

Editor's Note

August was hectic. There was a flurry of major announcements related to infrastructure, whether it was the Finance Minister asking for more PPP projects or the National Highways Authority of India creating an inhouse design division to oversee engineering aspects with floods wreaking havoc on roads and highways. The Infravision Foundation kept an eagle eye on developments in the area even as it worked on solutions in other infra domains. The urban mobility research paper by Prof Geetam Tiwari and Deepty Jain of IIT Delhi created a lot of buzz about the profusion of urban metros while a detailed survey of water bodies in Kekri, Rajasthan, got off the ground.

Smart City, Smart PT

Why Metro is not the only Solution for Every City

Urban India has been experiencing an upgrade of its Public Transport (PT) systems to meet its travel demand. The most significant upgrade is the implementation of the metro system that has redefined the standards of PT. Metros operate in 13 cities now; in 29 more, these are under construction or have been approved or proposed. However, these networks have not yet achieved the expected benefits, primarily because the ridership is much lower than what was estimated.



Delhi Metro —India's largest such network —has managed just 47% of the projected ridership. Most metros have less than 15% —less than 10% for some others—of the projected ridership. This is a double whammy—not enough people enjoy the benefits, and operations become financially unsustainable. Metro systems are capital-intensive and cost about Rs 220 crore (elevated) to Rs 550 crore (underground) per km. They create massive non-performing assets when they prove financially unsustainable. Thus, any decision to set up a metro system must be thoroughly scrutinised. A research paper published by The Infravision Foundation, in collaboration with IIT Delhi, presents a framework to understand the suitability of various PT options for Indian cities. The suitability of such systems is dictated by what urban planners call differentiated travel demand, which is characterised by the number of trips per day, distance travelled per trip, ability to spend, city population, and vehicle ownership.

Read more by COO Nitin Zamre in <https://www.financialexpress.com>

Paani ki Kahaani

Making India water secure, one water body at a time

For the first time ever, there is a national database on water bodies in India that can help people's participation in an area traditionally left to the state or private agencies. Thanks to a national census of water bodies conducted by the Department of Water Resources, River Development and Ganga Rejuvenation, as part of the sixth Minor Irrigation Census, we not only know the number and kinds of water bodies in the country but also about several features such as who owns them and what is their condition. The Infravision Foundation, on the request of the Ministry



of Jal Shakti, is conducting a sample survey in a water stressed area of Rajasthan to understand the veracity of the data and suggest possible lessons in water management. With rainfall in India mostly concentrated within four months (June–September), India's challenge is what to do with such a large quantity of water pouring in such a short duration— how do you store it, how do you use it to recharge ground water, how do you reduce the run-off with depleting natural vegetation so as not to lose this water too fast to the sea. A water body in every village is a great idea but only a deep study of the census call tell us how. Our field study will help the Ministry and we're at work on it at full speed.

TIF@CII

Rumjhum Chatterjee, Trustee, The Infravision Foundation (TIF), was one of the key speakers at the Confederation of Indian Industries' 18th Sustainability Summit: Strengthening Global Partnerships for Sustainable, Equitable and Inclusive Development. Organised on the sidelines of the G-20 summit, there were sessions on Diversity, Equity, Inclusion (DEI), and on Education and Employability, among other issues. On DEI, Chatterjee, who is also chairperson of the CII National Council on Women's Empowerment and Inclusion, said, "The emphasis often centres on recruitment, yet a holistic approach entails evaluating data for marginalised groups' fair treatment and additional biases." Going beyond the obvious. That's TIF's motto too.



Welcome Aboard

Rajiv Ranjan Mishra

Retired IAS Officer, Former DG, National Mission for Clean Ganga, joins The Infravision Foundation as Distinguished Fellow

Visitors@TIF

Hari Menon, Director, India Country Office, of the Bill and Melinda Gates Foundation (BMGF) dropped by The Infravision Foundation office. We had a fruitful discussion on identified areas for joint work. Menon, an experienced public policy professional and a longtime staffer at the BMGF, gave us a quick overview of the foundation's goal of collaborating with the Indian government and other partners on various issues, from health care and sanitation to gender equality, agricultural development, and financial empowerment of the most vulnerable populations. There is much in common between the two foundations. Expect to hear more from us on this.

We were also fortunate to learn from our extended family of experts. Subramanian KR (or Subra, as he is known to friends), Operating Partner, The Convergence Foundation, demonstrated to us the power of storytelling while image guru and Advisor, TIF, Dilip Cherian got us to dig deep and understand the goals of Infrashakti, our advocacy effort.



(From left) Kaveree Bamzai, Hari Menon, Vinayak Chatterjee, Nitin Zamre, and Rumjhum Chatterjee



Dilip Cherian



Subramanian KR



Jagan Shah

By Invitation: Call to Action on Himalayan Cities

The cascading losses of infrastructure and property in Himalayan settlements have been reminding us for several months of the fragile ecosystems in which Indian governments have allowed unplanned development to occur. Frequent water-logging and flooding in riverine and landlocked cities have also reminded us that these are neither divine retribution nor peculiarity of location, rather, a system-wide neglect of good principles: that disaster can be prevented only by design and planning, that

regulation is a friend of development, not a bottleneck; that public funding of ill-conceived development projects is all too often money down the drain. If India has to mitigate the mounting costs of inaction, governments at all levels must do at least the following three things immediately:

1. Use the data-rich Gati Shakti platform, which is now available for area-based development, or a local equivalent, to ensure that all project preparation (detailed project report) takes into account the integrated totality of all technical, compliance and value for money considerations across the project lifecycle;
2. Undertake a comprehensive reform of development codes, norms and standards such that efficient, safe and resilient operations and maintenance are ensured; and
3. Strengthen the regulatory systems for speedy but effective inspection and granting of clearances for project development.

(The author is a Distinguished Fellow, The Infravision Foundation, and Resident Senior Fellow Director, Artha Centre for Emerging Cities, Artha Global)

Infrastructure@OTT

The Jengaburu Curse, SonyLIV, Hindi Series

A tribe deep in the bowels of Odisha, a rare mineral, which helps in nuclear power, an international tycoon, a whistle-blower, and a fragile ecosystem that starts to unravel. Add to that global powers, corrupt politicians and sold-out activists and you have a series that doesn't spare anyone. Nila Madhab Panda has been making films on climate change, much before it became fashionable. He pours his life's learning into a complex network that begins in London's financial district and ends in the poisoned minefields of Jengaburu.

The Bondria tribe is on the verge of being wiped out, their water poisoned, their soil barren, and their earth dead. Their ancient folklore says when the dragon king's head awakens, the world turns to dust. It tells you what happens when development rides roughshod over people and their land.



Event Alert

Can surety bonds be a viable alternative to bank guarantees in infrastructure financing? It's a policy intervention that The Infravision Foundation has given considerable thought to. After the white paper by Prof Manoj Mohan, Prof Vidhu Shekhar and Manali Pathak of the SP Jain Institute of Management and Research, supervised by Supratim Sarkar, Distinguished Fellow, the Foundation will be organising a National Summit in Delhi on September 18 under the auspices of CII, on fast-tracking infra finance through surety bonds, where the Insurance Regulatory and Development Authority of India Chairman Debasish Panda will be interacting with key stakeholders such as insurance companies, brokers and construction companies. See you there!

Big News of the Month

With the aim of augmentation of city bus operations by 10,000 e-buses on PPP model, the Union Cabinet approved a bus scheme, PM-eBus Sewa, in August. The scheme has an estimated cost of Rs 57,613 crore, out of which the Centre will provide Rs 20,000 crore. The scheme will support bus operations for 10 years and will cover cities with a population of three lakh and above as per the 2011 census. Under this scheme priority will be given to cities with no organised bus service. The scheme will generate 45,000 to 55,000 direct jobs through deployment of around 10,000 buses across various cities. The scheme has two segments, of which one is for bus services in 169 cities in a PPP model and the other is for Green Urban Mobility Initiatives (GUMI) in 181 cities. Crafting a PPP model will pose a challenge.

TIF@TheMedia

Prices in a perfect market are determined by demand and supply. Both demand and supply change, and so do prices. Consumers are often exposed to these changing dynamics. Think of how airline tickets jump before the vacation travel season. Or how one has to pay more for watching a movie on weekends compared to weekdays. Now, imagine the same scenario for electricity. Experts call it dynamic retail pricing, or Time-of-Day (ToD) tariff. ToD tariff is recognised globally as an important demand side management tool for incentivising consumers to shift a portion of their loads from peak times, thereby improving the system load factor. For more, please read Vinayak Chatterjee in Business Standard on Getting the Timing Right for Electricity.



https://www.business-standard.com/opinion/columns/electricity-getting-the-timing-right-123080200950_1.html

No Time to Waste

India is one of the largest waste generators in the world with 62 million tonnes of waste generated annually. Solid Waste Management (SWM) is governed by SWM Rules 2016 and other related rules, issued in the last five years. However, a majority of Urban Local Bodies (ULBs) do not have appropriate action plans for execution of the Rules. We are working on a decentralised model for management of SWM, the operating cost of which is to be met from various revenue streams generated from solid waste. We discussed our work in facilitating the ULBs to attain zero waste status and creating a self sustaining model at zero cost to the ULB with Vijayasekar Kalavakonda, Senior Operations Officer, IFC, and Bhavna Bhatia and Dr Poonam Ahluwalia of the World Bank. Both showed interest. IFC, in particular, is hoping to replicate our model in Rajahmundry and Nellore in Andhra Pradesh.

Test Your Infra Power

1. Which was the first airport in India to run on solar power in 2015?
2. Which is India's longest motorway, at 165 km, with six lanes?
3. Where was India's first solar park?
4. Which is India's longest railway tunnel?
5. Spread over an area of 37 acres, which is the second largest bus station in Asia?



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