IPTI Xtracts
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HOW SMART CITIES ARE TACKLING PROPERTY TAX EVASION VIA GIS

It has often been reported that Indian municipalities face problems in property tax collection, which is their primary source of revenue. The reason for this is a lack of a count of assessed properties in the city. Furthermore, so far, the storing of property-related information in municipalities has been primarily manual, which has resulted in data redundancy and the inability of municipalities to collect necessary taxes.

However, a few cities in India have been experimenting with Geographical Information Systems (GIS) to collect property taxes and other operations like tracking down high net-worth individuals, identification of open parking spaces or garbage dumps, or identification of tree cover. GIS comprises technology, personnel, and resources that enable the creation, maintenance, visualisation, search, and sharing of geographic data and services.

GIS-enabled property tax assessment

Property taxation consists mostly of three steps: Identifying properties to be taxed, accounting and creating tax based on property parameters, and collecting tax, including arrears. However, ever since cities turned towards self-assessed property tax systems, the municipalities have seen a considerable decrease in property taxes received. The dichotomy is that properties that pay taxes come under the notice of city authority, and those who never paid taxes escape it all as they aren't on the database at all.

Cities can and do extract more income with the use of GIS by correctly identifying unidentified houses. The system generates a visual result in the form of a paper copy or digital map indicating the location of such properties. Since the accurate location was formerly impossible to obtain, determining the influence of location on property value was

difficult. However, using GIS, it is quite simple for cities to analyse the geographical properties of any number of entities.

Cities like Pune, for example, have their own GIS portal, where citizens can see various places like educational buildings, residential areas, gardens, parking areas etc. The city authorities use this in various operations, including property-tax collection. The city has collaborated with startups like Elixir AI to implement GIS-enabled property tax assessment solutions, and the startup claims that they were able to handle around twenty lakh property records simultaneously.

As per the startup, approximately ten thousand new properties were identified, resulting in Rs 300,00,000 additional revenue for PMC.

Talking about the projects, Mayurakshi Das, founder and CEO of Elixir AI, told AIM, "Our state-of-art AI algorithm uses multi-temporal satellite images to generate automated alerts for illegal building constructions in cities/municipalities," she said. She further added, "The solid waste management solution provides alerts on solid waste dumps and further classifies them into categories like domestic, industrial, etc. These alerts are sent to the municipal corporation to take further action."

Many cities in India are using GIS for various purposes, for instance, Gurugram Metropolitan Development Authority uses GIS to identify lost water bodies, locate flood-prone areas, in addition to boosting property-tax collection.

Similarly, the Karnataka State Natural Disaster Monitoring Centre uses a GIS dashboard to track and anticipate rainfall across the state. It also identifies possible flooding zones using rain sensors located at various places that offer real-time data. The Punjab government has also been reported to have created two dedicated GIS portals, the Punjab GIS and Village GIS portals.

Similarly, the Municipal Corporation of Dehradun also surveys all the buildings in Dehradun with the help of drones, using GIS, for property management.

The Brihanmumbai Municipal Corporation too employs GIS technology to track the evolution of buildings and geographic regions over time. A new set of data is collected by BMC every six months for comparison and the identification of new structures, according to Kishore Gandhi, the assistant municipal commissioner. "The photographs would support encroachment cases in court," he claims.