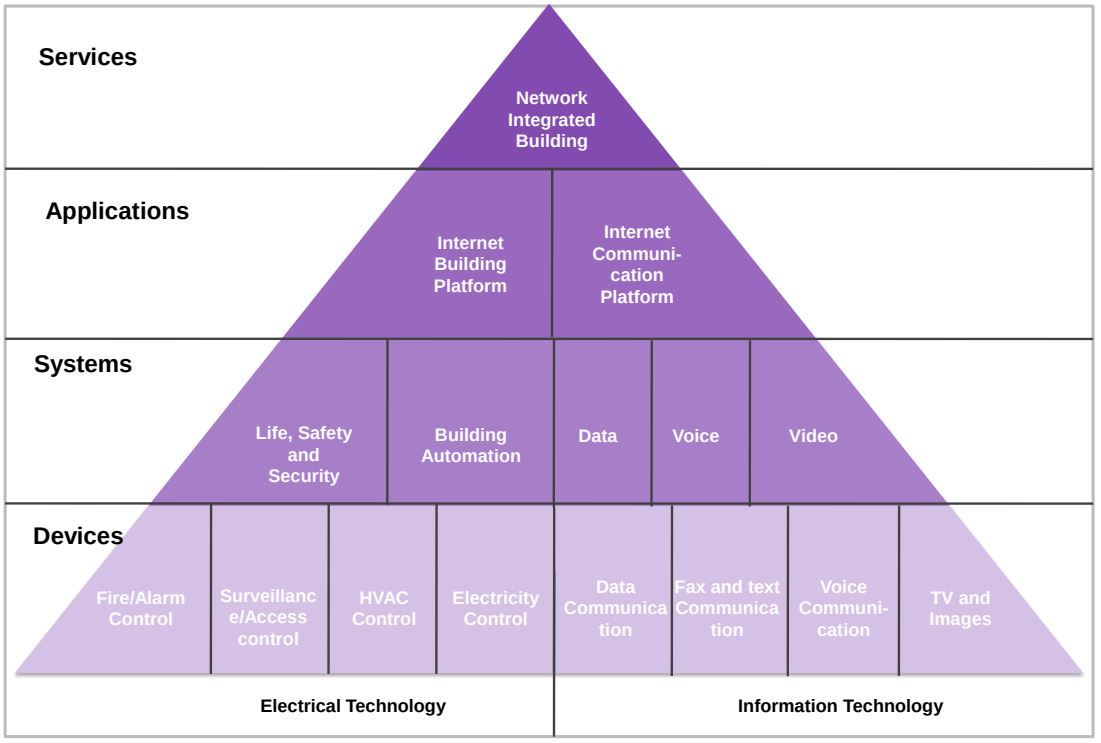
The Indian real estate sector has to keep a keen eye on technological innovations to sustain growth and keep pace with global developments. The more receptive the industry gets for technological innovations, the greater will be the speed of change.

An integration of electrical and information technology (illustration alongside) can enable a building to transform from a device-oriented, function-driven platform to a unified service-oriented platform.

Every building has a multilayer infrastructure and it is extremely critical that the building should be designed and constructed in such a manner that makes the collaboration of these layers possible. The resultant platform will streamline processes, thereby tapping productivity and operational efficiency in a significant way. Such models have potential to enhance a building's value and optimise costs, in the long term.

After the integration of information and electrical technologies, the Indian real estate sector can take a leap towards convergence of Information and Communication Technologies (ICT) with electrical, mechanical and civil construction techniques and technologies.

Convergence of Electrical and Information Technology



Model adapted from Zurich ETH and Technibank

Smart homes: intelligent buildings

Empowered with rising disposable incomes, the burgeoning middle class of the country is driving the demand for improved workplaces and homes that can provide them opportunities to lead better lifestyles, while addressing their need for sustainability, efficiency and functionality. Thanks to the advances in technology and innovation, the real estate sector is poised to identify and tap the market opportunities emerging out of these demands to deliver substantial economic, environmental and quality of life benefits to the citizens of the country.

Innovating and incorporating new value-added solutions in their project portfolios is increasingly emerging as a crucial directive for real estate players to allure new buyers and tenants, while also retaining the existing ones. Undoubtedly, the real estate sector of the country has come a long way, in terms of the quality of infrastructure being developed, over the last decade. Without question, technology has played a paramount role in shaping this growth path and arming the sector to become capable of meeting the rising real estate demands.

With the growing demand for not only infrastructure and real estate, but better infrastructure and real estate confronting developers, it has become imperative for them to transform their projects by adding differentiating functionalities to them.

Smart home technology is one such concept that has the potential to empower developers to meet the economic and comfort-related expectations of the consumers, while effecting a radical change in their living environment and lifestyle.

Major advantages of smart home technology

Safety

Smart home technology integrates building, safety, and communications channels with an open Internet Protocol (IP) standard with the purpose of developing an intelligent monitoring system to improve the efficiency of the building. By facilitating multidisciplinary collaboration among the systems for building management and safety and communication, the smart home technology helps create intelligent building infrastructure that can effect marked improvements in lifestyle and safety of its occupants.

Such homes are equipped with embedded devices that can enhance the functionality of traditional safety and monitoring systems. By integrating these conventional devices with a simple user interface, occupants can easily obtain information about what is happening inside the house or in its vicinity from any remote location. Besides remote monitoring for enhancing the safety features of real estate, smart residential solutions also offers the potential to improve building performance by drastically reducing their greenhouse gas emissions and their skyrocketing demand for energy.

Smart homes: intelligent buildings

Sustainability

Buildings are the largest consumers of energy and emitters of greenhouse gases globally. Application of smart home technology in buildings permits developers to integrate energy management systems in buildings for improving their performance. Such buildings are also equipped with energy conservation and power management systems that can help the sector to efficiently address its long-term sustainability challenges.

Moreover, the energy management systems can be monitored by the building occupants to ascertain their energy usage. The easy monitoring of energy consumption permits occupants to keep a tab on their energy usage, and thereby lower energy costs.

Further, by centrally monitoring the building facilities such as elevators and HVAC (Heating, Ventilation, and Air-Conditioning) systems, owners can easily ascertain energy usage patterns and proactively reduce the usage of superfluous systems to reduce energy costs and improve the performance of the building.

Reducing carbon footprint of buildings

The increased concern of climate change is expected to drive the shift in real estate activities towards creating a low carbon society.

Currently, smart home technology is one of the most powerful tools available to real estate developers to lower carbon and environmental impacts of their buildings. By implementing smart home technology in buildings, developers can efficiently address the issues of rising energy costs, climate change, environmental concerns, resource depletion, human health and safety issues.

The ease of monitoring the energy consumption enables occupants to turn-off their HVAC systems with the touch of a button right from the comfort of their workplaces. Further, by proactively monitoring building performance, building owners can strategically deploy systems that are either more energy-efficient or consume less power, with a view to achieve drastic reductions in the carbon footprint of their buildings.

Smart homes: intelligent buildings

Current scenario

Today, technological awareness and its potential to drastically improve the quality of life are widely emerging as the latest buzzwords in the residential real estate market of the country. Heightened concern for the environment and demand for finer aesthetics at home are driving the demand for homes that incorporate cutting-edge technology to improve safety of the occupants of the building, improve energy efficiency of the building, and lower energy costs.

The trend to invest in technology to improve the performance of buildings is fast catching up with developers who are increasingly incorporating solutions such as automated and solar protection curtains, home automation systems, wired switches, remote controlled devices, etc. in their projects. The growing interest in digital solutions also stems from the increase in the number of working couples in the country who are increasingly dependent upon automated home solutions to seamlessly perform their day-to-day activities.

Smart home technology in India

Increasing competition and need for tapping the high-end market segment are driving real estate developers to differentiate their projects by incorporating various value-added services. With a view to attract the high-end consumer segment which has the purchasing power to buy premium automated homes, several real estate players are now considering smart home technology in their buildings. Lodha Group, for instance, is among the first ones in the country to introduce the concept of smart homes in its Bellissimo project in Mumbai in 2006.

The automation trend in residential projects has also been picked up by Mantri Developers and Total Environment Building Systems for their projects launched in Bengaluru. Sobha Habitech project is another prominent smart home project that has been launched in the country by Sobha Developers Ltd in Bengaluru.

Pre-fabrication: the fast-catching trend

Building concrete structures is time consuming, thanks to the number of steps involved right from sourcing the raw material to giving the finishing touches. This becomes a major problem especially if the requirement is immediate. Prefabricated (prefab) structures provide a viable solution in this scenario. The use of prefab structures is on the rise which means more convenience to the consumers and good business for entrepreneurs.

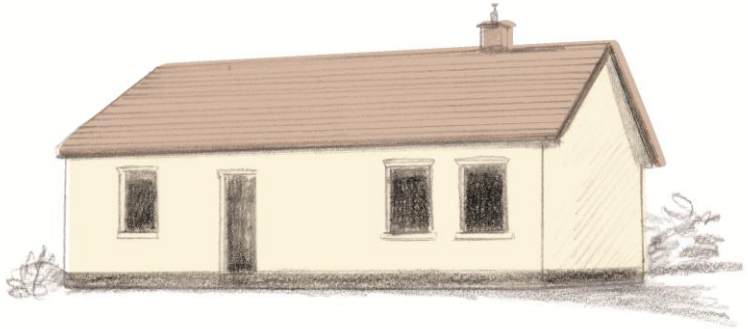
Prefab structures are dwellings manufactured off-site in advance, usually in standard sections that can be easily shipped and assembled on-site. These are designed and built to be movable rather than permanently located. These houses differ from regular buildings since many of their parts are prefabricated in a factory and then assembled on-site. This type of housing construction is also known as modular home construction. The modular homes may be constructed entirely or partially with manufactured components. These homes are suited for schools, certain government buildings, research institutions and civilian or military residential complexes.

This type of building work is mostly used in areas where conventional construction is not possible. Another advantage is fast completion of the project. The construction of parts or sections usually takes place in a factory.

The assembly line is automated and sections move from one place to another for completion. The quality inspection is carried out at each and every stage. The regulations demand strict adherence to manufacturing codes set in the country.

The sections or components take varied time for completion at the factory. The installation time also varies from place to place and depends upon the complexity as well. The time consumed in completion of the project varies, depending upon many factors. But construction, with prefab structures, time is shorter than regular or conventional building technique.

Weather and labour are not a matter of concern since most of the sections are built in an established factory. There are certainly less impediments in prefab building methodology. Quick completion of the job also means faster returns on investments. Building extension also becomes easy as new section can be added without much difficulty.



Pre-fabrication: the fast-catching trend

The role of prefabrication in architecture has been lauded for its potential to increase productivity and efficiency while not sacrificing quality. Developing countries, including China, India, Africa and many regions of South America, are exploring the potential advantages of prefabrication which have the assurance of realising housing quickly and affordably.

Comparison Prefabricated V/S Conventional		
S.	**Prefabricated Buildings**	**Conventional Building**
1	Aesthetically appealing appearance	Special aesthetic design required
2	Reduced time because of international design standards & codes using standard sections and connections	Increased design time due to scratch and availability of less design aids
3	Higher resistance to seismic forces due to low weight flexible frames	Rigid heavy weight structures not suitable for seismic zones
4	Less weight through efficient use of materials	High weight due to excessive safety factor and heavy RCC work
5	Factory controlled quality	Every project to be fabricated at site
6	Lower initial cost of Prefabricated buildings (cost per square meter about 30% less than the conventional) and faster delivery	Special design and features developed for each project at higher costs
7	Simple foundation, easy to construct and light weight of structures	Extensive heavy foundation
8	Span size may be designed up to 40m	Span size with limitation of beam width may be limited to 10-15m
9	Average delivery time considerably less	High average completion time

Pre-fabrication: the fast-catching trend

Scope of pre-fabrication

In a building, the foundation, walls, doors and windows, floor and roof are the most important components. These components can be analysed separately based on the requirement. This improves the speed of construction and reduces the construction cost.

1. Foundations

Various types of foundations normally adopted are:

- open foundations
- rib foundations
- columns and footings
- RCC raft foundation

Conventional methods using in-situ techniques are found to be economical and more practical for low cost housing of slums which generally consists of low rise structures. In seismic regions, special attention is required to make the foundations continuous using horizontal reinforcement. Prefabrication is not recommended for foundations in normal situations.

2. Walls

In the construction of walls, different types of bricks, soil, cement blocks, hollow clay blocks, dense concrete blocks, small, medium and room size panels, etc. are used. However, bricks continue to be the backbone of the building industry.

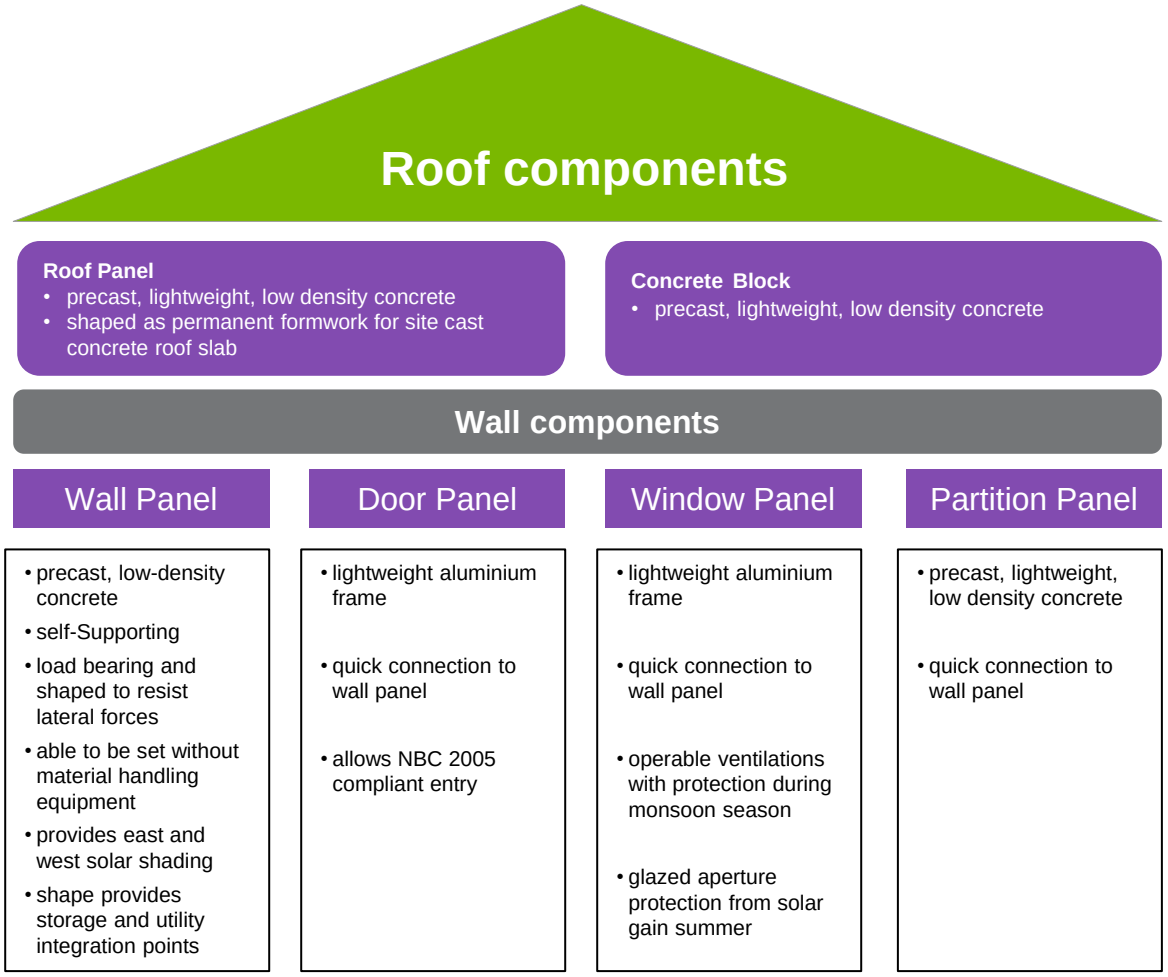
In actual construction, the number of bricks or blocks that are broken into different sizes to fit into position at site is very large.

As a result of this, there is a wastage of material and the quality of construction also suffers. Increasing the size of wall blocks will prove economical due to greater speed and less mortar consumption, which can be achieved by producing low density bigger size wall blocks and industrial wastes such as blast furnace slag and fly ash.

Several prefabrication techniques have been developed and executed for walls but medium and large panel techniques have not proved economical for low rise buildings as compared to traditional brick work.

3. Floor and roof

Structural floors and roofs account for a substantial cost of construction. Therefore, any savings achieved in floor/roof considerably reduce the cost of buildings. Traditional cast-in-situ concrete roof involve the use of temporary shuttering which adds to the cost of construction and time. Use of standardised and optimised roofing components where shuttering is avoided prove to be economical, fast and better in quality.



Characteristics of components for prefabricated structures

Pre-fabrication: the fast-catching trend

Some of the prefabricated roofing and flooring components found suitable in many low-cost housing projects include the following:

- precast RC planks
- precast hollow concrete panels
- precast RB panels
- precast RB curved panels
- precast concrete/ferro-cement panels
- precast RC channel units

Prefab materials can also be used for constructing components such as lintels, sun shades, cupboard shelves, kitchen working slab and shelves, precast ferro-cement tanks, precast staircase steps, precast ferro-cement drains, etc.

1. Thin precast RCC Lintel

Normally lintels are designed on the assumption that the load from a triangular portion of the masonry above, acts on the lintel. Thin precast RCC lintels are designed taking into account the composite action of the lintel with the brick work.

The use of precast lintel speeds up the construction of walls besides eliminating shuttering and centering. Adoption of thin lintels results in up to 50% saving in materials and overall cost of lintels.

2. Doors and windows

Innumerable types and sizes of doors and windows are used in buildings. This involves the use of additional skilled labour both on site and off site and also wastage of expensive materials such as timber, glass, etc. Economy can however be achieved by:

- standardising and optimising dimensions
- evolving restricted number of doors and window sizes
- use of precast door and window frames

For most, less developed countries, and India in particular, the need of production technology, or the knowledge of the process of prefabrication is critical and it cannot be directly transferred from other countries due to cultural barriers. Therefore, in order to utilise this technology in an optimum manner, it is imperative for India to develop its own methods of prefabrication specific to its requirements and unique social, environmental and economic conditions.

Pre-fabrication: the fast-catching trend

Issues and challenges

Some of the problems faced by vendors dealing in prefabricated houses in India include the following:

- lack of acceptance from consumers
- lack of trained work force for installing prefab units
- lack of brand value
- assumption that design choices are limited with prefab structures
- perceived cost premium for quality prefab
- lack of flexibility in on-site design changes
- cultural barriers including the perception that prefab houses are temporary and do not provide reliability

The others include opposition from construction workers and contractors to whom prefabrication appears to be a threat to their jobs.

Products which are being/can be offered in a prefabricated form		
Site Office/Accommodation	Portable Class Rooms	Small Hospitals
Bathrooms	Camp Site	Terrace Rooms
Beach Houses	Security Rooms	Cellular Phone shelter
Farm Houses	Bunk House	Modular Cabin
Portable Toilet	Guard Rooms/ Post	Clinics
Roof top	Hotels	Huts
Barracks	Portable Kitchen	Cold storages
Exhibition halls kiosks	Workshops	Warehouses
Extended accommodation	Disaster Relief Shelters	Low Cost Housing
Storage Shed	Transit Camps	Resorts
House (one to three bedrooms and upto three-storey)		

Green practices: an option and a necessity

Sustainable cities in India

The massive demographic shift in the country from rural to urban regions is expected to put enormous pressure on urban planning, natural resources, infrastructure and the environment. The key to managing urban growth of the country lies in formulating an urban strategy which is efficient in responding to the dynamic needs of urbanisation and, simultaneously, address the issue of climate change and environmental degradation. Designing and developing sustainable cities are believed to form a major component of the strategies of countering the challenges associated with rapid population growth and urbanisation.

As India continues to face the mounting pressures of urbanisation and challenges of climate change, various plans and roadmaps are being laid down for achieving sustainable and inclusive development, and lowering the carbon footprint of its cities. With a view to address the increasing environmental concerns, the Twelfth Five Year Plan has adopted a holistic approach to reinforce overall sustainability in the Indian cities. Further, although the country is currently witnessing several radical experiments in sustainable development such as Magarpatta City, etc, the roadmap for creating cities which embrace the aspects of economic, environment and social sustainability within their framework still lies at a nascent stage.

Eco-cities/ sustainable cities

Recognising the importance of sustainable development to counter the challenges associated with the dramatic pace of urbanisation, the Ministry of Environment and Forest (MoEF) began the discussions on developing eco-cities in the country in 2000. The MoEF collaborated with Central Pollution Control Board (CPCB) and the German technical cooperation (GTZ) to plan six medium and small eco-cities in the country in 2001. Environmental consideration is placed at the forefront of the urban planning process while designing the development plan for eco-cities. The government chose the towns including Vrindavan, Kottayam, Tirupathi, Thanjavur, Ujjain and Puri for the project.

As part of the Delhi Mumbai Industrial Corridor (DMIC) project, the Delhi Mumbai Industrial Corridor Development Corporation (DMICDC) also intends to develop eco-cities along the length of the Delhi Mumbai Corridor. The first phase of this initiative involves the development of an eco-city pilot project at Manesar, an industrial hub in Haryana. The pilot project, which is to be implemented at IMT Manesar, has been undertaken following the signing of a MoU between Delhi-Mumbai Corridor Initiative Development Corporation (DMICDC), Haryana State Industrial and Infrastructure Development Corporation (HSIIDC), and a consortium of Japanese companies led by Toshiba, and including NEC, Tokyo Gas and Energy Advanced Companies Limited.

Sustainable cities in India

Witnessing the vast potential in India for developing sustainable eco-villages and towns, the Prince of Wales also intends to develop an eco-friendly community near either Bangalore or Kolkata. The project, which will be financed through his charity "Foundation for the Built Environment", involves the construction of a sustainable community with the capacity to house around 15,000 people.

Delhi Mumbai Industrial Corridor project

The Delhi Mumbai Industrial Corridor (DMIC) project is spread over a length of 1,483 kilometres and passes through the states of U.P, NCR of Delhi, Haryana, Rajasthan, Gujarat and Maharashtra. Intended to be developed in collaboration with the Government of Japan, the US$ 90 billion project will possess a high speed freight line, three ports and 9 mega-industrial zones covering an area of approximately 200-250 square kilometres.

As part of the project, Multi-modal High Axle Load Dedicated Freight Corridor (DFC) will be developed between Delhi and Mumbai, with end terminals at Dadri in NCR and Jawaharlal Nehru Port near Mumbai.

Along the length of the project, an overall 51,000 hectares of area has been earmarked for conserved mangroves, integrated villages, green spaces, rail transport for local and regional transportation, and a compact city to minimise travel distances. In September 2011, the Central Government approved an assistance of Rs. 18,500 crore over a span of 5 years for the mega infrastructure project. The DFC that was set to be completed by 2013 is, now, expected to be completed by 2017, owing to the issues such as land acquisition and delays in approvals from state governments.

Sustainable cities: global case studies

Masdar City in Abu Dhabi

With a view to develop a city capable of managing the pace and sheer scale of urban growth, the government of Abu Dhabi has put in place the plan to develop the 2.7-square mile Masdar City in a desert 10.5 miles from downtown Abu Dhabi. Projected to be completed in 2016, the city has a US$ 22 billion-corpus, and is designed with the intent to accommodate 40,000 residents. The initial intent of the project was to develop a cleantech city cluster capable of lowering Abu Dhabi's carbon footprint by being a zero-carbon and zero-waste region. Later, the sustainability performance indicators of the city were revised to reduce the following:

- the overall energy demand by 50%
- the embodied carbon emissions by 30%
- the operational carbon emissions by 50%
- water waste by 30%
- landfill waste by 50%

The city is comprised of five integrated units - Masdar City, Masdar Capital, Masdar Power, Masdar Carbon and Masdar Institute of Science and Technology.

Approach to sustainability

Currently, various approaches and methods are being evaluated by the city developers to mitigate the perpetual impact of large-scale developmental activities and urbanisation on environmental degradation and climate change. Some of these approaches include:

- public transportation system comprising of Personal Rapid Transit (PRT) vehicles
- allowing pedestrian-friendly narrow streets through the construction of an undercroft and the utility trench
- combining shading, planting and water features to reduce the average temperature of the city by 20º Celsius
- the Windtower that will rise 45-metres high above the podium will have LED lighting, which will change colour to help occupants monitor their energy use
- design of the facades of the buildings of the city will enable the management of solar gain
- linear parks and the streets will be oriented in a manner such that air movement gets enhanced

Sustainable cities: global case studies

New Songdo City

Driven by the aim to develop a city that employed sustainable design principles and the best practices of urban planning, South Korea laid down the foundation of the New Songdo City in 2000 on a man-made island about 40 miles from Seoul. Intended to be spread over an area of 1,500-acres, the city is expected to have green commercial buildings and homes that will efficiently reduce its greenhouse emission by 33% of the amount emitted by a normal city of similar size. Cisco has collaborated with New Songdo International City Development LLC to digitalise the entire city.

Fast facts

- 45 million square feet in area
- Will house 65,000 residents
- 30 million square feet of residential space
- 10 million square feet of retail space
- 5 million square feet of hotel space
- 10 million square feet of public space
- 40% green space

The city will also be home to the 68-storey Northeast Asia Trade Tower – the tallest building in South Korea.

An overview of other sustainable cities

City	Location	Sustainability approach
Dongtan City	Chongming Island, near Shanghai, in the Yangtze River Delta, China	• reducing the ecological footprint of the city to 2.6 • achieving zero-carbon footprint • energy generation through solar panels, wind turbines and bio-fuels • encouraging biodiversity through low car-usage and low-consumption approaches
Sino-Singapore Tianjin Eco-City	Tianjin Binhai New Area, China	• spread over an area of 30 square kilometres, the plan for the development of the city will focus on 6 key factors • these include clean water, ecology, clean environment, green building, clean energy and integration of technology
Sino-Singapore Nanjing Eco High-Tech Island	6.5 kilometres from Nanjing, capital of southern Jiangsu province, China	• 750 hectares of the island will be designated for eco-tourism • water canals and lush greenery will adorn the island • water reclamation and other green energy options will be explored
Meixi Lake District	Changsha, the capital city of Hunan Province, China	• spread over an area of 1,675 acres, the lake environment will be surrounded by abundant green space

Green buildings in India

Unprecedented opportunities of economic growth and employment are driving the rapid wave of urbanisation in developing countries worldwide. As per estimates from the United Nations, urban population in the developing countries will rise to 5.2 billion by 2050.

The rapid pace of urbanisation has given rise to the concept of 'megacities' – cities housing a population exceeding 10 million people. It is projected that by 2015, the number of megacities in India will increase to 9, of which Mumbai, Delhi and Kolkata, will be counted among the 10 largest cities in the world.

While on one hand, the rapid migration of population to the cities of emerging markets is enriching the urban pool of human capital and acting as a catalyst for the shift in the world's economic geography, it is also creating novel challenges of achieving sustainable urban development.

Challenges to sustain urban growth within the formal planning process, redefining the capacity of cities to provide adequate services for their population and mitigating the impact on climate are some of the challenges being faced by the cities in the developing countries.

Faced by the inevitability of additional urban population growth, cities are facing the urgent need to address the issues of unplanned development characterised by slums or informal settlements, environmental degradation and climate change, by formulating an effective roadmap for achieving sustainable urban development.

Sustainable cities form a major component of the holistic approach to optimise the efficiency of urban infrastructure systems, while managing the impact of rapid urbanisation on the environment, ecosystem and natural resources.

The key to developing sustainable cities lies in strategically deploying ecological principles to urban planning, design and management. For achieving sustainability in urban planning, it is also imperative to integrate these principles with the effective implementation of a set of green policies, including the deployment of renewable energy and carbon-neutral strategies, sustainable transport strategies and strategies leading to eco-efficiency.

Further, establishing effective processes for monitoring and evaluating the spatial planning framework for developing sustainable cities can go a long way in ensuring the success of this green initiative.

Green buildings in India

The general sentiment among the developer community is that green buildings cost higher than similar conventional buildings, and it is difficult to get positive returns on this extra investment. This issue is mainly due to:

- the still-evolving nature of green buildings;
- the lack of technical information;
- the incomplete/inefficient execution of green projects;
- the short-term view on returns, instead of focusing on lifetime return on investment (ROI) of these buildings.

In mature markets the cost premium range from 1-6%. Cost premium in India is in the range of 5–30% depending on the level of rating. This can be attributed to lack of technical know-how, immaturity of the market and lack of resources.

With an increase in awareness and availability of resources, the cost premium in India is foreseen to realign with that of the mature markets. It is important to note here that the capital cost of going green also depends on the level of rating that a project aspires for.

The below table quite succinctly substantiates two important trends: first that the payback period for going green in buildings is showing a distinct declining trend over the years and second that as green technology is getting more accessible and cheaper, the cost of greening the building is also coming down.

Green buildings in India

Project	City	Area	Rating	Hike in cost (in %)	Payback period on cost premium (in years)
CII-Sohrabji Godrej GBC	Hyderabad	20,000	Platinum	18	7
ITC Green Centre	Gurgaon	170,000	Platinum	15	6
Spectral Services	Noida	15,000	Platinum	8	4
Wipro	Gurgaon	175,000	Platinum	8	5
Technopolis	Kolkata	72,000	Gold	6	3

Source: CII

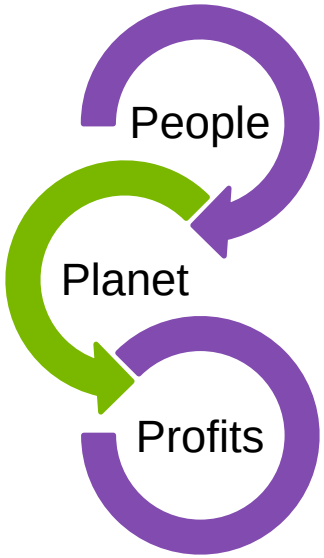
Green buildings in India

A green building may cost more up front, but saves through lower operating costs over the life of the building. The green building approach applies a project lifecycle cost analysis for determining the appropriate up-front expenditure. This analytical method calculates costs over the useful life of the asset.

Some benefits, such as improvement in occupant health, comfort, productivity and reduction in pollution and landfill waste, are not easily quantified. Consequently, they are not adequately considered in cost-benefit analysis. For this reason, setting aside a small portion of the building budget to cover differential costs associated with less tangible green building benefits or to cover the cost of researching and analysing green building options should also be considered.

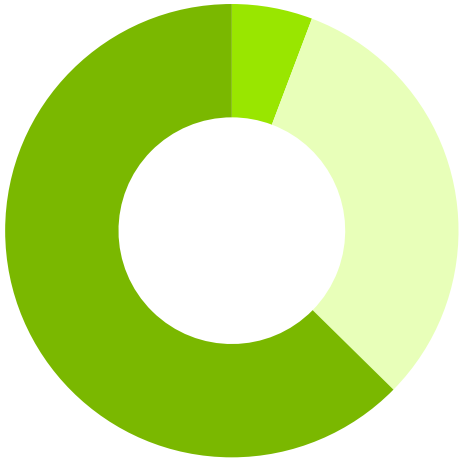
The average payback period for all the buildings is around 4.6 years, according to the Indian Green Building Council (IGBC) report of 2007. It has been 5 years since then, during which green prices of products and services have become more competitive and the payback period is expected to come down.

Green Buildings ensure Triple Bottom Line (3 BL) which has 3 parts- People, Planet and Profits. From the evidence widely available, there is little doubt that creating green buildings is more beneficial for occupants and employees and is undoubtedly much less demanding on precious environmental resources. This takes care of the People and Planet. The third P that of Profits is also guaranteed by the cost savings and other economic benefits it offers.



Industry point of view

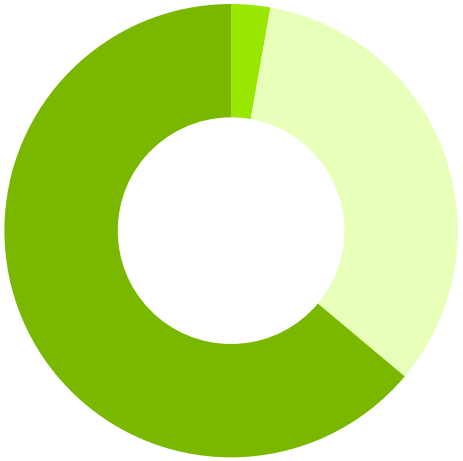
While residential real estate prices are at levels not easily reachable by masses, is it possible to offer houses that are environment-friendly and yet affordable?



Can't say: 5%
No: 35%
Yes: 60%

60% Yes

Should the government mandate a minimum usage of alternative sources of energy for all real estate projects?

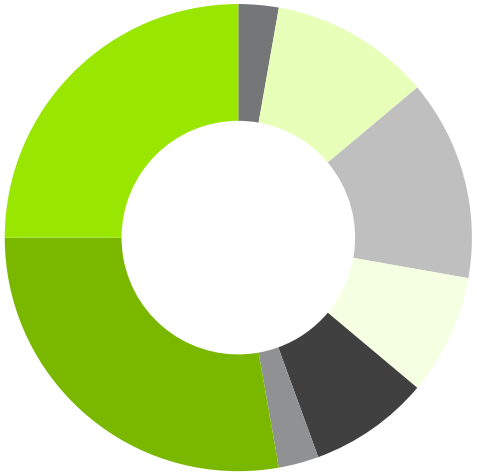


Can't say: 4%
No: 33%
Yes: 63%

63% Yes

Industry point of view

Rank the top factors that can enhance adoptability of clean technologies in the real estate sector in India?



- Stable government subsidies and regulation: 27%
- Tax incentives: 25%
- Corporate social responsibility: 11%
- Brand building: 4%
- Long term sustainability: 13%
- Pressure from customers: 8%
- Price of fossil fuels: 8%
- Public opinion: 4%

27% Stable government subsidies and regulation

“I would give a thousand furlongs of sea for an acre of barren ground.”
-Shakespeare

"It's tangible, it's solid, it's beautiful. It's artistic, from my standpoint, and I just love real estate."
-Donald Trump

“Every person who invests in well-selected real estate in a growing section of a prosperous community adopts the surest and safest method of becoming independent, for real estate is the basis of wealth.”
-Theodore Roosevelt

About CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes.

CII is a non-government, not-for-profit, industry led and industry managed organisation, playing a proactive role in India's development process. Founded over 117 years ago, it is India's premier business association, with a direct membership of over 7000 organisations from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 90,000 companies from around 400 national and regional sectoral associations.

CII catalyses change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialised services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry to identify and execute corporate citizenship programmes. Partnerships with over 120 NGOs across the country carry forward our initiatives in integrated and inclusive development, which include health, education, livelihood, diversity management, skill development and water, to name a few.

The CII Theme for 2012-13, **'Reviving Economic Growth: Reforms and Governance,'** accords top priority to restoring the growth trajectory of the nation, while building Global Competitiveness, Inclusivity and Sustainability. Towards this, CII advocacy will focus on structural reforms, both at the Centre and in the States, and effective governance, while taking efforts and initiatives in Affirmative Action, Skill Development, and International Engagement to the next level.

With 63 offices including 10 Centres of Excellence in India, and 7 overseas offices in Australia, China, France, Singapore, South Africa, UK, and USA, as well as institutional partnerships with 223 counterpart organisations in 90 countries, CII serves as a reference point for Indian industry and the international business community.

Reach us via our Membership Helpline:
00-91-11-435 46244 / 00-91-99104 46244

Confederation of Indian Industry
The Mantosh Sondhi Centre
23, Institutional Area, Lodi Road
New Delhi - 110 003 (India)
T: 91 11 24629994-7 • F: 91 11 24626149
E: info@cii.in • W: www.cii.in

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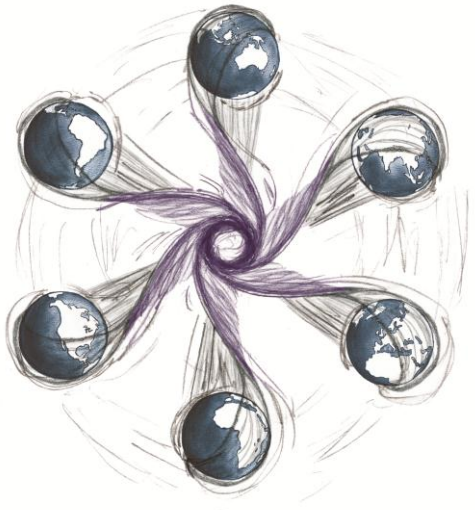
Today, it has grown to be one of the largest accountancy and advisory firms in India with more than 1,200 professional staff in New Delhi, Bengaluru, Chandigarh, Chennai, Gurgaon, Hyderabad, Kolkata, Mumbai and Pune, and affiliate arrangements in most of the major towns and cities across the country.



Solutions for real estate companies

Our real estate practice

Real estate is a complex business. Owing to its capital intensive nature, any turbulence in the economic and business environment can affect a real estate business in a number of ways.

With its depth of knowledge and global experience, Grant Thornton India LLP can assist you in mitigating these inherent risks. At the same time, we can help you identify and leverage potential opportunities as well. Assurance, tax and advisory services are just the beginning of our suite of services for real estate companies.

Financing your business

- analysing funding requirements
- preparing submissions to financiers
- benchmarking terms and pricing
- considering alternative sources

Working capital management

- managing your cash
- forecasting and re-forecasting
- optimising tax cash flow savings
- improving management information

Protecting profits

- product portfolio analysis
- optimising pricing strategy
- enhancing terms of trade
- identifying overhead savings

Operations and cost reduction

- establishing cost reduction programmes
- improving supply chain
- enhancing operational efficiency
- outsourcing back office functions

Communication and compliance

- advising on financial reporting requirements
- clarifying directors' responsibilities
- mitigating fraud risk
- evaluating and designing controls

Human capital management

- optimising pension and benefit schemes
- retaining the right staff
- devising tax efficient packages
- enhancing reward packages

Strategic direction

- benchmarking against competitors
- entering new markets
- identifying acquisition opportunities
- reviewing business plans

Please contact our real estate experts at **realestate.solutions@in.gt.com** to know more about how Grant Thornton can assist you achieve your objectives.

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Editorial team

Neeraj Sharma

Vikram Jethwani

Misbah Hussain

Our offices in India

NEW DELHI
National Office
Outer Circle
L 41 Connaught Circus
New Delhi 110 001
T +91 11 4278 7070

CHENNAI
Arihant Nitco Park, 6th floor
No.90, Dr. Radhakrishnan Salai
Mylapore
Chennai 600 004
T +91 44 4294 0000

KOLKATA
10C Hungerford Street
5th floor
Kolkata 700 017
T +91 33 4050 8000

BENGALURU
“Wings”, First Floor
16/1 Cambridge Road
Ulsoor
Bengaluru 560 008
T +91 80 4243 0700

GURGAON
21st Floor, DLF Square
Jacaranda Marg
DLF Phase II
Gurgaon 122 002
T +91 124 462 8000

MUMBAI
16th floor, Tower II
Indiabulls Finance Centre
SB Marg, Elphinstone (W)
Mumbai 400013
T +91 22 2367 1623

CHANDIGARH
SCO 17
2nd Floor
Sector 17 E
Chandigarh 160 017
T +91 172 4338 000

HYDERABAD
7th Floor, Block III
White House
Kundan Bagh, Begumpet
Hyderabad 500 016
T +91 40 6630 8200

PUNE
401 Century Arcade
Narangi Baug Road
Off Boat Club Road
Pune 411 001
T +91 20 4105 7000

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