

FRI-D09

# Water and Social Life in India: Lessons for Practice

Friday | October 19, 2018 | 3:30 pm |

## Session Overview:

Critical to advancing future resilience is the coupling of water systems with forms of social life and community-driven resource management. This session will describe the historic, culturally embedded landscape systems of rainwater capture in India and their potential to invoke new design paradigms for future urban water infrastructure.

## Learning Objectives:

- Learn about traditional Indian rain water capture & access techniques such as talaab, kund, canals, nullahs and step-wells
- Understand how community-driven decentralized water management can apply across cultures and empower local citizenry
- Examine how “high-tech” strategies of piped water and concrete tanks have created a cascading set of dependencies & fragility
- Learn how Social Capital Credits and other management incentives can apply toward environmental restoration & remediation

## Session Structure:

Part 1: Presentations by Panelists  
Part 2: Discussion with Moderator  
Part 3: Q and A with the Audience

# The Panel

## Moderator:



### **Kate Orff, ASLA**

Principal, SCAPE  
[kate@scapestudio.com](mailto:kate@scapestudio.com)

Kate is a registered landscape architect focused on retooling design practice to anticipate climate change and to foster social life. As the founding Principal of SCAPE, she advances the firm's goals through publications, lectures, research, and project work and is known for leading complex, creative, and collaborative work processes that advance broad environmental and social prerogatives. Kate has taught global studios at Columbia University for over 10 years and has traveled and studied with students in Mumbai, Delhi, Madurai, Kolkata, Varanasi, and Pune India and has been inspired by the rich forms of water in the urban landscape. She received a 2017 MacArthur Fellowship.

## Panelists:



### **Dilip da Cunha**

Adjunct Professor, Mathur/Da Cunha & Columbia University  
[dilip.j.dacunha@gmail.com](mailto:dilip.j.dacunha@gmail.com)

Dilip da Cunha is an architect planner and an Adjunct Professor at the Columbia University GSAPP. He is the coauthor of *Mississippi Floods: Designing a Shifting Landscape* (Yale University Press, 2001), *Deccan Traverses: the Making of Bangalore's Terrain* (Rupa & Co. Delhi, 2006) and *Soak: Mumbai in an Estuary* (NGMA and Rupa & Co. Delhi, 2009), and co-editor of *Design in the Terrain of Water* (A+RD Publishers, San Francisco, 2014). Da Cunha, with his partner Anuradha Mathur, have focused their work on drawing out opportunities that water's fluidities and complexities offer for new visualizations of terrain and design imagination.



### **Geeta Mehta, AIA**

President & Adj. Professor, Asia Initiatives/Columbia University  
[gm2368@columbia.edu](mailto:gm2368@columbia.edu)

Geeta Mehta is an Adjunct Professor in Columbia University's Urban Design Program, and has worked on design projects in India, China, Colombia, Brazil, Jamaica, Ghana and Kenya. She received her B. Arch from the SPA in New Delhi, M.S. AUD from Columbia, and her Ph.D. from the University of Tokyo. Mehta is the founder of Asia Initiatives, a nonprofit where she developed Social Capital Credits (SoCCs), a community currency for social good, inspired by carbon credits. SoCCs is now helping communities in India, Ghana and Kenya take charge of their own development.



### **Alpa Nawre, ASLA**

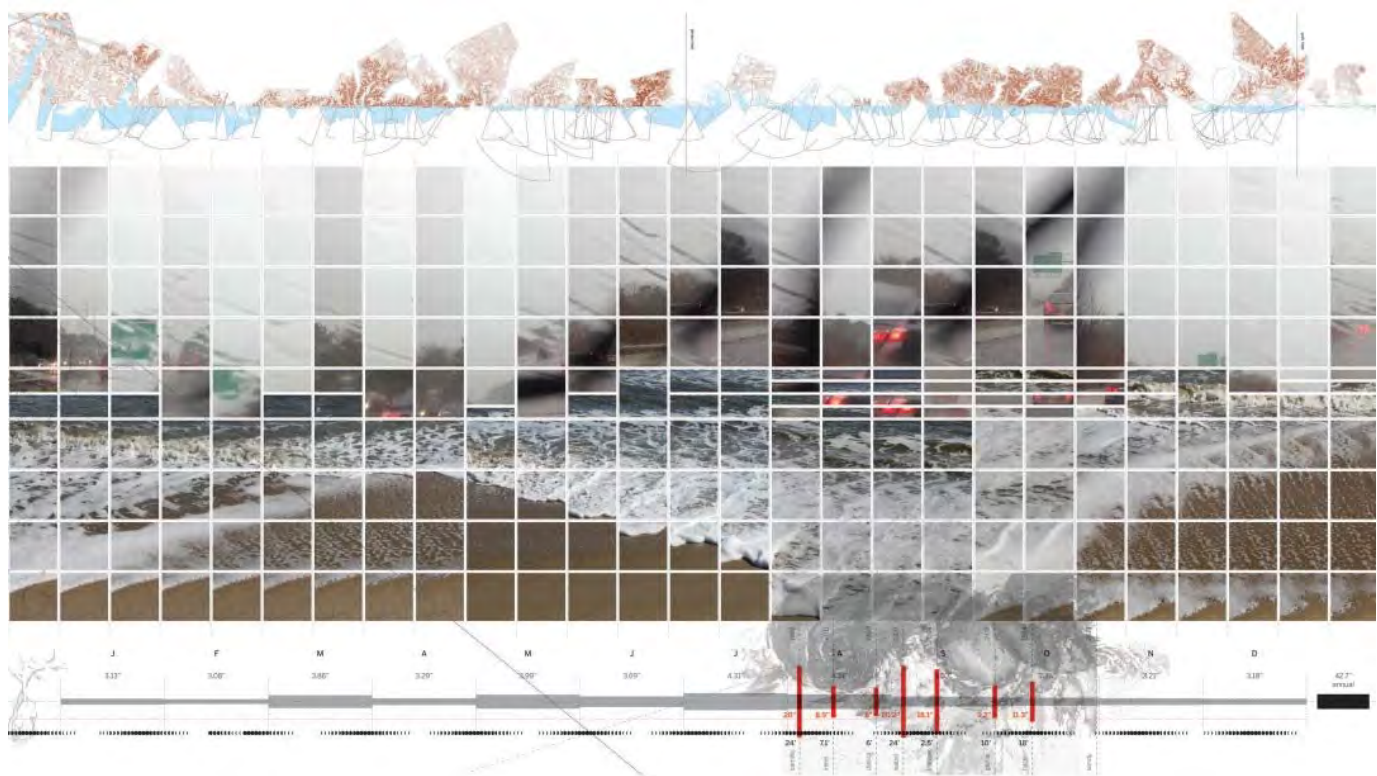
Founding Partner/ Assistant Professor, Alpa Nawre Design/ University of Florida  
[alpa.nawre@gmail.com](mailto:alpa.nawre@gmail.com)

Alpa Nawre is Assistant Professor in the Department of Landscape Architecture at University of Florida, Partner at her design practice, Alpa Nawre Design and one of the founders of Critical Places. She is a recipient of the Council of Educators in Landscape Architecture Award for Excellence in Design Studio Teaching, the Dumbarton Oaks Mellon Fellowship in Urban Landscape Studies, and Landscape Architecture Foundation Fellowship for Innovation and Leadership. She holds a Bachelor in Architecture from NIT, Raipur, India, Masters degree in Urban Design from Harvard Graduate School of Design, and Masters in Landscape Architecture from Louisiana State University.

# Part 1.1 Short presentation by Dilip da Cunha

Dilip's research on the Ganges and water bodies in India has been recently published in the new book "The Invention of Rivers: Alexander's Eye and Ganga's Descent" where he traces the ways in which it has been pictured, mapped, surveyed, explored, and measured across the millennia. He argues that the articulation of the river Ganges has placed it at odds with Ganga, a "rain terrain" that does not conform to the line of separation, containment, and calibration that are the formalities of a river landscape. By calling rivers into question, da Cunha depicts an ecosystem that is neither land nor water but one of ubiquitous wetness in which rain is held in soil, aquifers, glaciers, snowfields, building materials, agricultural fields, air, and even plants and animals.

He will present and discuss via photography and mapping how "high-tech" strategies of piped water and concrete tanks have created a cascading set of dependencies & fragility in water systems in India.



Notes



## Part 1.2 Short presentation by Geeta Mehta

### Using Social Capital Credits to revive community stewardship of water resources



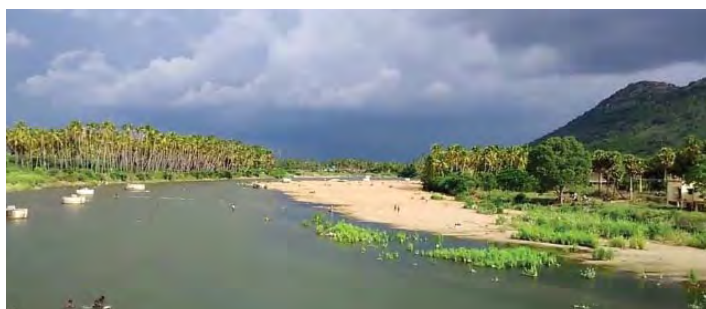
Social Capital Credits (SoCCs) is a community currency for social good. It has been implemented in 14 projects that are pro-poor, pro-women and pro-environment in India, Ghana and Kenya.

A series of SoCCratic dialogues are held with communities to break down big goals into small measurable actions. They also help communities develop SoCCs Earning and Redeeming menus which list the activities of social good and the redemption incentives respectively.

In projects relating to ecology and farming, people earn SoCCs for restoring water bodies, dredging ponds or wells, building rainwater harvesting trenches or check-dams, and planting trees and plants. SoCCs are redeemed for education, healthcare, or skill empowerment based upon the community's expressed needs. SoCCs are recorded and traded on SoCCbooks manually, or via an online platform.

#### Example 1:

Vaigai River Restoration Project, Madurai, India



Rainwater in the relatively dry plateau around Madurai collects into a system of constructed tanks that drain into the tanks downstream and finally drain into Vaigai River that runs through Madurai. This project incentivized informal communities along the Vaigai River to become custodians of the River instead of degrading it.

#### Example 2:

Rainwater harvesting in drought prone Beed District, Maharashtra, India.



Farmer communities in 10 villages in the Beed District were incentivized to dig ponds and ditches, and build check dams on hilly slopes to collect rainwater. They were also incentivized to practice sustainable agriculture. This will result in increased farmer incomes, improved soil health, and improvement in water table.

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## Notes

## Part 1.3 Short presentation by Alpa Nawre

### Design Interventions to Address Water and Other Issues in Rural India



Alpa is focused on issues pertinent to the design of water infrastructure and resource management in the context of rapidly urbanizing developing countries, particularly India. She will present a range of analysis and design work in villages, sites and spaces in India including Maharashtra, and Kawardha City that engage people and water systems. She will give examples of community stakeholder workshops, planning and design projects that translate impending challenges of climate change and rapid urbanization, water scarcity and flooding, into site scaled design proposals.



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## Reference and Further Reading

Documentation of the Columbia University Urban Design Studio work on Water urbanism in India:

<https://www.arch.columbia.edu/books/reader/192-water-urbanism-madurai-india>

<https://www.arch.columbia.edu/books/reader/195-water-urbanism-Kolkata>

<https://www.arch.columbia.edu/books/reader/331-water-urbanism-varanasi>

Orff, Kate. *Toward an Urban Ecology: SCAPE / Landscape Architecture*. Monacelli Press, New York, 2016

Da Cunha, Dilip: *The Invention of Rivers: Alexander's Eye and Ganga's Descent*, University of Pennsylvania Press, 2018

Da Cunha, Dilip and Mathur Anuradha: *Design in the Terrain of Water*, Applied Research & Design Publisher, 2014

Alpa Nawre, <https://criticalplaces.org/>

Innovation in Urban Water Infrastructure

<https://www.arch.columbia.edu/books/catalog/190-water-infrastructure-equitable-development-of-resilient-systems>

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