

MAHENG/2011/38968

Vol 6 Issue 1 • Pages 128 • February 1, 2016 • ₹100/-

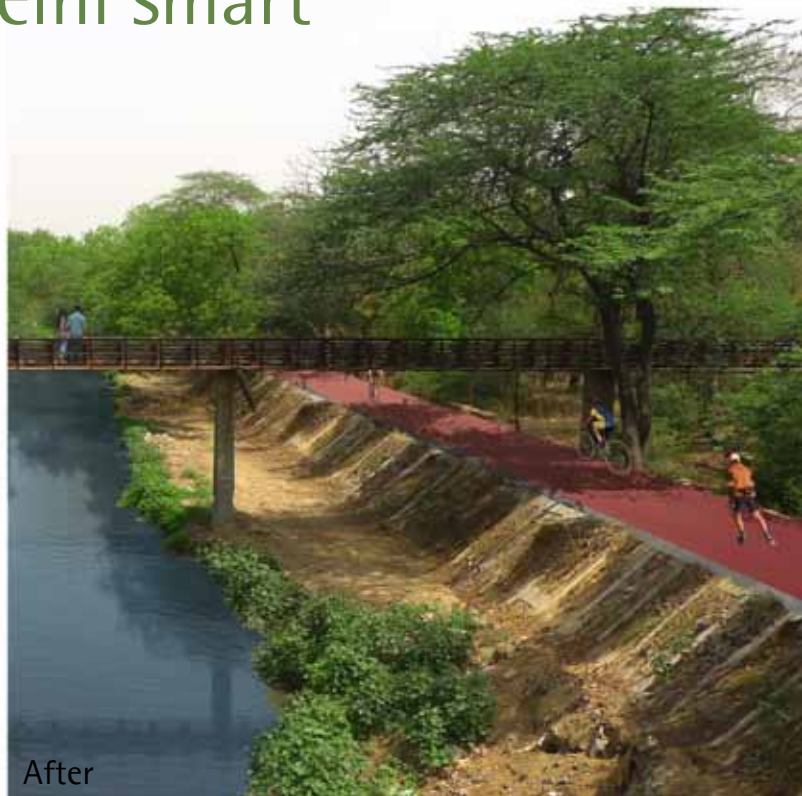
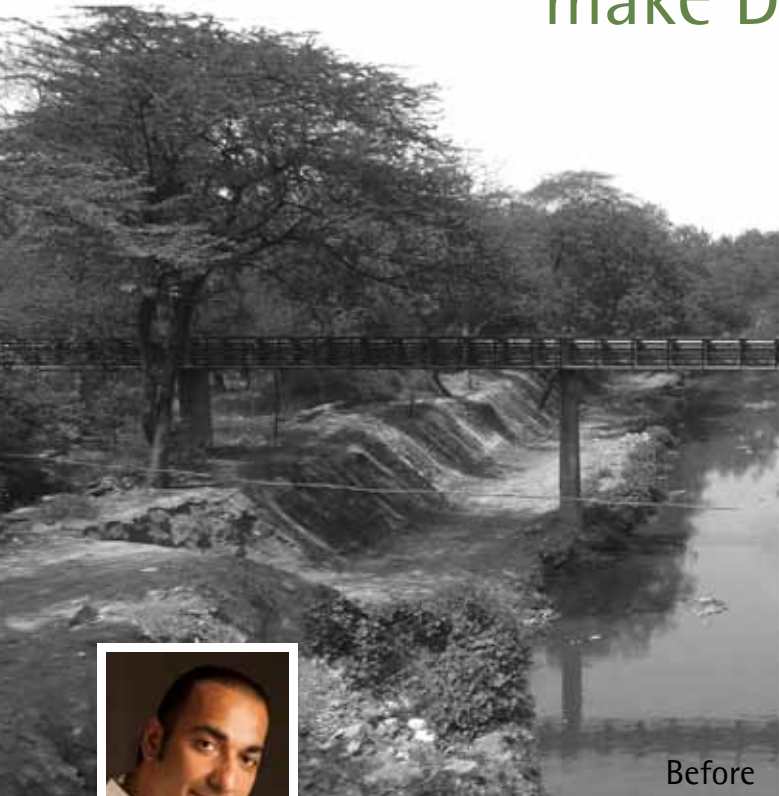
A|C|E UPDATE

ARCHITECTURE | CONSTRUCTION | ENGINEERING
NEWS ANALYSIS AND TECHNOLOGY

5th
Anniversary

PROJECTING
INDIA
2016

Nullahs restoration project to make Delhi smart



A relatively small investment can turn the nullahs into a valuable asset for the common citizen and address the distortion between infrastructure, transport and land use.

Manit Rastogi,
Founder Partner,
Morphogenesis

projecting
India 2016
ACE UPDATE 5TH ANNIVERSARY

The past few years have seen intense focus on smart cities and states embarking on ambitious programmes to implement them. Morphogenesis's observation is that the discussion is centred purely on technological evolution and integration of these futuristic cities, which is an incomplete and inadequate view. Morphogenesis define SMART as Sustainability Mobility Affordability Resilience and Technology. "Technology is but a part of the big picture. Unless one can get the rest right, one will not have a model for successful cities of the future," says Manit Rastogi, Founder Partner of Morphogenesis.

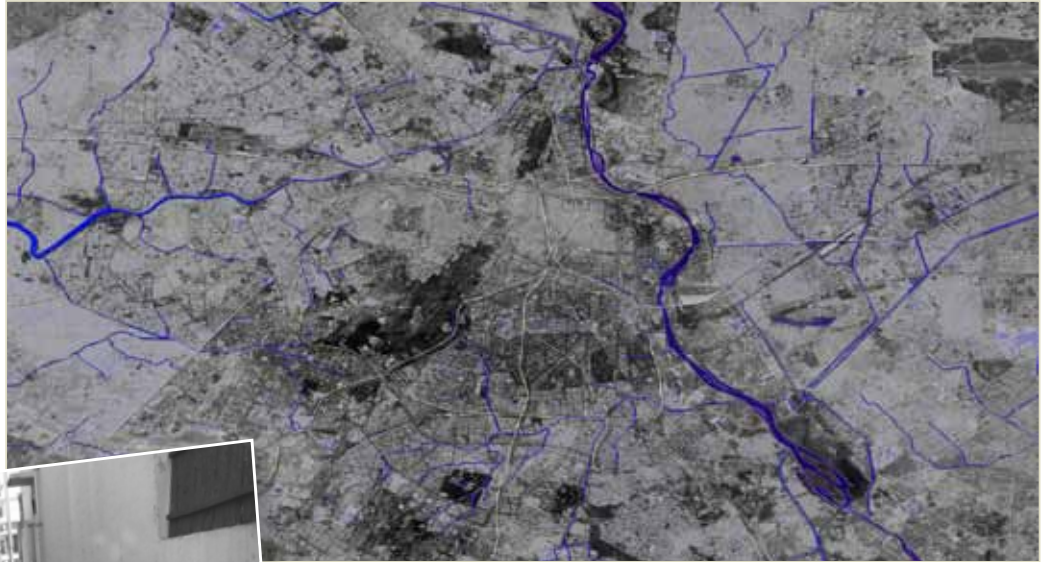
Morphogenesis's proposal to reclaim the neglected nullahs of the city is a case in point. The nullahs restoration project, an initiative by Morphogenesis, presents the hidden opportunity that lies within Delhi by establishing a green and sustainable network as an alternative and democratic source of engagement within the city of Delhi. Instead of a city based on roads and complex governmental structures the firm proposes a bottom up approach which gradually uses the interstitial spaces created by the poor drainage system of the city to bring about positive change. Cleaning these arteries opens up large new corridors which cut across the city and are completely detached from the road network.

This initiative aims to reuse New Delhi's neglected nullah network (the city's water drainage system) to

fundamentally transform and progressively bring about sustainable change within the city, in effect creating eco-corridors. The nullah network criss-crosses the national capital in a dense, contiguous system that spans 350 kms with 20,000 branches, and ultimately all tributaries connect to the Yamuna river. Currently, the nullahs are just unhygienic drains that are seen as a problem by the citizens of



Nullahs Overall Map



for users. Since the nullah network is 350 km long - this would be a very important contribution to the lives of the common citizens.

Alternative environmental network

Use a system of organic reed beds and aerators to clean the sewage entering the nullahs. This is a well-established system and it is both environment-friendly and cheap. This will dramatically improve public health in the city as well as help replenish aquifers. This will also reduce the need to spend large sums on building sewage plants at the Yamuna. Components of the historic and traditional water management systems of the city such as the bunds, sluices, reservoirs, 'baolis', tanks, village have been identified as still having the potential to supplement the city's water resources.

Alternative cultural network

The new network could be used to trigger a number of new urban activities ranging from tourism to sports. For instance, some of the nullahs are 700 years old and were built to provide water to Delhi's old cities. Thus, many of the city's famous archaeological sites are situated on the nullah network. Most major cultural venues in the city can be interconnected through this network, including commonwealth games venues, historical monuments, museums, theatres, stadiums, etc, to create a new walking network to drive next generation tourism.

Challenges

Morphogenesis was very optimistic as the nullahs restoration project is a great and relatively 'cheap' idea. However, the firm has faced challenges too! Speaking on this aspect Rastogi says, "We started with the government and knocked on many doors, which is precisely when we discovered a very complex map of governance. Everyone individually within the government applauded us saying what a beautiful idea it was, but in order for the project to actually materialise, we would need the consensus of all these separate stakeholders. There was no existing mechanism to bring them all together."

He adds, "The solution to the emergent city does not lie in the fact that we build roads, flyovers and put in smart grids etc. Rather if we can somehow get the nullah network to be resolved, we would have found a way for people to cooperate." ■

Delhi – the drains smell, breed mosquitoes, and pollute the Yamuna. However, Rastogi observes, "A relatively small investment can turn the nullahs into a valuable asset for the common citizen and address the distortion between infrastructure, transport and land use that's evolved over time through the city's rapid urban growth. In some sense, this exercise would have turned the whole city inside out: it would have deprioritised the automobile and restored nullahs as the primary interface of the city."

Benefits to the locals

Alternative transport network

Create walking and cycling paths on these nullahs to provide commuters with last mile connectivity to public transport. This will significantly improve the effectiveness of the existing public transport. The embankments along the nullahs are also easy to convert into paved surfaces for bicycle and walking paths which are naturally protected by shade producing trees and evaporative cooling effect of the flowing water, creating an enjoyable experience