

HIGH TIME

India needs to focus on the science – and business – of elevating, writes TAK MATHEWS.

Genesis 11:4 (King James Version):

“...And they said, Go to, let us build us a city and a tower, whose top may reach unto heaven....”

This is perhaps one of the earliest references to man’s ambition to build tall. However, at the risk of sounding blasphemous, getting to the top of the aforementioned Tower of Babel would have proved to be impractical till 1853, when Elisha Graves Otis demonstrated the safe elevator. This marvel went on to transform the skyline of the world’s cities as well as the very business of architecture. Today, the practical height of any building is limited only by the technical limitations of elevators.

The home front

Closer home, India’s tall ambition came to fruition as early as the 13th century with the 73 m Qutab Minar. Of course, this iconic structure was not intended to be habitable. The 85 m Rajabhai Clock Tower constructed in 1878 that overtook the Qutab Minar too was not meant to be habitable.

The first habitable building that attempted to reach for the skies in India was the 86 m, 25 floor Usha Kiran building in Mumbai. Built in 1961, it was Asia’s tallest too, for a time. Today, of course, tall buildings are ubiquitous, as are elevators to make them functional.

Three stages to good elevating

So, what is the route to good elevating? There are three stages in the lifecycle that are crucial to achieving and sustaining this:

The first is at the design stage of the building. Despite the criticality that



QUICK BYTES

- India is the second largest elevator market in the world.
- The IS 14665 and NBC 2005 is the only national code that provides design direction for elevating of buildings.
- The Bombay Lift Act of 1939 and rules of 1954 ensure a safe elevator system.

rises exponentially with the building complexity and height, elevating design tends to be a low priority for most projects. Most designers and developers are unaware of the elaborate science that exists and instead resort to thumb rules. And even if they are aware, other compulsions dictate the decision. As a senior architect put it, when the building design is defined ‘outside- in’, the leftover space in terms of area and shape will define the elevating. **A contrast to this would be developers like the Hiranandani Group**

– even the smallest of their projects have elevating established through a detailed design process.

Economical considerations also strike at the design stage. There is a mistaken notion that elevating can be reduced or compromised for a low-end

building. One needs to remember here that the population (and derived traffic) as well as the distance to be travelled defines base elevating requirements. Building height speed is no longer a luxury but a necessity. For instance, even a labourer going to the Middle East for a legal job assignment would travel by an aircraft that travels at a speed similar to the private jet of a business tycoon. Again, a noteworthy exception is the approach adopted by the Saifee Burhani Upliftment Trust, set up to redevelop Mumbai's Bhendi Bazaar area. The minimum quality levels set up for elevating of the rehabilitation buildings are far superior to those found in some of the most expensive real estate in India. Even when the designer has accepted good design, it can be blocked by 'value engineering' experts who often forget that value engineering is not to be achieved through value deterioration. As seen from the box, the cost of bad elevating negates any cost saving.

The grand old Usha Kiran is equipped with three passenger elevators and two service elevators, which are now being replaced with the latest technology and faster elevators. A comparison of the elevating at Usha Kiran vis-à-vis the elevators provided at today's ultra premium and bespoke buildings puts the problem in perspective. In fact, some of these new buildings have elevating that make the elevator queues at Nariman Point buildings look bearable.

The second stage in elevating would be procurement of material and execution of the elevating solution. Procurement policies tend to be driven by the 'L1' (lowest cost) principle. The third stage is after-sales service. It is not uncommon for owners awarding maintenance contracts to other contractors at rates that are 25 per cent or lower than the rates quoted by the original equipment supplier.

The over 50 per cent price advantage without compromising quality defies logic. As John Ruskin has put it, "The common law of business balance prohibits paying a little and getting a lot – it can't be done."

Across the world, countries have gone through a learning curve and have experienced the consequences of

IMPACT OF BAD ELEVATORING

Case Study A



The cost impact of bad elevating

- Population: 2,800
- Average waiting time: 300 seconds
CIBSE GUIDE D recommends less than 25 seconds average waiting time for office buildings
- Daily time loss: 2,800 x 300 seconds = 840,000 seconds
- Annual loss: > 65,000 hours
- @ ₹1,000 per hour: ₹65,000,000

Award winning gold rated green building

Case Study B

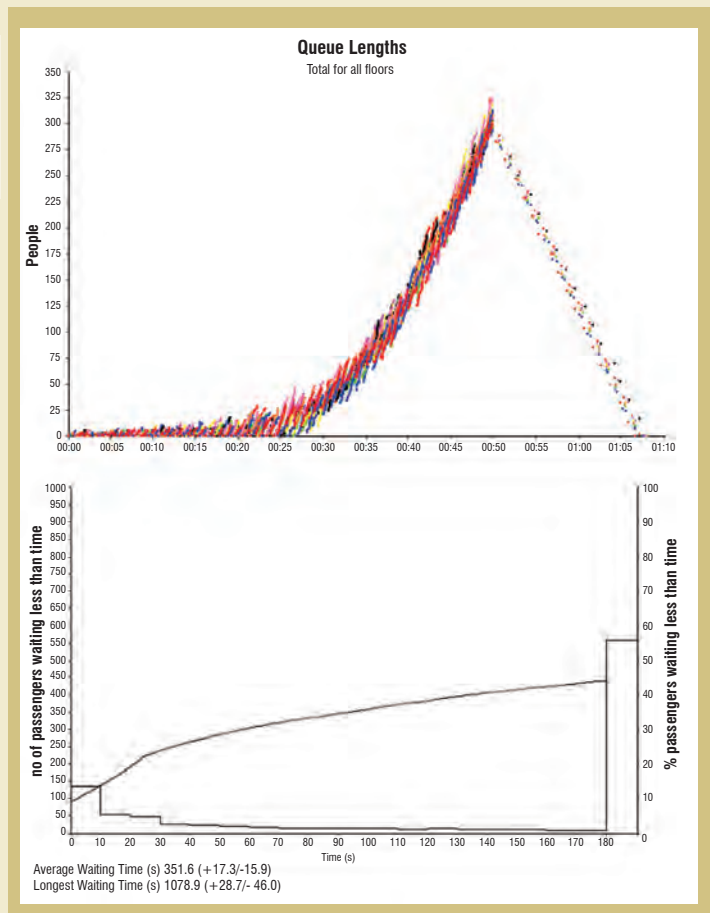
Population > 7,000



Annual loss of hours: > 196,000 hours

- No fire lifts
- No service lifts
- No stretcher lifts

Does not meet most basic requirements of NBC 2005



Rated as a SMART building!

bad elevating. In India, the learning curve is longer owing to two reasons. One, occupants of tall buildings – for example, Mumbai’s Nariman Point and Cuffe Parade – have suffered the long queues without complain. The second reason is that India has taken to really tall buildings only in the past 10 years.

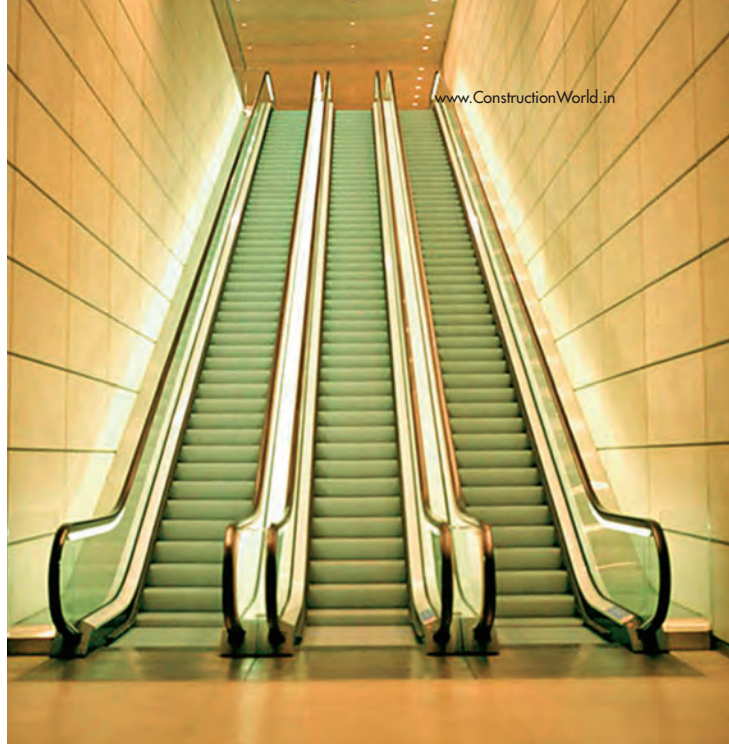
Indian standards

On the other hand, in some areas, the country has an upper edge. India has always had a fairly robust set of standards and codes. The IS 14665 and NBC 2005, albeit with minor errors, is probably the only national code that provides design direction for elevating of buildings. India was also one of the first countries to incorporate a standard for machine room-less elevators. In fact, the Bombay Lift Act of 1939 and rules of 1954 – despite being old – are adequate to ensure a safe elevator system. Of course, this is assuming that the seller and the buyer follow the provisions in spirit and word.

Unfortunately, that has not been the case as both parties have typically looked for convenient interpretations. For instance, there are a number of

lift requires a permission to be installed and run. This clause does not provide any exemption other than for equipment covered by the Factory Act. The problem is compounded if States have no legislation whatsoever. The incorrect interpretation and lack of legislation lead to a significant number of unregulated and probably unsafe lifts.

However, the standard for escalators IS 4591 of 1968 is inadequate. The Bureau of Indian Standards’ (BIS) working panel has worked on a draft revision that is pending with BIS for printing. Considering the proliferation of escalators in the country – from 125 installed units in 1998 to over 2,500 being sold annually – the sooner the



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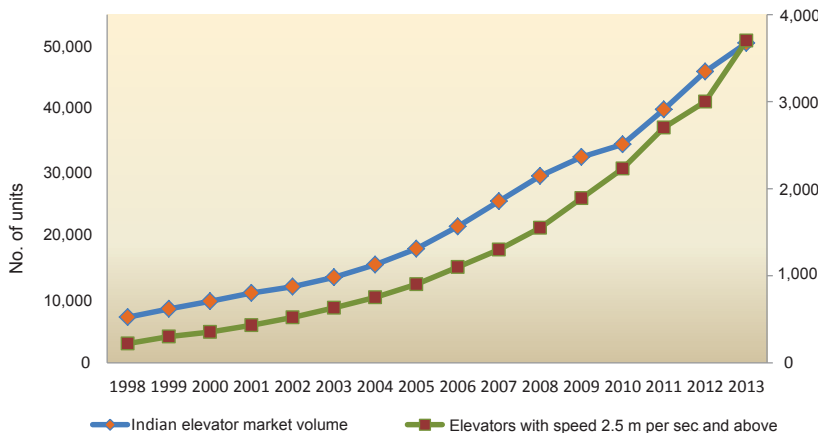
The proliferation of escalators in the country has increased from 125 installed units in 1998 to over 2,500 units that are being sold annually.

The focus in these markets is more on upgrading old elevators. Therefore the business focus has shifted to India which is now the second largest elevator market in the world – China being the first – where most international majors are in the process of setting up base, if they have not done so already.

The new entrants bring in the latest advancements and technology to India forcing reactive responses from the already established players. Indeed, such is the growth potential in the country that it boasts of an International Elevator & Escalator Expo, which is one of the largest in the world – the fifth edition of the event will be held from March 20–22, 2014, at Bombay Exhibition Centre. High time, wouldn’t you say, for India to wake up to the criticality of elevating?

| CW |

TREND: ELEVATOR MARKET IN INDIA



Source: e-Research & Publications India Pvt Ltd (eRPI)

sellers who have installed car and home lifts declaring that these do not require lift licences. However, according to the Bombay Lift Act and Rules, “A lift means a hoisting mechanism equipped with a car, which moves in a substantially vertical direction.” The Act and Rules go on to state that every

amended standard is made available, the better.

Looking ahead, and up

With not many tall buildings or infrastructure projects coming up, the market for elevators and escalators in the US and Europe is stagnant,

About the Author:

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To share your views on the market trends in elevators and escalators, write in at feedback@ASAPPmedia.com