

Pre-Symposium Tutorial on “Urban Planning for Development of Smart Cities”

December 5, 2016

Abstract

With Increasing urbanization and migration from rural to urban areas, India is expected to witness an increase in urban population from 377 million in 2011 to 600 million (roughly, twice the current population of United States) in 2031. This rapid urbanization is putting up additional pressure on Indian cities which are already struggling to deliver basic city services and infrastructure to citizens and businesses due to lack of robust urban planning mechanism, infrastructure development and investments. With the aim of improving the cities sustainably in an integrated manner, recently Government of India has launched smart city programme for 100 cities for five years (FY2015-16 to FY2019-20) duration.

A city can be deemed smart when it is able to deliver services to its inhabitants in an efficient and sustainable manner. A smart city is one which enjoys sustainable economic growth and high standards of living. Investments in human and social capital, physical infrastructure such as transport, and social infrastructure like healthcare, education and recreation, are the usual hallmarks of such a city. It intelligently manages resources and uses Information and Communication Technology (ICT) and technology platforms including automated sensor networks and data centres to enable smart living for urban dwellers. In other words, a smart city has a mix of commercial (services and manufacturing), residential, social and physical infrastructure, and public utilities. Geospatial technologies have a definite role in planning for the smart cities with wide range of applications such as planning, transportation, infrastructure, environment, energy and so on.

This tutorial will make the participants aware about concepts and applications of geospatial technologies in various dimensions of smart cities. It is divided in four technical sessions. The technical sessions will contain practical and hands-on exercises on various aspects of geospatial applications in smart city planning. The opening session of the tutorial will focus on concepts, dimensions, and guidelines for Smart Cities and AMRUT programme and an overview of range of geospatial technologies and applications for smart cities viz. smart planning, smart environment, smart energy, smart transportation, etc. The second session will deal with various aspects of smart urban planning viz. urban growth modeling, suitability analysis and National Urban Information System (NUIS). Third session will focus on smart urban environment and urban hazards which is growing concern for urban areas. Fourth session deals with smart energy and smart governance, which is one of the prime focus of smart city programme. It includes

an overview of geospatial technologies for governance, mobile apps for data collection, management and grievance redressal.

Outlines of the Tutorial

<p>Coordinator: Sh. Pramod Kumar Speakers/ Resource Persons: Sh. Pramod Kumar, Dr. Harish Karnatak, Dr. Sandeep Maithani, Sh. B. D. Bharath, Mrs. Kshama Gupta, Ms. Asfa Siddiqui</p>
<p>Geospatial Technologies for Smart Cities</p> <ul style="list-style-type: none"> - Concepts and dimensions of smart cities - Guidelines for Smart Cities and AMRUT programme - Applications of Geospatial technologies in smart cities planning
<p>Smart Urban Planning</p> <ul style="list-style-type: none"> - Urban growth and sprawl monitoring - Urban suitability analysis - Urban growth modeling
<p>Smart Urban Environment and Urban Hazard</p> <ul style="list-style-type: none"> - Urban green spaces - Urban pollution - Seismic hazard - Industrial hazards
<p>Smart Urban Energy and Governance</p> <ul style="list-style-type: none"> - Estimating solar energy potential - Property taxation - Mobile apps for data collection and grievance redressal
<p>Summary and Discussion</p>

Organizer and Speakers

	<p>Sh. Pramod Kumar He is Head, Urban and Regional Studies Department, IIRS, Dehradun. He is an alumnus of IIT, Kharagpur and working on geospatial applications in hydrology and regional planning. He has carried out several projects on natural resources management using geospatial techniques. He has research interests in urban water utilities and urban hydrology.</p>
	<p>Dr. Harish Karnatak He is Scientist SF and Head, GIT & DL Department at IIRS. He has done his Doctorate in Computer Science with specialization in Geoinformatics. The area of specializations also includes Web Based GIS, Spatial DBMS, and Mobile GIS & LBS. He is also specialized in e-learning based capacity building using LMS and other contemporary technologies. Dr. Karnatak has published more than 50 research papers in peer reviewed journals and conferences/seminars. He has also designed & developed more than 18 scientific/technical geo-portals. He is recipient of ISRO team excellence award- 2009, ISRO-ASI team</p>

	achievement award- 2009 and two national awards for excellence in training by DoPt, Govt. of India and UNDP- 2015.
	<p>Dr. Sandeep Maithani He received his Ph.D. and Masters in Urban and Rural Planning from IIT, Roorkee. He did his B.E in Civil Engineering from NIT, Allahabad. He also holds a P.G. Diploma in Industrial Management from IIT, Roorkee. His major research areas have been urban growth modelling and urban risk assessment using inputs from geomatics. The research work has been reflected in his publications, lectures and dissertations guided by him. He is a member of the Institute of Town Planners (India) and Indian Society of Remote Sensing.</p>
	<p>Sh. B. D. Bharath He holds Bachelor degree in Architecture, from JNTU, Hyderabad and Masters in City Planning (MCP) from IIT, Kharagpur. His research field pertains to Remote Sensing application to urban planning. He is a member of Institute of Town Planners (India), Indian Society of Remote Sensing and Indian Society of Geomatics.</p>
	<p>Mrs. Kshama Gupta She holds M.Tech. in Urban Planning from School of Planning and Architecture, New Delhi, India. She has research interests in the field of remote sensing and GIS applications for urban planning and management mainly in the areas of 3D modeling, urban green spaces and urban climate.</p>
	<p>Ms. Asfa Siddiqui She did her Bachelors in Architecture from Govt. College of Architecture, Lucknow and Masters in Urban Planning from School of Planning and Architecture, New Delhi. She has also worked in NIT Calicut prior to joining ISRO. Her research interests are in areas of Hyperspectral remote sensing, growth modeling, smart energy and environment.</p>