

## ***Two Birds with One Stone***

*How the Self-sustaining, Integrated Township Model Meets Growing Demand for High-quality Real Estate While Surmounting Infrastructure Challenges in India*

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### **Executive Summary**

Two trends converge in India to create a unique challenge. One is the growing demand for real estate of all kinds driven by the rapidly expanding economy. The second is the rapid deterioration in quality of existing real estate stock and infrastructure in existing urban centers. While renewal of the urban landscape is a challenge that needs to be addressed, that is a long-term solution involving complex socio-economic and political factors. This paper looks at another approach – the integrated township in well-connected suburbs. This approach uses all the attractive features of the urban center while overcoming many of its infrastructure challenges by virtue of being on greenfield sites. The paper looks at the case of Hiranandani Gardens – a township in Powai, a suburb of Mumbai. The analysis shows that the mixed-use integrated township is indeed the solution for the twin challenges of crumbling infrastructure and a strong appetite for real estate.

### **India's Booming Economy**

India's economy is currently the tenth largest and second fastest growing in the world. In the past five years, the country has experienced an 11% compound annual growth rate. Other key indicators of continued future growth of the Indian economy include the fact that the country has more than US \$222 billion in foreign exchange reserves; a flourishing stock market that has appreciated over 50% in 2007; an estimated US \$15.5 billion in foreign direct investment (FDI) last year; and a 20% increase in exports.

A rapidly growing economy increases individual income levels and as a result also creates greater demand for residential, commercial, and retail real estate. India's strong economic growth sets a solid foundation for the current and future demand for real estate in the country.

## The Real Estate Industry in India

In India, as in many countries, the vitality of the economy is reflected in the demand for and prices of real estate. According to the Reserve Bank of India, the real estate sector is the second-largest employer in the country, representing approximately 5% of gross domestic product. The market is expected to significantly expand over the next several years in line with the growth in population and increases in income levels.

The Indian property market was estimated to be US \$54 billion at the end of 2007 and is expected to nearly triple to more than US \$142 billion by the end of 2012. The residential sector accounts for more than 92% of the property market. Yet, the growth rate for office/industrial, retail and hospitality properties is expected to outpace the residential sector and grow from US \$4 billion to over US \$18 billion in five years. (Source: Deutsche Bank)

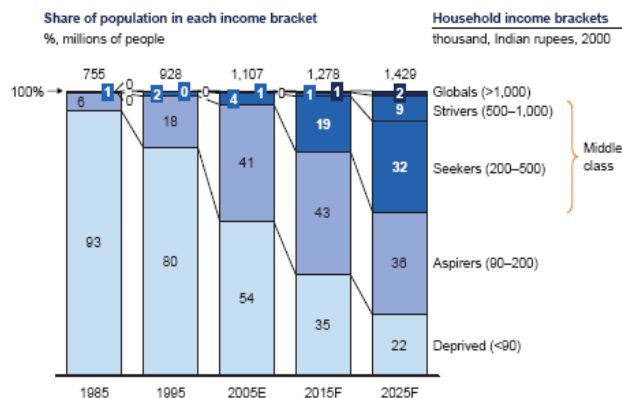
Supply has not been able to keep up with demand in the Indian real estate industry. The Housing Development Finance Corporation estimates there is a shortage of 19.8 million residential units nationwide. According to Goldman Sachs, demand for housing in India's seven largest cities is expected to exceed supply by an average of 30% in the next few years. Further, India's rapidly growing middle class is increasing the demand for high-quality properties that are of better construction and provide services and amenities.

### Key Demand Drivers in the Indian Real Estate Industry

#### *Burgeoning Middle Class*

India's economic growth over the last 20 years has created a large and rapidly expanding middle class population. According to a recent report by the McKinsey Global Institute, India's middle class population roughly doubled from 1985 to 2005. This population has in large part been created by the demand for India's vast and globally desirable work-force in the information technology and business process outsourcing sectors. Emerging industries, including biotechnology, will also leverage India's skilled labor pool to drive future economic growth. The same McKinsey reports predicts that by 2025 India's income levels will triple, creating a middle class of 583 million people.

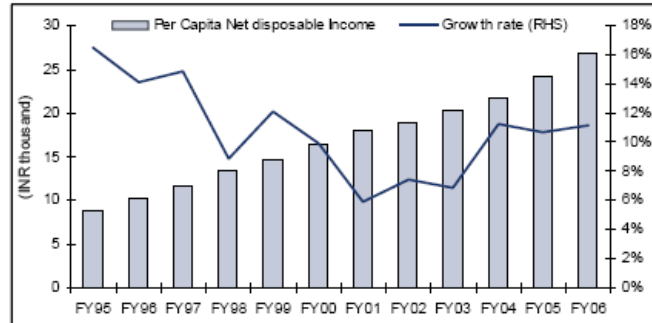
**INDIA WILL SEE FURTHER REDUCTION IN POVERTY AND GROWTH OF ITS MIDDLE CLASS**



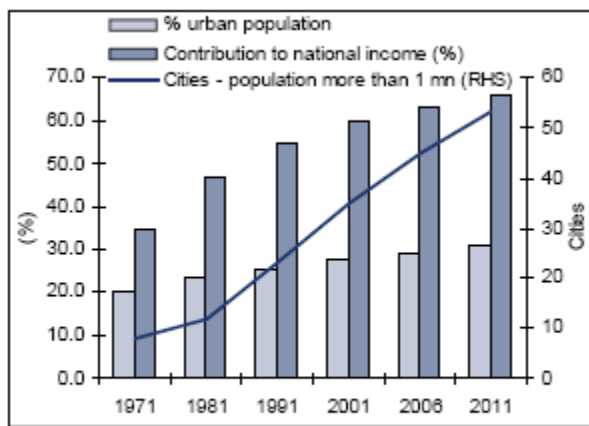
Note: Figures are rounded to the nearest integer and may not add up to 100%.  
Source: McKinsey Global Institute

### ***Rising Disposable Income***

Naturally as income levels increase and more people move into the middle class, they will have more disposable income. Per capita disposable income in India has tripled in the past 10 years and is expected to increase between 8 - 13% annually over the next five years.



Source: MOSPI, i-SEC Research



Source: National institute of Urban Affairs, UNDP, CPHEEO, i-SEC Research

### ***Urbanization***

While 70% of India's population still lives in rural areas, the number of Indians living in cities reached approximately 325 million in 2006. Urban areas represent almost 30% of the country's population, but account for 63% of the national income. This trend is expected to continue at a steady growth rate with India's urban population expected to reach 370 million by 2011, driving demand for all types of real estate – residential,

commercial, industrial, and retail – in and around city centers.

### ***Younger Home Buyers and Smaller Households***

In 2005, the median age of the Indian population was 24 years old versus 33 in China and 43 in Japan. As the population grows younger, the average age of India's homebuyers has decreased from 42 to 31 years old according to industry estimates (Source: ICICI Securities).

Another trend impacting the real estate market in India is the reduction in household size. The size of the average urban household in India decreased from 6.06 in 2001 to 5.5 in 2006. Increasing annual incomes, more income earners per household, and a shift from extended to nuclear families are the primary drivers reducing household size. Industry opinions predict that household sizes will continue to decline.

### ***Improved Regulatory Environment and Private Sector Support***

The Indian real estate industry has benefited from increased involvement from both the public and private sectors. Primary drivers from the government have been the relaxing of foreign direct investment (FDI) restrictions, increased tax incentives for developers, reduced government-related fees, and the repeal of the Urban Ceiling Regulation Act, which prevented concentrations of land holding in urban areas. The government also created Special Economic Zones (SEZs), which are export-oriented territories that offer substantial tax breaks, shortened development approval processes and other benefits to property developers.

Changes in the private sector have also added to growth in the industry, including: improvements in the quality of building construction; better access to financing; international development partners; and the innovation of integrated mixed-use “townships” that incorporate residential, office and retail properties, which create substantial public infrastructure.

### ***Boom in the Indian Services Sectors***

The large and relatively low-cost, well-educated, English-speaking workforce in India has led to a boom in the information technology (IT) and business process outsourcing (BPO) service sectors. The Indian IT and BPO industries are expected to grow to as much as US \$60 billion with more than two million workers by 2010. The rapid growth of these industries is a primary driver of the demand for premium office space. It is estimated that 118 million square feet of office space is to be built in India between 2006 and 2008 to serve the needs of these industries.

### ***Improved Access to Financing***

The mortgage industry has exploded in India. To meet growing consumer demand, Indian banks are offering competitively priced mortgages with longer amortization periods. In the recent past, nationally the average term for a mortgage was eight years, today it is common to see payback periods of 20 years or more. These longer mortgage terms and affordable funding options for homebuyers have contributed to the increased demand for housing.

According to the National Housing Board, total housing finance disbursements in 2001 were approximately 182 billion rupees, with banks only contributing about 31% of that amount. By 2006, annual mortgage lending had increased to 860 billion rupees (372% growth in five years), and banks contributed 68% of that amount. The rise in mortgage lending from banks shows a meaningful maturation of the Indian economy and the housing market, and lending is expected only to continue to grow as the population becomes more wealthy and educated.

## **India's New Real Estate Buyer**

Increasingly, Indian consumers are becoming international in their outlook and expectations of quality and services. Young professionals interact with international customers, advance their education at leading institutions around the world, and travel overseas for work. This exposes them to Western standards of living and work environments.

A number of other factors also play a significant role in the changing outlook of the Indian consumer

### ***The Growth of Media***

In 1995, the Indian Supreme Court declared the monopoly held by the state-run broadcaster unconstitutional. In no time, hundreds of channels – including foreign networks showing American soap operas, British news, music videos, and movies – were broadcasting in India. Currently, 105 million Indian households have a television and 60% of those have cable service, offering a new window to the world.

### ***Increased Leisure Travel Abroad***

With more disposable income, Indians are embarking on vacations abroad in larger numbers. According to Euromonitor, the number is set to double over the next few years to 16 million tourists. Australia expects the annual growth rate in Indian visitors of 18% for the next 10 years.

### ***More and Better Internet Access***

From a low base of 1.2 million in 1998, the number of Internet users in India passed the 50 million mark in 2005. More importantly, with broadband prices as low as US \$5 per month, broadband connections are growing at the rate of 20% per month.

Cable television, overseas travel, and Internet access are influencing the tastes and standards of a new generation of Indians that is more exposed to what the world has to offer. It is a generation that wants its homes and offices to be just as good if not better than what they see in the West and they have the rising income to pay for it

## The Infrastructure Challenge

Availability of reliable and reasonably priced infrastructure is critical for economic development, as well as for improving quality of life, particularly in a rapidly expanding economy. India's infrastructure remains the primary challenge to the advancement and development of superior real estate. Without question, India has come a long way in terms of infrastructure over the last decade, yet there is still much work to be done. While the government plans to invest an estimated US \$15 billion in infrastructure over the next two to three years, this is but a drop in the bucket compared to the projected US \$250 billion needed to improve the power infrastructure alone. While infrastructure receives attention in terms of large projects such as dams, expressways, airports – at the point of service, delivery still remains poor.

### Transportation Infrastructure

India's transport sector is large and diverse as it must cater to the needs of over 1.1 billion people. According to the World Bank, since the early 1990s, India's growing economy has witnessed a rise in demand for transport infrastructure and services by around 10 percent a year.



However, the transport sector has not been able to keep up with this rising demand and is proving to be an increasing drag on the economy. Major improvements in the sector are therefore required to support the country's continued economic growth and to ultimately meet real estate demands.

India's roads are congested and of poor quality, most highways in India are narrow and congested with poor surface quality, and 40% of India's villages do not have access to all-weather roads. The dramatic growth in vehicle ownership – at some 15% a year during the past decade – has reduced rush hour speeds to 5-10 km an hour in the central areas of major cities.



Indian Railways is the largest railway in Asia and the fourth most heavily used system in the world. It carries some 14 million passengers a day and is one of the world's largest employers. For the city-dweller, the train is the preferred mode of commuting due to the intense congestion on roadways.

The Mumbai railway system probably best exemplifies the strains urban transport is under – overcrowding has grown to be a compelling problem (4,700 passengers are packed into a nine-car train during peak hours, compared to the rated carrying capacity of 1,700).



## Energy

In the 60 years since gaining its independence in 1947, India’s installed power capacity grew from 1362 megawatts to over 100,000 megawatts and provided electricity to more than 500,000 villages (Source: India Ministry of Power). However, people in a large number of villages have no access to electricity and power supply nationwide is of poor quality with frequent power outages, erratic voltage and low or high supply frequency.

WHO SUFFERS THE MOST?	
Area	No of hours
Bhandup	4
Mulund	3.5
Thane	3.5
Navi Mumbai	3.5
Kalva, Mumbra	5
Dombivli	7
Ambarnath	7.5

With an estimated GDP growth rate of 7 - 8% per year, it is estimated energy requirements will grow at a rate of 5.6 - 6.4 % per year over the next several years. This growth implies a fourfold increase in the country’s energy requirements over the next 25 years and the country will face significant challenges meeting this (Source: KPMG, India Energy Outlook 2007). With new offices, malls and power-hungry night shift call centers, the supply-demand gap can only get worse.

The table at the left shows the number of hours every day various suburbs of Mumbai face outages of electricity. These are planned outages due to lack of supply. They do not include unplanned outages.

## Water and Sanitation

While India has made good progress in increasing infrastructure for water supply and sanitation in both urban and rural areas, it is lagging behind in expanding services that are reliable, sustainable and affordable. According to the World Bank, the country’s urban population with access to drinking water considered safe by the government’s standards rose from about 82% of the population in 1991 to 90% in 2001. The share of urban population with access to basic sanitation rose from 43% in 1990 to 61.5% in 2001.



However, India has a long way to go in terms of providing access to reliable, sustainable, and affordable water supply and sanitation.

Whether in small towns or mega-cities, or in single- or multi-village schemes, piped water is never distributed for more than a few hours a day, regardless of the quantity available.

Most households, forced to cope with poor quality water supply and sanitation service, spend time and money on expensive and unsafe substitutes and on treatment for waterborne diseases.

### **The Solution**

The growing demand for not just housing but *better* housing is running up against the dilapidated infrastructure in Indian urban areas. The question confronting developers is how to meet both of these challenges.

In the old cities, land is expensive and often titles may not be clear. New developments, therefore, are typically built upon small plots of land consisting of single, stand-alone buildings. While the single building will be of superior standards to most living quarters in India, the residents will still depend on public services such as electricity, water and sanitation – which are unreliable at best.

Another approach has been pioneered by the Hiranandani Group. This approach involves building on large plots (hundreds of acres) of undeveloped land near major cities. Instead of building stand-alone buildings, the company develops entire townships. Such townships are built from scratch and have the scale that enables the developer to put in advanced, environmentally-friendly infrastructure and services. An example of such a township is Hiranandani Gardens in Powai.

## The Integrated Township Development Model in Detail

The majority of India's professional work force, their workplaces and residences are currently located within India's urban centers. One primary challenge in Indian real estate development is that the country's cities do not have adequate infrastructure to support the development of world-class real estate that meets the demands of today's new middle class buyers in India.

The integrated township model is a relatively new form of development that has been created to address these challenges. The integrated township offers a way of life that is meant to be very similar to that of a Western suburb. These townships are single, ground-up, large-scale developments that typically cover hundreds to



thousands of acres and encompass most of the facets of life that would be found in major cities: offices, residences, schools, hospitals, hotels, retail outlets, parks, etc. These townships are typically being built in the suburbs of the major cities, with easy access to major highways and airports, but far enough away to escape the congestion of the city centers. Everything is essentially built from the ground up by the developer – the buildings *and* the entire infrastructure including roads, power, water and sanitation.

These types of developments have great appeal for buyers of all types of commercial and residential real estate. The 'headaches' of city life in India are greatly alleviated in integrated townships – traffic, pollution, power outages, water problems are all eliminated or significantly reduced in a properly developed township with its own self-sustaining infrastructure.

Home owners typically are drawn to living in the townships because their offices are located within the same development. This allows them to walk to work and avoid road congestion and crowded mass transit. Their families benefit from the schools, hospitals, shopping, and recreation facilities that are also located within the township.

Companies, many of them international, are drawn to integrated townships for the world-class office space that offers cutting edge and reliable telecommunications and power infrastructure, as well as access to the workforce located or to be located within the development. Retail businesses like the integrated township for similar reasons, but also the ability to have a captive middle-class clientele spending their disposable incomes in their establishments.

## **Integrated Township Case Study: Hiranandani Group – Hiranandani Gardens, Powai**

### ***Overview of the Hiranandani Group***

The Hiranandani Group is one of India's original and leading developers of integrated townships. Founded in 1976, the company has accumulated large contiguous land tracts across the country, and broke ground on its first mixed-use development in Versova, a northern suburb of Mumbai, in 1981. Upon the success of the Versova development, the Hiranandani Group launched its first integrated township mega-project, Hiranandani Gardens, in 1986 on a 500-acre site in Powai, a neighboring Mumbai suburb.

### ***Hiranandani Gardens: The Creation of Powai Township***

Most integrated townships in India have been constructed by the government or are company towns. Hiranandani Gardens was built by a leading developer, so the end product is substantially different to its peers. Hiranandani Gardens is a fully integrated township that is about 38 kilometers from Mumbai and a short drive to the international airport.

The township contains more than 15.6 million square feet of buildings.

There are currently 36 residential buildings, covering nine million square feet and five additional residential buildings are currently being built. Many of the 12,000 estimated residents of Hiranandani Gardens work for one of more than 140 companies that have offices in the 17 office buildings in the development. In total, more than 10,000 employees work in the office park for major companies that include Lehman Brothers, Nestlé, and Prudential.



The township also includes a hotel, a large shopping mall, a school, a 135-bed hospital, 11 banks and approximately 100 acres of gardens, forests and sport fields.

The success of the Hiranandani Gardens has enabled its properties to trade at a premium over properties in nearby developments. A recent report by Cushman & Wakefield showed non-Hiranandani properties in Powai selling for 5,500-8000 Rupees per square foot while Hiranandani properties in Powai were selling for nearly a 100% premium at 10,000-14,000 Rupees per square foot.

The Powai township is considered to be one of the pioneering integrated mega-projects in India, and the Hiranandani Group has been continuing its focus on similar types of developments.

In 1996, the Hiranandani Group broke ground on the development of a township known as Hiranandani Estate, a mixed use development consisting of 400 acres in Thane, which



is located approximately 55 kilometers north-east of Mumbai. The Thane township currently offers over 10 million square feet of buildings, including 45 residential buildings with an additional 21 residential buildings under construction. There are currently four commercial buildings, which provide 800,000 square feet of space for more than 25 companies, including Indian Bank and ICICI Bank Limited. Amenities for residents and workers in the township include hospitals, schools, entertainment facilities, and a business park.

### ***The Last Mile***

What is perhaps most distinctive about Hiranandani Gardens and Hiranandani Estate is that the scale of the developments made it possible to implement self-sustaining infrastructure for each community. The Hiranandani Group has built and maintains the power, water, sewage and roads, ensuring that the developments offer an unparalleled level of living, working, shopping, and recreation. In each community there are no concerns about electrical outages, water shortages, untreated sewage, or poorly maintained roads. Beyond offering well-appointed apartments and offices with enviable amenities, the communities, by way of having their own infrastructures, offer a level of safety and security that is highly desired by the new middle class, their employers, and the retailers that cater to them.

The Hiranandani Group is actively developing its land bank into more integrated townships. The company is in the early stages of developing integrated township projects at Alibaug (a coastal city south of Mumbai), Lonavla (between Mumbai and Pune), Sindhudurg (on the coast north of Goa), and Jaipur. In total, the company has a land bank of approximately 6,000 acres located in and around India's largest cities.

### **Conclusion**

Rising trends in a variety of areas – such as disposable incomes; customer expectations; size of middle class; urbanization; organized retailing – are driving demands for commercial and residential real estate. Public infrastructure, especially in the cities, is crumbling and cannot cope with the strain. This is a dramatic challenge facing India.

To an entrepreneur, this very challenge represents an opportunity. As demonstrated by the case of Hiranandani Gardens in Powai, the Indian middle class consumer is prepared to pay premium prices for residential real estate that combines the comforts of a home with world-class infrastructure. Indian and international businesses too are attracted to office space that has the underpinning of a fully functional infrastructure. The integrated township is truly a solution that addresses India's converging challenges of a growing appetite for real estate and the need for modern infrastructure.

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