

# Work in progress: Lavasa urban development

IN INDIA, the buzz around ‘smart cities’ has grown after Prime Minister Narendra Modi unveiled his plan to have 100 such urban areas developed in the country. Yet, much before this buzz started, in 2003-04, work on planned and sustainable city development had kicked off in Lavasa—a brand-new hill city 216 km from Mumbai and 60 km from Pune.

Lavasa doesn’t have the official tag of a ‘smart city’ as yet. However, the almost four-hour drive from Mumbai to the hill destination set in the Sahyadri mountains along Warasgaon Lake offers a glimpse into the elements that could be part of an intelligent urban locality. The way Lavasa has been developed so far shows the way real estate development has been planned in the five towns that will together form Lavasa. Apartments and commercial establishments (shops, hotels, supermarkets, etc), which will house the maximum population density, have been constructed at the foothills, while, as one moves up, construction activity minimises.

Beyond the foothills are small-sized villas, while higher altitudes have larger villas. Well-paved roads, scenic promenade and unanimity in the design of buildings form part of the outer facade of the city. However, a lot has gone behind this, including mapping the terrain using the advanced GIS technology called ‘Lidar’, which is helping the city in planning, designing, construction, city management, operations and maintenance.

Lavasa is being developed as a private hill city by the Indian engineering and construction services firm, Hindustan Construction Company (HCC), under its arm, Lavasa Corporation. Close to R4,000 crore has already been invested in the city so far, as per people familiar with the developments. Lavasa Corporation is now waiting for a nod from the Securities and Exchange Board of India (Sebi) to come out with an initial public offering for raising R750 crore.

Back to the future

Ultimately, Lavasa is slated to have five towns—Dasve, Mugaon, Dhamanhol, Gadle and the conjoined twin towns of Sakhari-Wadavali spread over 12,500 acres. US-based HOK International has made the master plan for the city. Once fully developed, Lavasa plans to accommodate a permanent population of around 2.4 lakh, with facilities for approximately two million tourists per annum and an employment base of around 80,000.

Dasve, the first town, which is spread over 2,687 acres, is almost complete. One can see bright, multi-coloured buildings sporting an Italian look—apartment blocks called ‘Portofino’. There are 376 apartments offering studio, one-, two- and three-bedroom apartments, and 476 villas overlooking a 2km-long promenade and the lake.

The makers of Lavasa market it as a place that “brings a dash of Mediterranean elan... buzz that evokes the spirit of the Italian Riviera”. A majority of these houses are at the moment being used as holiday homes or for renting purposes for staffers who work in hotels and educational institutions in Dasve. Hospitality, tourism and education are the main drivers at the moment for the city, which has a resident population of just 1,000-1,500, with a large number of floating population in the form of

tourists. As per a spokesperson in Lavasa, the tourist count from January to August this year stood at 5.64 lakh.

Construction in the second town of Mugaon, 6 km from Dasve, has also started. Mugaon, spread over 5,266 acres, is slated to have 300 apartments. Lavasa's development has been based on the motto 'Live, Work, Learn and Play', a feature that most smart cities will aim for. Since one of the ideas behind smart cities is to decongest existing cities and town, it will be crucial for the planners to use—and create—new resources within the vicinity.

Each of the towns is slated to have its own social infrastructure in terms of schools, hospitals, power utility systems, water storage and treatment plants, garbage collection and sewage treatment plants. For this, the City Management Service (CMS), in-charge of maintaining and operating these facilities, will have its own revenue stream.

CMS is equivalent to a municipal corporation of a city, but with no powers to tax or financially penalise citizens. "I call it the quasi government because it provides some of the authority of a local government, but not all of it," says Scot Wrighton, city manager of Lavasa and head of CMS. He says Lavasa is a special planning authority authorised by the Maharashtra Town Planning Act and has been given this specific charge by the Maharashtra town planning department. "It gives us the authority to develop and enforce the master plan, adopt building codes and development control regulations, and enforce them. But I have no taxation authority or police powers, or the powers to deal with vital statistics. I don't record births and deaths," he explains.

Wrighton operates out of a two-floor building called the Town Hall with a staff of about 250. Prior to joining Lavasa, Wrighton served local governments for 22 years in Illinois, Kansas and Missouri in the US, spending nearly 20 of those years as a city manager. He has been a member of the International City-County Management Association (ICMA), an association representing professionals in local government management, for nearly 30 years. Everyone in his Lavasa team, barring two, are from non-government backgrounds. Some are from the engineering field, while others are from the construction and hospitality sectors.

The functions of the CMS are those of a municipal office in any city, which is to address citizens' grievances, look after public safety and provide and maintain infrastructure in terms of power, water, roads, administration and finance. Among the facilities, it has a 24x7 citizen call centre—a one-point touch for queries, information, complaints' registry and their redressal.

Levying taxes are outside its purview unlike a local government body. So CMS charges city management services fees and common area maintenance fees, which go into paying for services—what taxes would do in a properly-run city—like the maintenance of roads, streetlights, garbage disposal and other things that do not have their own revenue streams, explains Wrighton.

"We actually monitor the quality of power received in Lavasa. Drinking water is purified in several stages and is fit to drink from the tap," says Wrighton, who is all for the use of in-house innovations and efficient use of technology. He says the talk around smart cities today has become limited to the usage of technology to collect data, which helps in making policy decisions for the people. "We need to start with what our objectives are as a new urban area. Our objectives is to be a sustainable city. So

as far as new technology is concerned, whether it is high-tech or low-tech, if it can help us meet those sustainability objectives, then we think that is what makes us smart. Having a lot of data that I can't use or don't need or which is irrelevant is a waste of resources," he says.

#### On the path of innovation

As per Wrighton, a smart city is a community that has a strategic plan for the use of innovation to help it achieve its sustainability objectives. So the use of IT in Lavasa is limited to basic, triple-play services—voice, data and video—for now. With the aim to make it future-ready, the city's planners felt the need for IT infrastructure, which would be useful for residents and visitors, and would, at the same time, also make it an e-governed city.

With this objective, an organisation called MyCity Technology has been created, which will start developing infrastructure and form solutions that would enable the city to grow into a smart urban destination. It is a joint venture between Lavasa and two IT giants, Wipro and CISCO. While Wipro is the system integrator in the project, CISCO's solutions have been widely used in different projects. "When we say smart, it is smart living, smart automation, smart transportation... the list goes on, but all this has to gel with the ecology, as well as the economic activity of the city," says Chandrashekhar Sathe, chief operating officer, MyCity Technology.

Ten years ago, Sathe says, the location where Lavasa is at the moment was just an isolated hilly area lacking even proper roads. Apart from physical infrastructure, IT and telecom connectivity were gap areas too. "No telecom operator was ready to come here," Sathe recounts. "We laid our own optic-fibre cables from about 40 km distance. It is a big investment, but we did it so that other service providers—who were otherwise hesitant—could bring in their services," he says.

There were telecom towers set up. But there was a need for high-data bandwidth. They used Gigabit Passive Optical Network (GPON) technology to convert that fibre optic into providing bandwidth. In Lavasa, Sathe says, there is only a single strand of fibre that goes to every premise. It is distributed with the help of a splitter. This ensures that not too many wires or cables are there in a house. It also eliminates the instances of different operators trying to set up their own facilities. "We have created the highway. Now, you can run a Maruti 800 on it or a Jaguar," quips Sathe.

The fibre takes care of the video requirement in houses too. "You will not have so many umbrellas hanging over rooftops in Lavasa," Sathe says, referring to the ubiquitous dish antennas. "You will also not have cables hanging from trees or buildings, making the area look shabby. In terms of the work done, laying of basic IT infrastructure in all residential and commercial premises has been completed in Dasve. There are four more towns where similar infrastructure will have to be laid. MyCity is working on developing mobile apps for residents and visitors, which will come into effective use once there is a critical mass staying in Lavasa, Sathe says.

The department is also looking at solutions for e-governance. "We are looking at solutions for generating unified utility bills for maintenance, water, electricity, etc. So if I get an e-bill, I can pay from wherever I am. Asset management, land record management... solutions for these are being looked at right from the beginning," Sathe says. The other 'smart city' feature in the Lavasa project has been the original mapping and data capturing work overseen by Anirudha Kale, who heads the

GIS/MIS department at Lavasa. Explaining how data capturing work started in Lavasa, he explains how Lidar technology of mapping has been used: laser beams are sent to the ground to capture data, which is accurate up to 50 cm, as against the traditional methods of remote sensing satellite images or total stationary methods, which deliver accuracy in metres. Lavasa, Kale says, is the first city in India to have adopted Lidar technology, which is considered a more precise system of data capturing, making detailing of project planning and execution more accurate.

The ride so far

The ride for Lavasa, however, has not been smooth. Apart from physical challenges that come with greenfield development of such a large nature, Lavasa has not remained free from controversies. In November 2010, the Union ministry of environment and forests issued a showcause notice to Lavasa Corporation inquiring why no clearances were taken by the company before the project started. It also ordered stop-work.

The project was later blamed for anomalies in procurement of land, for causing environmental damage and its promoters taking advantage of their political affiliations.

However, in a letter dated November 2011, the ministry of environment and forests gave a go-ahead to the project, albeit with riders. The environment ministry imposed a penalty on Lavasa for violation of environmental laws, which it said was 'incontrovertible'. Lavasa was also asked to create an Environmental Restoration Fund (ERF) and formulate a comprehensive Environmental Impact Assessment (EIA) report and management plan. In response to FE's written queries on the status of these conditions, a company spokesperson said over the phone, "As the matter is sub-judice, we will not be able to comment."

Whether the Lavasa model will be followed for 'smart city' development is hard to say, but one thing is for sure: development of 100 smart cities will be a mammoth task for the government. As Adil Zaidi, director (infrastructure practice), Ernst & Young, puts it: "We have to tread carefully, as nowhere in the world any country has thought of developing 100 smart cities... planning for smart cities requires good understanding of the existing infrastructure system, which demands relatively accurate and integrated data, and competent planners and consultants having experience in developing smart cities. At present, we are not well-equipped on both aspects." Ernst & Young does the sustainability report for Lavasa, although Zaidi's comments were not related to any particular project.

Lavasa could establish many firsts for an Indian city, but it is still a work in progress.