

# UNDERSTANDING BASICS OF URBANISATION

## Abstract

While moving towards Amritkal of Indian independence, we have to revisit basics of urbanisation to carryout comprehensive urban design and infrastructure and link it with implementation for excellence rather than implementation as usual. We have to understand urban role in non-farm sector production and its links in urban context. At the same time. There is a need to revisit natural ecosystem of cities to effectively counteract climate hardships, Remove inefficiencies in built spaces to optimise resources and transform urban communities from consumers to producers of water and energy.

It is noted that Indian urban missions give due focus to a range of approaches towards infrastructure improvement. Stakeholder engagement is especially important in this regard to have optimum synergy and convergence. Several innovations in India and elsewhere need special mention such as angioplasty to a few bores by start - ups in Latur, monitoring water flow from mobile in Hyderabad cleaning of sewage nala as it flows in Goa, Community energy grid in Japan and Resource conservation in Israel.

**Keywords:** comprehensive urban design and infrastructure, Natural eco system, private execution capacities, consumer to producer, stake holder engagement, resource conservation and speaking infrastructure.

## Introduction

What happens in 45000 sq.km in rural India happens in 450 sq.km on urban India. It would mean concentration of every attribute of human existence. In this interaction of interfaces scope for natural ecosystems gets minimised and scope for man/human made domains such as paved surfaces, built up spaces, underground soil layer displacements, cables/wires/towers in the atmosphere gets maximised, at the cost of natural ecosystem. The fine balance required is deprived in almost all urban spaces. However, the urban spaces produce the maximum products (goods & services) to service the economy. What a dilemma? The currency value of these goods & services

is measured in isolation to calculate the wealth of a nation. So the whole issue is that of how do we create a real balance sheet of our existence and development.

A rural citizen has access to free ecosystem services compared to urban ecosystem who has to invest a considerable part of their income to get the same (ecosystem services). To elaborate (water) investments by citizens for clean drinking water involving water tanks, energy and time of the households to produce the water is a telling example. So is the clean air and ambient temperature for human habitation. The challenge is sustainability of cities in terms of natural and human made infrastructure. The way the physical Infrastructure interfaces with underlying natural infrastructure is the space for intervention of urban planning.

Having elaborated the real problem of urbanisation, solutions have been sought with interventions of Central and State Governments in the form of focussed Missions for housing, water, sanitation and livelihood. Fund is flowing for creation of physical infrastructure. The biggest challenge is the private execution capacities, stereotypical processes of tender and procurement at the city and state levels and also lack of comprehensive urban design for physical infrastructure. We have predominantly projects oriented approach without a underlying planning and design framework. Brown field areas may need retrofitting and may not yield to fresh start.

What are we doing to find solutions as a country? First and foremost, the leadership of our country has initiated strategic interventions required to tackle the challenges of basic services in rural and urban areas. Interestingly, the concept of 'rurban' has been recognized as we do have scenarios of urbanised rural scapes in peri urban areas.

Starting with several missions to focus on swachatha, water, housing and livelihood services, Central and State Governments have collaborated to bring in basic infrastructure to the citizens. This has yielded results in terms of focussed effort on each of the basic urban services both at state and city levels. It also has brought in tremendous opportunities for augmenting capacities in terms of scale and quality.

For a developing country it is a basic need to create capacities to transcend mediocrity in processes and technologies to transform itself. This approach has been steadily gaining acceptance in the country. The process of engagement with all stakeholders including implementers has been

initiated. There are dialogues held to understand difficulties and exchange notes on new technologies and collate meta data for urban water, housing and sanitation services. The journey of focussed engagement has reached more than half way in terms of increased coverage of urban services.

Having reached this milestone, what can we improve to take our country to the next level of urban infrastructure? What are the most important attributes for sustainable urbanisation? How do we move towards saturation which is sustainable? Some of the important actions are as follows:

- Bring back natural ecosystem of cities. Only nature can counteract climate hardships
- Remove inefficiencies in built spaces to optimise resources.
- Instead of urban communities being water and energy consumers, can they become producers?

Is there a need for realignment towards self-sustained water and energy urban communities which may be a collection of households/establishments meaningfully coordinating for energy, water and sanitation which are smaller than ward and bigger than RWAs. In Japan, community energy grids function as a binding platform in urban areas for citizens to collectively act to reduce energy consumption, decide energy efficient choices.

The existing urban governance processes have a lot of scope for addition of innovative, out of box thoughts and actions. For example, there are building bye-laws to determine what has to happen precisely in a plot whereas there is no prescription for outcomes for a public space, though there are broad advisories. There is no clear understanding of interface of public and private spaces.

City is seen from surface. Lot of city infrastructure operates underground – planning the city taking into account all these layers, sub ground, ground and above ground is needed.

To conclude our notions of urban planning and urban infrastructure execution needs to be reinvented. If we can provide barrier free access to the public space, say if we can walk on a footpath without hindrance for 5 kms at a stretch not to have to look for safety that day will be our day for global Indian cities.

Precision based execution is fundamental requirement for transformation and saturation. For example, waste collection and processing are done as a chore. Can it be done using artificial or natural intelligence? If we look at e-commerce websites data, we exactly know which wards are generating package wastes. Niche based collection and processing that too not very far from generation is a better approach which is emerging as a way of handling waste as a resource.

Israel demonstrates precision in the best manner. Every home tap sensor is on central grid of water authority. If any unusual outflow is seen, Artificial Intelligence shoots mail to consumer and asks for compliance. Can we do this? Yes. Absolutely. We need to change our tender specification and invest around 20 per cent more to get this done. The regular contractors need to get into this mode of technology enabled project execution as the default mode.

But to stir the execution space can we think of 'gigs' for certain works. We can put out small quantum of work for execution with assured payment gateways and transparent processes. May be this way we can build more execution talent. Our country has to practice doing to achieve excellence as the journey continues.

The people who need to be coopted, heard, trained and engaged with are the people who are preparing Detailed Project Reports (DPRs), tenders and technology providers. This is the best time to shift the paradigm from "implementation as usual" to "implementation for excellence" with speed and quality. Starting small gigs implementation groups (of students) from engineering and finance institutions selected through a carefully crafted mechanism may discover new patterns for implementation, expanding the scope for more entrepreneurs and to integrate new technologies. This is already happening under the country's leadership in the startup space. The space needs to seamlessly integrate further into the processes of building infrastructure.

A few instances testify to this. In Latur, a startup did angioplasty to a few bores and these bores are yielding water for atleast three months more. Another one has made custom made sensor valve to suit legacy infrastructure and this is helping monitoring water flow from mobile in Hyderabad. In Goa, a sewage nala is being attempted to be cleaned as it flows. Some of these technologies are yielding spectacular results. Water hyacinth being converted to paper and cloth is a big move to clear the

colonising species. We have taken the right path to start with, but with just a little precision, openness of systems, a tweak to bring in technology orientation. We can create “speaking infrastructure” to reach our sustainability destination.