

## GIS is a game changer: Ravi Saxena

*Gujarat is one of the major success stories in implementation of g-governance programmes in the country. In a tete`-a-tete` with India Geospatial Digest, Ravi Saxena, Additional Chief Secretary, Dept of Science & Technology, Gujarat, tells us why...*

**Gujarat is at the forefront of adoption of geospatial technology in India. Can you tell us about the current status of use of geospatial technology in the state?**

Last year, Gujarat was declared the Geospatial State of the Year. It is a recognition of the stupendous amount of work that has been carried out through BISAG (Bhaskaracharya Institute for Space Applications and Geo-Informatics). We also have an academy for geo-informatics for sustainable development. We have created hundreds of layers of resource mapping on GIS that are now being used by almost all departments of the state for their planning activities. The departments are excited about mapping their resources and doing their planning through GIS because of the clear-cut advantages that it offers to them. Actually, GIS is a game changer. It has facilitated collaboration among various departments leading to automatic sharing of data/ information.

When the National E-Governance Programme was launched by the Government of India, one of the core factors for success was determined to be the business process re-engineering. In fact, technology is not the biggest complication in the transformation that we intend to achieve in the area of governance. It is the business processes which are antiquated and unduly long, making the entire process of decision-making extremely complicated. If we went about doing it without technology, it would be almost impossible because nobody wants his turf be occupied by somebody else when it comes to the official method of decision-making the way it exists today.

In Gujarat, departments approach BISAG with their data and watch how it is mapped but the ownership of this data remains with the respective departments only. All that BISAG does is create one large data bank of all the data that it receives from different departments, different resources possessing different natural features. This large databank proves



**Ravi Saxena**  
Additional Chief Secretary, Dept  
of Science & Technology,  
Gujarat

extremely useful when a department begins its planning activities as the process requires inputs and information from different departments. But unlike before, wherein they used to approach each department individually and wait for their response, under the new system, they can access all this information instantly from a single source. For example, when a road needs to be developed, the concerned department has to check the ownership of the land, its type (whether it is a forest land, wasteland, agricultural land, non-agricultural or industrial land), etc. It also needs to consider things like gradient, terrain and soil quality besides checking whether there's a canal passing through that land or not and if it falls under a coastal regulation zone. This diverse kind of information rests with different departments. Earlier, it would take the road department years to collect all this data, but today, it is available instantaneously through the datasets which are available at the BISAG.

When the departments see that the data flows from innumerable layers owned by different departments, they realise the importance of sharing the data. Even without any formal law in place currently, we have been able to implement the GIS way of planning by sharing the data which otherwise is the biggest challenge in successful implementation of geotech.

One of the main reasons for the successful deployment of geospatial technology in Gujarat is that the projects are owned by the departments; we render them as champions of the project. We ensure that BISAG or the Department of Science and Technology is perceived by them only as a service provider. This technique has ensured that different departments not only play a leading role in the deployment of geospatial technology for the data concerning their departments, but also feel excited about collaborating and sharing. Governance is possible only when the entire dataset, with its hundreds of layers of information, is available as one whole data for the state.

The Planning Commission of India has visited us to understand how we have been able to do something which other governments find very difficult – the quintessential collaboration amongst the departments and their willingness or rather excitement to share their data.

**Government support is one of the key facilitators for uptake of geospatial technology in any state. What has been the kind of support from the government in Gujarat for the uptake of the technology?**

Gujarat government has been actively supporting the uptake of the technology. We are moving from e-governance to g-governance. We are developing an ERP for each department which would essentially mean that a department's human resources, finance, budgeting, document and work flow and document management form part of one programme and

would be horizontally connected. I have been able to impress upon every department that all the e-governance applications must be GIS-based and there should be a g-governance application as well. So it's almost compulsory for every department to apply g-governance in their IT initiatives.

### **Has geotech facilitated in attracting industries to the state?**

Yes, using GIS, we have been able to identify different kind of industrial requirements which are being met in different areas, depending on the kind of industry. Let's say, there is a chemical industry and requires disposal of liquid effluents – such an industry should remain outside the coastal regulation zone. Based on these requirements, we build criteria and put them on a GIS map. This way, it has been possible for us to identify locations and offer those to the concerned entrepreneurs in a matter of minutes. In Gujarat, it is always possible to provide locational information at a very quick pace. Even in project implementation, we use the technology to quicken the pace of the project. The technology is used in the entire business of government, at different levels, with complete support of the Chief Minister.

### **Gujarat is witnessing significant investments into infrastructure. How is the uptake of geospatial tech towards infrastructure development in the state?**

Some of the biggest infrastructure projects in the country right now - Delhi Mumbai Industrial Corridor (DMIC) and the Indian Freight Corridor - both have their largest and longest stretch in Gujarat, 34 per cent of the DMIC project passes through Gujarat. The entire planning of Gujarat's infrastructure development is centred around this fact, so we are using all the latest technology tools to create a logistical chain to maximise the potential of DMIC. We have created special investment regions. Gujarat International Finance Tech (GIFT) city is being developed and it will be the ultimate smart city. Plans are also on the anvil for building smart cities across the state. Special investment regions like Dholera are being planned on futuristic concepts of infrastructure development.

Gujarat is also becoming the Solar Energy state. In fact, it would be one of the most intensive harbours of solar energy. So that way technology is being deployed fully.

We are coming out with unified communication infrastructure across the state. Since we have a state wide area network, we are now looking at developing a unified communication backbone over it to avoid the service provider's voice lines, which would lead to a saving of almost Rs 100 crore a month. This communication programme will also support video conferencing and voice data at no additional cost.

These are some of the ways in which we are deploying geospatial technology towards infrastructure development in Gujarat.

**Gujarat is also working for establishment of SDI. Can you elaborate upon it?**

SDI is a national programme and National Spatial Data Infrastructure (NSDI) has already been set up. The spirit behind NSDI and state SDIs is that they talk about open standards for data, methodology for data collection - the kind of layers that are required to be built, essentially to bring about uniformity across the whole country. Once the states have their own data infrastructures, it would be necessary that all the states share their data and combine the data for NSDI to have a unique national level spatial data infrastructure. This requires enabling laws to ensure that the data is available on a certain platform for every government agency to use it for its planning. This needs to be closely examined and detailed to ensure that data is available only for constructive purposes of the nation, and planning for the public. So those kind of filters, regulations are required to be developed. We will also have a law to enact Gujarat State Spatial Data Infrastructure (GSSDI) soon.

**What are your top priorities in the next few years to strengthen the use of geotech in the state?**

I have advised all departments to implement ERP to consolidate their existing applications. Gujarat is quite ahead in e-governance and there are a large number of robust applications running in different departments. Mostly they are g-to-g (government-to-government), but they are also g-to-c (government to consumer) in some cases. We have now advised the departments to do their entire planning on g-governance basis. This would require mapping of all their resources on a GIS base, which would run into hundreds of layers of information. This is a very valuable and elaborate exercise. It will take a huge amount of time and experience for the state to implement it on a GIS map, and I am happy to say that Gujarat has moved a long way on this curve.

**How are you ensuring that technology reaches the common man?**

Gujarat has the largest wide-area network for e-governance. Also, we have internet connecting all village panchayats. So we have broadband in all village panchayats (15,000) in the state. The two networks are being connected.

Gujarat has a population of six crore and has 5.2 crore mobile phones, implying that on an average, every family in the state has 2-3 mobiles. Hence, we are greatly focusing on delivering governance using mobile phones, that is, m-governance. All of our applications are targeted to be mobile-enabled. This has become possible because we have been able to get

power and broadband connectivity to every village – the prerequisites for deploying technology, for delivery of services at the doorstep of a common man. And we have come a long way in connecting Gujarat.