

GOVERNING it right

Under National e-Governance Plan, it is mandatory to incorporate latest technologies in government programmes. Here's how AIILSG is using GIS to improve governance in the purview of ULBs

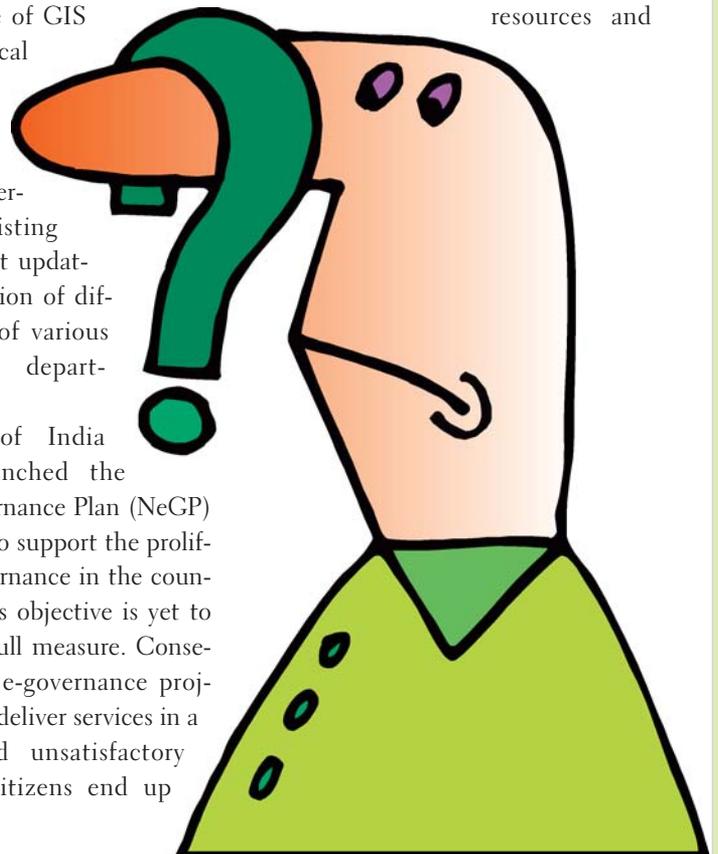
approaching multiple government agencies. This defeats the promise of 'single window for all facilities'. This is aggravated by the growth of population and migration from rural areas resulting in increasing pressure on available infrastructure and environment in urban areas.

ULBs : Present constraints and possible improvements

The core responsibilities of a ULB include providing basic amenities to the citizens, carrying out development planning and execution, infrastructure management and disaster management. At places of historic, cultural, religious and political importance, the respective ULB has certain additional responsibilities. At every stage, concerned authorities are involved in decision making with respect to availability of resources and

Good governance is the right of every citizen and governments all over the world are striving to attain this objective. One of the promising aspects of governance is e-governance which includes the use of GIS by Urban Local Bodies (ULB). Successful e-governance requires computerisation of existing data, its constant updating and integration of different datasets of various interdependent departments.

Government of India (GOI) has launched the National e-Governance Plan (NeGP) with the intent to support the proliferation of e-governance in the country. However, this objective is yet to be achieved in full measure. Consequently, Indian e-governance projects continue to deliver services in a fragmented and unsatisfactory fashion while citizens end up





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Transportation Network of Pune



Water Supply Distribution Network of Pune

their judicious and optimum utilisation. ULBs handle a vast amount and variety of information. In India, this information is mostly in paper form. As a result, most of the ULBs possess huge archives, maintenance of and retrieval from which are not only time-consuming but also laborious.

Moreover, urban planning (city development, town planning, etc) require maps as base data. Planning and execution can be effective only if maps are updated regularly, preferably in digital form. However, most of the ULBs in India are deficient in this regard. The cumulative effect of these constraints is that governance in India is suffering.

Lack of funds to acquire the relevant technology and requisite hardware, lack of IT literacy amongst the workforce, lack of stringent cyber laws, lack of integration of interdependent datasets, etc are other challenges. Another dimension to this are the various sources of revenue for ULBs like property tax, water and sanitation tax, octroi, etc. In absence of latest updated database, ULBs receive less revenue than actual.

A comprehensive solution

Presently, the biggest challenge faced by every local governing authority is absence of latest and accurate data. Detailed maps depicting transportation network, water bodies (such as river, nallah, pond, lakes), plot and survey layout, building footprints, drinking water supply network, sewage and storm water network, utility lines, locations of solid waste containers and waste disposal plant, etc. are the basic needs of all the departments of ULBs involved in planning and execution. Lack of such maps lead to partial or total failure of planning, as the assumptions and projections made for future will no longer be realistic as they would be based on wrong or dated infor-

mation. In this context, GIS is found to provide a comprehensive solution to all these challenges through a geo-referenced, multi-purpose, spatial database.

GIS based database can be stored centrally within the ULB, so that it is accessible to all the concerned departments. Secure Web-based solutions will help further if the same data is to be accessed by the authorities situated at different locations across the ULB.

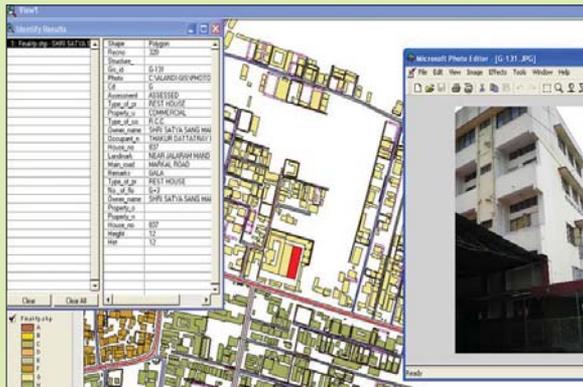
Government schemes viz Jawaharlal Nehru National Urban Renewal Mission (JNNURM) & Urban infrastructure Development Scheme for Small & Medium Towns (UIDSSMT) have identified cities and have laid guidelines for their systematic development. Under these schemes, introduction of a system of e-governance using IT applications, such GIS and MIS for various services provided by ULBs and parastatal agencies is one of the mandatory reforms. This clearly outlines that the paramount need of GIS is realised by the nation as a whole.

The All India Institute of Local Self Government (AIIILSG) is striving towards strengthening and enabling ULBs to provide efficient governance. AIIILSG is well known as the anchor institute for urban management. AIIILSG reaches out across the country through its regional centres and peripatetic as well as permanent centres.

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City survey sheets superimposed on satellite of Pune



Digital basemap with attributes & photograph of Alinda

Pune Municipal Corporation (PMC)

AIIILSG has prepared detailed digital base map showing road network and building footprints captured using high resolution satellite images. It has also superimposed digital maps prepared using City Survey Sheets (scale 1:500) over the satellite images. Further value addition to this base map was done through mapping of water supply distribution network, sewage network and storm water drainage network.

Alandi, Panchgani Municipal Councils (GIS based Decision Support System)

For Alandi & Panchgani Municipal Councils, AIIILSG has prepared GIS based decision support system for infrastructure management. This involved differential GPS and Total Station surveying, followed by attribute collection (questionnaire) & digital photograph capture.

Mahabaleshwar Municipal Council (GIS based Tourism Information System)

With the intention of promoting tourism, AIIILSG has developed GIS based Tourism Information System for Mahabaleshwar Municipal Council. This involved prepa-

ration of comprehensive digital base maps with detailed information for various places of interest and development of Web portal for display of the base maps. The Web portal gives user-friendly tools for searching popular hotels by names, searching tourist spots and locating them on map, etc. (For more details, log on to www.digital-mahabaleshwar.com)

Islampur Municipal Council (GIS based Property Tax Management System)

For better property tax management using GIS, AIIILSG has prepared detailed digital base maps depicting existing infrastructure and individual building footprints within Islampur municipal council limits. Detailed questionnaire, designed in consultation with the municipal council have been used to collect information from every property owner. External and internal measurements using laser distometer and digital photograph capture were also undertaken. The final output will have attribute information, photographs and floor-wise single line plans with area statement attached to every mapped building. Development of GIS based basemap has been awarded to AIIILSG for Solapur, Panvel (Navi Mumbai), Chiplun and Baramati.

Conclusion

Visionary initiative of implementation of GIS and MIS as a mandatory reform under JNNURM & UIDSSMT spelt out by the Government of India clearly illustrates the imperative need of incorporation of the latest technologies as a means of attaining the national objective of good governance. Many of the Indian States have already aligned themselves to this vision and are enjoying the fruits of the same. Development at many of the ULBs in South India, Maharashtra, Gujarat and West Bengal are exemplary and can be followed by other ULBs. GIS has aided ULBs in faster decision making, infrastructure and asset management, disaster management, city development planning, monitoring and controlling encroachments, solid waste management, fleet management (ULB vehicles, public transport buses). It is cost-effective as it results in gains in revenue collection.

Even citizens are benefitted through faster services availed by ULBs and benefits are manifold if the system is Web-enabled. Therefore it is need of the hour that every ULB should consider GIS implementation as the highest priority as an all-in-one solution for better governance. ■