BS APPS   BS PRODUCTS   BS E-PAPER   BS LEARNING

Business Standard

JUST IN   Revival of regional cinema partly due to Hindi (Comment: B Town)

Search News,Stock Quotes or Companie

You are here: **Home** » News-IANS » Opinion-Commentary

Urban observatories: A kaleidoscope for cities (Comment)

IANS
Last Updated at July 13, 2018 11:45 IST
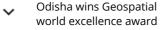
1

ALSO READ

Odisha wins Geospatial world excellence award

Odisha bags 'Geospatial World Excellence Award-2018'

Armed forces repository of big data, need to carry out analytics using AI: Army Chief

Plan India launches free to be - an online city safety map for girls and young women

Capacity building of officers of Haryana town country planning

The Karnataka government annually organises the "Bengaluru Innovation Challenge", covering diverse subjects. One such recent challenge focused on solving Bengalurus traffic congestion and water-scarcity problems.

Congested roads, leading to hours of delay, is a symptom of a problem on multiple fronts. These include inadequate infrastructure planning as well as the behavioural aspect of commuters (of preferring to use private vehicles). While the second issue needs to be tackled by continuous advocacy, the first indicates a failure of the urban infrastructure planning process.

Can the application of data science and technology make the urban planning process more responsive to the changing patterns of spatial activity? Largely, yes. What the process needs is the continuous collection and analysis of appropriate urban data that can be envisaged spatially and analysed to obtain various possible types of correlation. An Urban Observatory platform that uses data from different sources to enable analysis and visualisation over a geospatial platform can make this possible.

Early references to the idea of spatial mapping as a tool for problem diagnosis and resolution can be found in London, in 1850, when a deadly epidemic broke out in the city's Soho district; the cause was unknown and puzzling for city authorities. A physician named John Snow started mapping the outbreak of the disease with respect to the location of water pumps and cesspools. This decisively proved that the cause of the epidemic was adulterated water from a contaminated public well.

isely how Urban Observatories can support an ur...

The concept of Urban Observatories was formally init...
Istanbul. Some examples of well-established Urban O...
network, the Dublin Dashboard and the City Dashboa...
analyses and visualisations by collating massive datasets. The idea of an Urban Observatory has recently
found traction in India. The National Institute of Urban Affairs has formed associations to set-up Urban
Observatories in cities such as Mumbai, Chennai, Chandigarh and Kolkata.

The use of innovative data science technologies to address policy problems has generated significant
interest in setting up Urban Observatories. For example, the shift from personalised or public transport
can be assessed from cab aggregator data available with agencies like Ola and Uber. Different parts of a
city are colour coded based on their accessibility index, which is derived from trip data gathered over
time. It indicates areas with a higher accessibility index (which are less served by public transport). It also
provides a snapshot of origin-destination (OD) patterns for a particular share of the population.

OD data constitutes the most important dataset for urban transport planning. Elaborate surveys are
occasionally conducted to understand changes in the OD pattern of a city. Such an exercise is lengthy
and incurs cost. Researchers in some countries have attempted novel efforts to derive existing and
emerging activity zones from crowd-sourced data, via phone call density mapping. Nairobi has
witnessed a more people-centric approach, through an app that prompts citizens to share their OD,
along with routes, for every trip. Thus, planning is undertaken with representative data to achieve
certain objectives. As in the Nairobi example, the data collected is streamlined to build an accurate and
updated map.

When public transport ticketing data and trip data from cab aggregators are super-imposed with
geospatial locations of mobile phones, a fairly reasonable OD matrix can be developed. This helps
identify emerging nodes, where more dynamic population is present. Such type of easily accessible
information is valuable for planning agencies, which can proactively plan for new infrastructure and alter
strategies for the existing infrastructure. However, several issues -- such as allaying privacy concerns
relating to the use of socio-economic data and creating a business plan for long-term sustenance of
these efforts -- must be addressed to improve the programme.

The Center for Study of Science, Technology and Policy (CSTEP) is engaging with the Karnataka
government to build a proof-of-concept Urban Observatory for Karnataka. With an ample number of
cities in Karnataka covered under various urban flagship programmes (such as the Smart Cities Mission
and AMRUT), Urban Observatories can act as the building blocks for smart urban management by
collating, visualising and analysing data.

Novel initiatives like the K-GIS portal, Municipal Reform Cell Dashboard and Karnataka Geoportal
platform have put Karnataka in an advantageous position to create an integrated platform.
Furthermore, Karnataka is home to a large number of science and information technology companies,
think tanks and knowledge-based organisations (including civil society-led open data initiatives). These
establishments can work towards collating and validating appropriate datasets and contribute towards
creating a robust Urban Observatory.

One of the major challenges that requires urgent attention is the institutional ownership of such a multi-
domain collaborative platform. Other issues include the lack of standardisation in data collection,
processing and compilation; lack of transparency and lack of convergence. A carefully crafted data-
sharing policy is a prerequisite for the sustenance of an Urban Observatory. Moreover, to generate
policy response for immediate local concerns, reliable baselines must be created with comprehensive
indicators. Once successfully established, Urban Observatories have the potential to take Indian cities a
step closer to becoming more resilient, sustainable and inclusive.

(Noelene Marisa Yesudas is a Research Consultant and Shrimoyee Bhattacharya a Senior Research
Scientist are with the Center for Study of Science, Technology and Policy (CSTEP), an Indian technology-
policy think tank. They can be contacted at noelene@cstep.in <mailto:noelene@cstep.in> &
shrimoyee@cstep.in <mailto:shrimoyee@cstep.in>)

--IANS