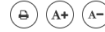


Views: Sustainable infrastructure is key to India's growth

To meet the infrastructure needs of the ever-growing population and keep check on the environmental impact of the development, India needs to rapidly shift towards sustainable infrastructure development

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By Harish Sharma

Infrastructure development is arguably the most important factor in the growth and development of any modern economy. It is estimated that India can add another 2% to its GDP growth by creating adequate infrastructure. Infrastructure development not only connects the different regions and markets of the

country, it also creates jobs, provides clean water & electricity, uplifts the living standard and makes health & education available to all.

However, on the flip side, it also does serious environmental damage, social and cultural disturbance, air & water pollution, disruption in social network, fastened climate change & frequent natural disasters. Infrastructure development can also lead to serious debt traps for countries. The key to keep developing infrastructure and avoid the aforesaid complications is to create sustainable infrastructure, keeping in mind the environment, economy and the society.

Sustainability is a broad term encompassing several different aspects. A truly sustainable project is one which is executed with the environmental sensitivity, local ecology & economy, cultural sustenance, future prospects and financial viability simultaneously in mind.

The project planners need to maintain a delicate balance between all the above-mentioned aspects of sustainability. Ignoring one aspect of this equation could seriously influence the overall success of the project. The lifecycle, profitability and the future prospects of any project depends on careful planning and the equilibrium between finance, economy, environment and social impact of the project.

Like every other successful assignment, planning plays the key role in building sustainable infrastructure. Infrastructure projects do not function as individual entities. They interact closely with the surrounding environment, ecology & populations and exert significant impact on them. Not only this, these projects also interact with other existing infrastructure in their vicinity.

Whether this interaction is positive or negative depends greatly on the planning. It is imperative for the planners to take all aspects of sustainability into account to create truly sustainable infrastructure. Improper planning can lead to the additional cost burdens at later stages or have negative impact on overall viability of the project. Technology today plays the most significant role in planning.

The infrastructure development landscape has drastically changed in the past decades. Unlike 30 years ago when plans were drawn on papers and almost all stakeholders were working individually at their level, now-a-days almost everything is done through computer modelling and all the stakeholders work simultaneously. Today all the stakeholders of the project, right from the designers to planners to executors to the operators, are involved right from the beginning of the project. This helps in developing better ideas, include even the smallest practical details in the project and avoid pitfalls.

The advent of Geospatial Technology (GIS & GPS) and Building Information Modelling (BIM) have proved to be real game changers in the infrastructure sector. These technologies have been critical in planning and designing projects. GIS & GPS help in gathering and analysing the real time data related to location, landscape, relative position, land measurement etc. It is also extremely useful in machine control, site management, precision control and real time progress monitoring.

The BIM helps in visualizing the entire project even before the first stone is laid on the ground. BIM enables all the stakeholders of the project to work simultaneously and provide their respective inputs. With every new input the BIM model updates itself. This helps in saving time and cost. It also helps in reducing errors and establishing synchrony with existing landscapes and the infrastructure. BIM is also useful in estimating operating costs, minimizing errors and predicting future maintenance costs & upgrade requirements.

Combination of Geospatial Technology, BIM and other modern technologies have extremely important role to play in the development of sustainable infrastructure.

One of the most important questions that is faced by the developers is whether sustainable infrastructure is financially viable. The answer to this question lies in the long-term economic cost benefits analysis of the projects. Sustainable projects in some cases involve higher initial costs in terms of the capital. However, when the socio-economic benefits of these projects are taken into account, the higher capital investment is justified.

These projects not only fulfil their primary purpose, but they also help the communities and localities around them to develop. They help preserve the flora and fauna in their vicinity and minimise the environmental costs. In certain cases, carefully planned projects have even helped the local environment flourish. Truly sustainable projects take into account the future demands and maintenance needs; therefore, such projects remain operational and viable for longer periods of time thus generating higher revenues in the long run.

The water bodies rejuvenation project by Infosys, the water management program by NLC India Ltd and the rainwater harvesting program by D&D Ecotech are some examples of sustainable developments happening in the India. The city of Madisar in UAE known to be a zero-carbon city and the BRT in Lagos are some of the international examples of sustainable infrastructure development.

India is gradually moving towards sustainable infrastructure developments. However, considering the fact that India seriously lacks quality infrastructure, some of the world's most polluted cities are in India and the ecological balance in the country is facing severe threat, the gradual movement is not good enough.

In order to meet the infrastructure needs of the ever-growing population and keep check on the environmental impact of the development, India needs to rapidly shift towards sustainable infrastructure development. The National Pipeline Project announced by the PM in his Independence Day speech is the opportune moment for India's infrastructure sector to make a radical shift towards sustainability.

The author is executive director at REPL. Views are personal.