

GIS-based Property Mapping and Management Project

Business Context

Municipalities at large are taking up eGovernance initiatives to improve efficiency, transparency and accountability in their functioning while enhancing the quality of citizen services they offer. Kanpur Nagar Nigam (KNN) is one of the largest industrial and commercial municipal corporations in Uttar Pradesh covering an area of 260 sq. kms. with a population of 2.5 million. Like any other municipal corporations in India, for KNN, property tax is the primary source of income to support its day-to-day functioning including providing all civic amenities to public.

Challenges

The key challenges being faced by KNN include:

- Lack of proper mechanism to check property tax collection and track tax evaders
- Migrate from existing annual rental value tax system to a Unit Value System (UVS)
- Lack of transparency resulting in delays in addressing public grievance, lack of trust and cooperation from public

Solution

Esri India developed a complete range of solutions for property tax management including spatial content generation, assessment data preparation, desktop application and web interface.

- Creation of a GIS-based spatial property database using high resolution satellite imagery geo-referenced control points taken by dual-band GPS (DGPS) survey, and updated by ground trothing (validation). The property boundary layer is then migrated on top of this GIS base map to create homogenous GIS data layers.
- Assessment data preparation using existing property details and door-to-door contact surveys
- Re-number of properties in the KNN jurisdiction to assign a unique identifier to each property and fixing of house numbers
- Development of desktop application for property database repository management and tax assessment
- Development of informative and interactive web-GIS system for online property tax calculation and payment

The KNN Municipal GIS now forms a spatial decision support system for local government which has not only increased the revenue but also enhanced the quality of civic service offered to public.

U N Tiwari,
Additional Municipal Commissioner

Esri technology 'ArcGIS' is used for the GIS interface, asp.net for portal, vb.net for desktop application and Crystal Reports is used for reporting.

Benefits

The system has resulted in enhancing the property based tax revenues three times as compared to the system that existed prior to the introduction of the GIS-based application. Other benefits include:

- The GIS maps are now widely being used for various planning and day-to-day developmental work
- Online tax payment and status verification facility removes intermediary agents enabling greater convenience and transparency
- Reduction in delays in government processing of grievances related to property taxes

About Esri India

Esri India (NIIT GIS Limited) is an end-to-end Geospatial Information Systems (GIS) based solutions provider and enjoys a leadership position in India with a large customer base of Esri suite of software. Esri India also provides ArcFM Utilities solutions from Schneider Electric (Telvent), Network Engineer Telecom solutions from Ericsson (Telcordia), Cellular Expert from HMIT-Baltic, Cityworks from Azteca Systems and ENVI Image Analysis and Processing solutions from Exelis VIS to its customers.

Established in 1996, Esri India is a strategic joint venture between Esri Inc., USA and NIIT Technologies Ltd., India.

Technology utilisation enables people-friendly governance adding transparency and efficiency in administration.

Contact

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