

"Lifenology" for India

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India in need of a structured INFRASTRUCTURE

By 2050, about 70% of the population will be living in cities and India is no exception



NAMRATA KOHLI

Relocating from rural to urban areas in search of better jobs and striding towards better fortune is a global phenomenon. Millions of rural folk relocate from villages to cities each year in India. But do they get better quality of life? Besides, they negatively impact the quality of life of the urban residents. Their coming puts pressure and constraints on the finite number of resources - the existing utilities and resources leading to shortage of all amenities such as water supply, sanitation, sewerage, and electricity. These cities hardly remain 'livable'. But who is to be blamed. We need to plan for abundance.

Urbanization is a reality staring in the

GIVEN THE FACT THAT URBANISATION IS INEVITABLE, WE NEED TO TAKE EFFECTIVE STEPS TO PROVIDE FOR ALL IN TERMS OF CREATING SUFFICIENT HOUSING, PHYSICAL AND SOCIAL INFRASTRUCTURE

face. Take a look at some numbers. According to a McKinsey Global Institute 2010 report, 590 million people will live in Indian cities by 2030, almost twice the population of the US today. An investment of \$1.2 trillion will be required to meet the projected demand in these cities and about 700-900 million sq. metre of land space needs to be built.

The main problem is housing. Cities

have very large slum populations. Mumbai has almost 50 percent of the population living in slums, even though the per capita income is quite high. Kolkata has 32 percent of the population living in slums. As per the 2001 census, the total slum population in urban India was 42.6 million, 15 percent of urban India's population.

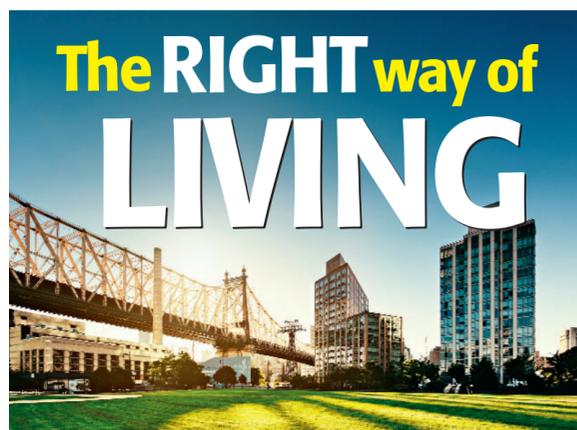
A focus on creating significant physical infrastructure to accommodate vast population of migrants, creation of new employment opportunities as well as skill development to make people 'employable' is the need of the hour. Good governance is needed for growth oriented reforms and their speedy implementation.

Affordable housing is a particularly critical concern for low-income groups in the absence of a viable model that caters to their needs, India can meet the challenge through a set of policies and incentives that will bridge the gap between price and affordability.

With increasing urbanization and the load on the land in rural areas, the Indian government has duly realised the need for cities that can cope with the inherent challenges of urban living and also be magnets for investment to catalyse the local economies. The announcement of '100 smart cities' falls in line with this vision.

We must stop looking at urbanization as a problem. Instead it's an opportunity for growth. Given the fact that urbanisation is inevitable, we need to take effective steps to provide for all in terms of creating sufficient housing, physical and social infrastructure.

We need to outsource technology that provides power distribution systems, road management systems, industrial drainage treatment systems, telecommunication systems for disaster prevention, waste water treatment and building energy management systems.



In order to address the existing systemic challenges posed by urbanisation, the government of India has decided to create industrial corridors, the likes of Delhi Mumbai Industrial Corridor (DMIC) project and Chennai Bangalore Industrial Corridor (CBIC). The idea was that this will spur growth of adequate infrastructure and create manufacturing destinations in these regions.

Take the case of DMIC. Spanning over 1,483 km between the political (Delhi) and the financial (Mumbai) capitals of the country, DMIC passes through six states of Delhi, UP, Haryana, Rajasthan, Gujarat and Maharashtra and the belt is the traditional industrial base of India. The development model here is largely premised on leveraging existing industries and economic clusters, promoting value enhancing and complementary industries. The front runners in the development at DMIC are Dholera in Gujarat, Shinde Bidkin in Maharashtra, individual townships such

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as Vikram Udyogpuri in Ujjain MP, and integrated industrial townships in Greater Noida and Global City Gurgaon.

According to Abhishek Chaudhary Vice President - Corporate Affairs & Company Secretary, DMICDC, "Laying down the trunk infrastructure is the priority area and every area is planned with expressway, rail corridor, utility corridor with segregation of dry and wet utilities." The dry utilities include everything from lighting, ICT, electricity cable and gas line while utilities classified as Wet include everything from storm water, industrial waste, sewage and water.

DMIC has a blueprint on smart city growth and the idea is to have 24x7 electricity and water supply, cyber connectivity and urban mobility with a very good quality of public transport system. To aid and abet this development, reforms are being put on the fast track. According to Shankar Agarwal, Secretary, Ministry of Urban Development, "The Prime Minister has already asked the Urban Development Ministry to make all possible attempts to drastically remove old and prototype procedures, replacing them with new set of reform-oriented approach to develop new real estate as per guidelines of new policy under which creation of 100 smart cities would become practically possible as demanded and required by inhabitants of modern world."

Talking about the role of private sector in developing smart cities across India, the secretary said, "Almost 98 per cent work has to be done by the private sector, academia and the industry while only two per cent, i.e., the glue has to come from the Government of India."

The development of infrastructure and smart cities on such a massive scale is happening for the first time after independence of India. For this unprecedented growth, aligning with the right technology partners will be the key to success. Ultimately a smart city will benefit everybody, including denizens, businesses, the government and even the environment.

Smart cities can help India in achieving inclusive growth as the upcoming cities will boost the socio-economic infrastructure in the region and generate large-scale employment for the masses. Hence, smart cities can enable India to emerge as an innovative model of urban development and reful growth prospects of the Indian economy.

How would you define Toshiba's presence in infrastructure business?

Toshiba Corporation has been conducting a wide range of social infrastructure business, including engineering and construction of thermal, hydro, PV and other power generation plants, transmission and distribution equipment and systems, railway systems, and security systems and so on.

Community Solutions Company (CSC) is one of the seven Toshiba's in-house companies and is in charge of two business domains in the social infrastructure business. One is the facility business that provides power distribution systems, elevator, air-conditioning, lighting, and building automation including energy management systems for the efficient use of energy for various applications such as buildings, factory, industrial park, home and community. The other is the infrastructure system business such as road management systems, water and waste water treatment systems, industrial drainage treatment systems, telecommunication systems for disaster prevention and broadcasting systems and so forth.

In India, we are currently focussing on the elevator and escalator, street light, air-conditioning and water and waste water treatment business. I think we are extremely fortunate to have outstanding local partners in our Indian business such as Johnson Lifts and Carrier. Johnson Lifts has No.1 share in Indian elevator business and we have a sales joint venture. As for air-conditioning, Carrier, the world leader in HVAC business, is our sales partner for our products.

INTERVIEW

SHINICHIRO AKIBA

'Our vision is centered on developing community solutions'

Shinichiro Akiba, Corporate Senior VP, President and CEO, Community Solutions Company of Toshiba, talks to *Dipti Srivastava* about the cutting-edge technologies and how they can help Indian people

We also have affiliates such as GreenStar R&D and UEM. GreenStar R&D has advanced LED technology for outdoor lighting fixture and UEM holds a remarkable track record of over 350 projects in 30 countries in the water treatment field.

CSC is a relatively new in-house company of Toshiba Corporation, established in October last year. Our vision is centered on developing community solutions that realise a global sustainable society based on infrastructure with next generation technologies. This is our commitment to people and to the future and we will expand our business globally with the focus on India and South East Asia.

What is the concept behind Toshiba Smart Community for DMIC/CBIC?

In India due to rapid industrial development, the power supply does not meet the demand and this is a major issue. Under such circumstances, many factories have to install individual power generation facilities with

additional costs. For the solution to this problem, we are proposing a common co-generation system with our cutting-edge energy management system which enables stable and cost effective power and heat supply for industrial parks. We performed feasibility studies of this proposal for Manesar Industrial Area and Haryana Industrial Area under the strong leadership of Indian government with the support from Japanese government. The commercialisation of this system is under consideration at this moment.

What concrete business plans does Toshiba have for Indian urban development?

Indian economy has been expanding quite rapidly. At the same time, India is urbanizing at an unprecedented speed. It is estimated that 600 million people will be living in cities by 2030. In recent years, rapid growth of the Indian economy, with the huge economic success and growth of urban population, is bringing new issues, such as

power shortage, traffic congestion, expanding energy demand and excessive stress on the environment. We believe that our highly-efficient products and services with energy management systems can contribute to solve these issues. For example, we have the air-conditioning system with variable refrigerant flow (VRF) with the leading performance in the industry, which can effectively reduce CO₂ emission. We can also provide highly-efficient elevators and escalator system, which significantly cuts power consumption as well as many other energy-efficient products and systems. Furthermore, we are thinking of introducing a building energy management system (BEMS) that effectively achieves energy saving by operating those products and systems through networking.

In the water treatment field, we intend to propose the ozone generator that has the strong sterilizing property. In addition, we are offering to provide a traffic control system which has



Shinichiro Akiba, President and CEO, Community Solutions Company of Toshiba Corporation

globally as well as domestically that Toshiba has been participating and executing all over the world.

Particularly in India we already have a significant supply record of elevators and air-conditioning systems for prestigious condominiums and landmark buildings. Moving forward, we are going to provide more energy-saving solutions including lighting, power distribution systems, BEMS and water treatment systems. What we offer is highly efficient and high performance products and solutions that we believe contribute to creating safe, secure and comfortable community.

What are the new technologies that you think will enhance the comfort of Indian community?

CSC was established last year in October and we built a new building Smart Community Centre at Kawasaki area in Japan. Around 7,800 people are working there. We embedded certain features inside this building such as AC control system called model-based control system where in advance we can make six different types of settings such as humidity, temperature, air flow of certain areas which let the working people feel comfortable. In addition, there are image sensors at the ceiling of the office zone. It detects when the people are in and when they are out and automatically the light switches on and off. The purpose is to reduce energy cost.

Also, to minimize the waiting time for the elevators, there are sensors on floors to monitor flow of uses and each elevator operates accordingly. All these measures enhance the comfort of people and reduce energy

consumption. We actually reduced 32 percent energy consumption in 13 months as per standard annual energy consumption based on Japanese energy law.

What are the future plans for India?

Toshiba regards India as a strategically important region in its global business, with its rapidly growing economy and a treasury house of excellent human resources. As announced in February this year, Toshiba plans to invest 50 billion yen, approx. Rs.28 billion in India in the coming five years and expand the sales up to 300 billion yen, approx. Rs.169 billion INR by 2017.

CSC continues to expand elevator, street lighting and water treatment businesses with the Indian partners. Additionally, we plan to enhance our sales team in Toshiba India Pvt. Ltd. (TIPL) and strengthen the sales activities of our group companies for elevator and escalator, air-conditioning and power distribution equipment, including the energy management systems for industrial parks, commercial and residential buildings. We have also started to study a collaboration in local manufacturing for air-conditioning product with Carrier/United Technologies.

I should also mention that we are working with the excellent human resources of Toshiba Software India Pvt. Ltd. (TSIP) in Bangalore for the engineering and development of software systems. Through these activities, we are planning to expand Community Solutions Company's business in India and aim to reach Rs.23 billion of sales by 2017.

GREENSTAR R&D

Founded in 2009, GreenStar Research and Development is an innovative LED lighting company. They are designing, manufacturing and distributing highly advanced, eco-friendly and economical LED lighting system to municipalities, governments and commercial businesses across the globe. It is a group company of Toshiba now after being acquired in 2012. The company continues to play an important role in the Toshiba group of companies in designing the best in class LED lighting products. It is dedicated to deliver outstanding quality, innovative product lines and excellent customer service. The company believes in long-lasting customer relationship.

Here is a list of companies that Toshiba has joined hands with for serving the Indian community in a better and efficient way

UEM

UEM Group is an international multi-disciplinary environmental services company, headquartered in India that specializes in providing turnkey services in water and waste water collection, treatment and disposal and Toshiba holds 26% interests. UEM Group provides complete, single-source services from engineering and design to construction and installation of water, waste water and domestic

waste treatment facilities. The company has over 750 employees with the core design team based in Noida. Its technical expertise has allowed it to become one of the few companies in the space

to have unique capabilities in biological treatment, MBR process and Zero Liquid Discharge capability, amongst others. It has delivered projects in sectors such as oil and gas, power, breweries and tanneries with clients that include ONGC, IOC, NTPC, Coca Cola, P&G, Bristol-Myers, Squibb and various government bodies.

JOHNSON LIFTS

Today at No. 1 in South India and a market leader with 20% share of the Indian market, Johnson Lifts had over Rs.12,000 million sales in 2013 that included over 9000 elevators and 21,000 installations under service contract. It joined hands with Toshiba for high speed elevators for very tall buildings and Toshiba Johnson Elevators India Pvt Ltd. was formed. An ISO 9001 company, it received the IMC Ramakrishna Bajaj National Quality Award 2009 for manufacturing excellence. It has 35,000 installations under service contract under its credit. It has two ultra-modern elevator factories in Chennai and Nagpur and one escalator factory in Oragadam with a comprehensive product range in elevators and escalators.

CARRIER

Carrier is the world's leader in high-technology heating, air-conditioning and refrigeration solutions. Carrier is a part of UTC Building & Industrial Systems, a unit of United Technologies Corp., a leading provider to the aerospace and building systems industries worldwide. As part of UTC Building & Industrial Systems, Carrier has access to 84 manufacturing facilities worldwide and the support of nearly 124,000 employees operating in more than 170 countries on six continents. At Carrier, innovation has always been one of the core values and today they have nine research and design centres located in five countries in North America, Europe and Asia.