

January

February

March

April

May

June

July

August

September

October

November

December

The Temporary Inhabitants
water - clay - flowers

Abhijna Ramachandra

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water clay flowers

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Spring Semester (January-May 2017)

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Abstract

Accepting and appreciating the ephemeral nature of the “tanks” in Bangalore, makes way for other momentary and/or contiguous use of the same terrain.

The undulating terrain of Bangalore facilitated the construction of an infrastructure of tanks -water bodies held by earthen embankments- to collect monsoon water runoff. Encroaching by building on low grounds and tank beds has resulted to the present day problematics of urban water inundation and scarcity in the city.

Embracing temporality and exploiting flooding as a mechanism to hold excess water in open pockets, would give rise to new surfaces for a range of practices and unlock economic opportunities. These spaces will project the different terrains of the city, not restricting it to just the urban-land use city.

Background

Bangalore's rain terrain

The undulating terrain of Bangalore facilitated the creation of an infrastructure of tanks that collected rain water runoff to feed the city. Habitation and cultivation were structured in conjunction with this tank and irrigation system. The operation of these tanks has been declining over time causing urban flash floods and water scarcity. Poor management and inability to realise the temporality of this water infrastructure is one of the many reasons for its decline.

Massive efforts to supply water to the city

The city, that was supposed to be rain fed, pipes its water from a river hundreds of kilometres away and 300m below it, resulting in massive amount of energy consumption just towards water supply. Also, the river that quenches the city's thirst is now in a vulnerable position due to increase in unpredictable monsoons resulting in an imbalance in the demand-supply of water in the city. Hence, drinking water is becoming more and more precious and the city will not survive for long if it has an intravenous supply of resources artificially from an external system.

To restore the tank water catchment system in the city

Bangalore's landscape was characterised by seasonal systems and practices making it dynamic. Over time, these practices have lost significance resulting in today's problematics in the city. Urban flooding and seasonal drought can be due to the complete lack of understanding these systems.

While addressing the above mentioned problematics, it will further aim at providing drinking water to informal settlement and create potential access to resources for better livelihoods. The objective is to restore one tank creating a model that could be repeated in different tanks of the city and ultimately aim to reduce Bangalore's dependence on an external source of water, hence making it a water sensitive city.

The point of departure of this project is Anuradha Mathur and Dilip Da Cunha's essay "In Depth: Inscribing the Indian landscape" *

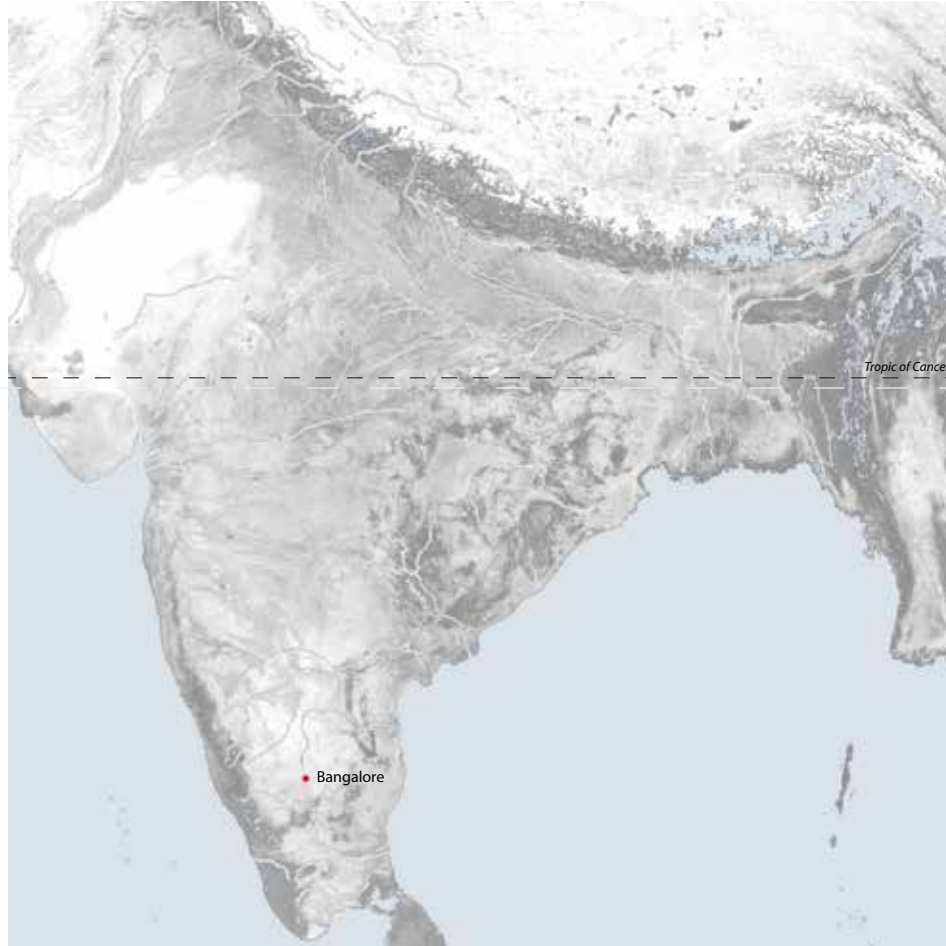
The authors always suggest unlearning of pre-conceived notions attached to fundamental terms used in landscape vocabulary, at least in the Indian context. This article helps to understand the relationship between water and public spaces in the city as well as urges us to imagine the diversity and potential that the terrain of the city can harbour as opposed to how it is being used today. The idea of a dynamic terrain not limited by defining it with one term is particularly compelling. By just accepting and appreciating the seasonality of tanks, we can make way for other momentary and/or contiguous uses of the same terrain.

*first published on 30 November (2007) in Architectural Design.

Mathur, A. and Cunha, D. d. (2007), In Depth: Inscribing the Indian Landscape. Archit Design, 77: 70–77. doi:10.1002/ad.565



This map was made to identify the location of the Bangalore Cantonment. The Cantonment was where the British camped back then in the city.



NORTH

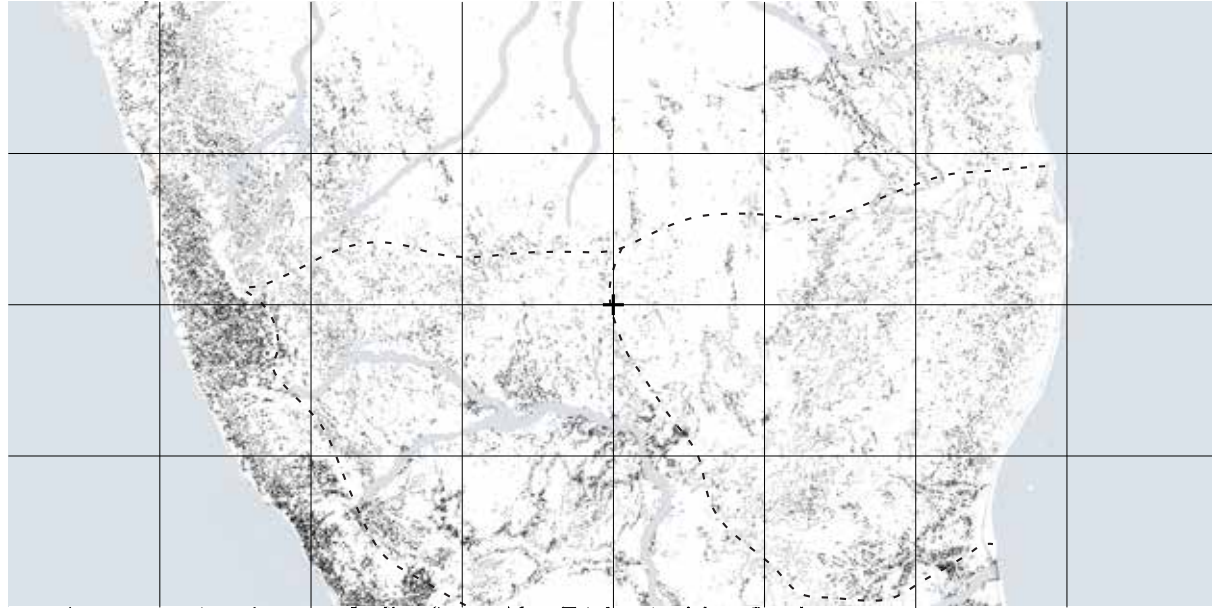
Perennial rivers that are sourced by glaciers or rainfall

SOUTH

Seasonal rivers dependent on monsoon rain.

Historically, settlements and civilizations sprouted along water. These cities grew into cities that flourished as port cities along sea coasts or agricultural cities along fertile plains and deltas of river basins.

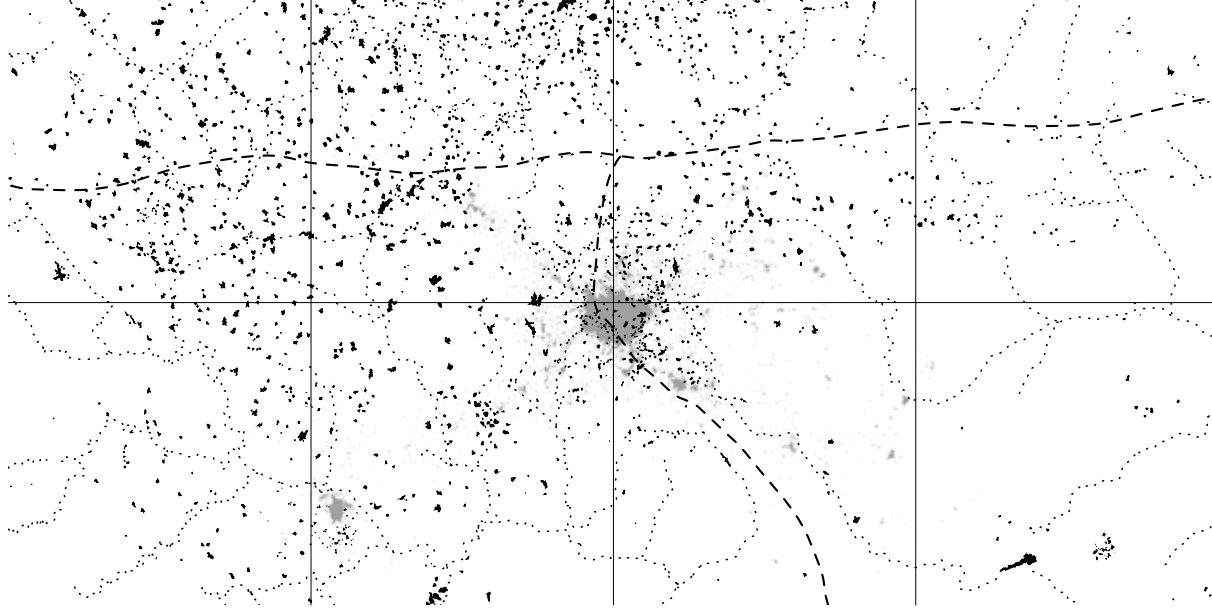
In the lower Deccan Plateau, a triangle of peninsular South India, the terrain was the initiator of settlement that was structured by a system of man-made tanks that exploited the territory's drainage pattern.



Bangalore is located on the watershed of two principal river basins. The main ridge divides it into two distinct topographical regions. Four major catchment systems radiate from this ridge.

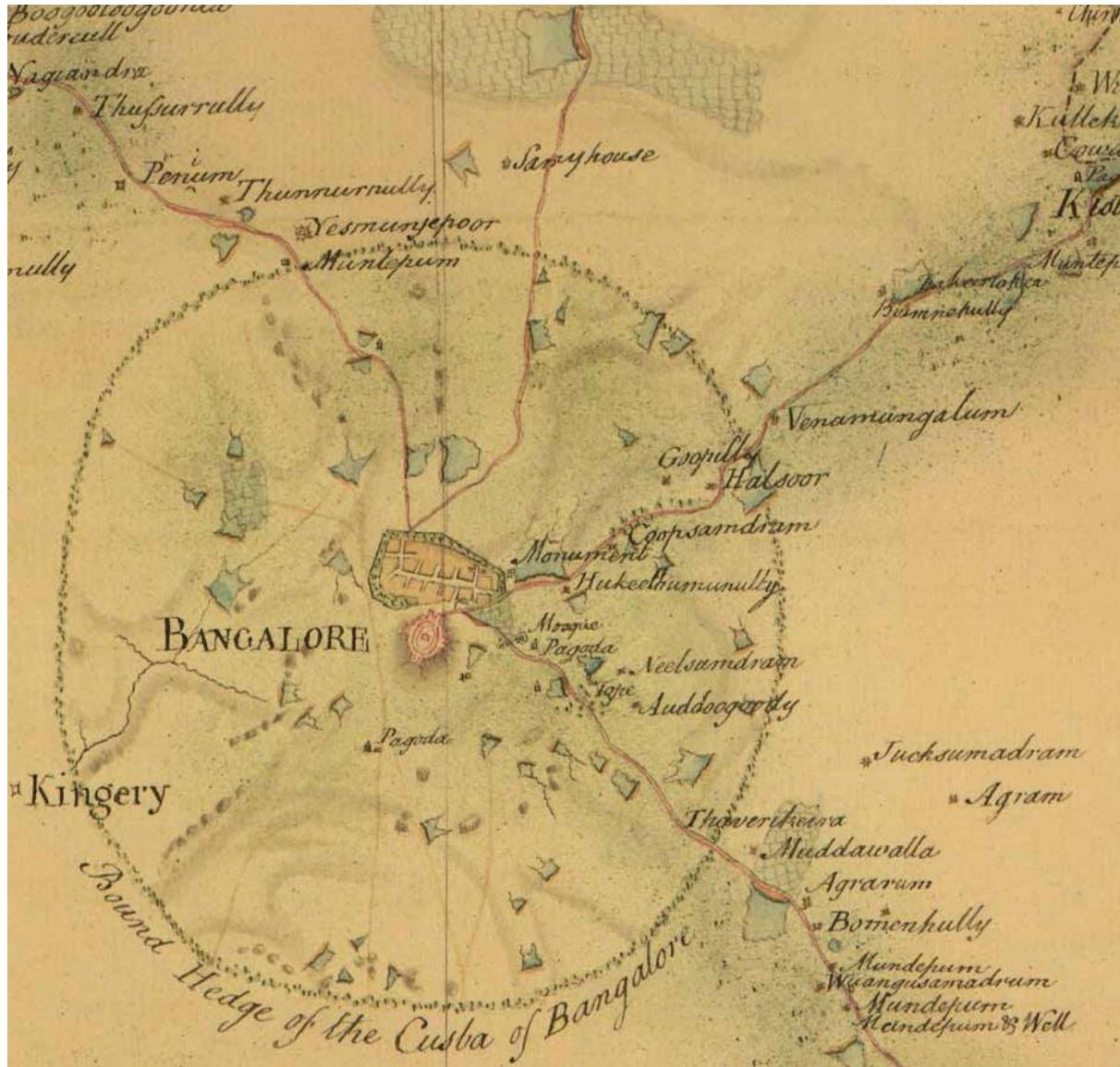
The undulating topography combined with a granitic geology renders the region highly suitable for managing and harvesting rainwater at both surface and sub-surface levels.

This was done by constructing an extensive system of “tanks” in the region.





A tank (translated to English from the Kannada word kere) is used to define what is formed by an embankment built across a low ground to hold rain coming off high ground, not just as rainwater but also seasonal surface flows of material (water, silt, clay).



Landscape as the first act of settlement

"The engineering of the tank pertains to the positioning of the bund (embankment). The bund or embankment becomes a line that gathers water, also gathers settlement and agricultural fields. The bunds collectively became the first infrastructure of settlement."





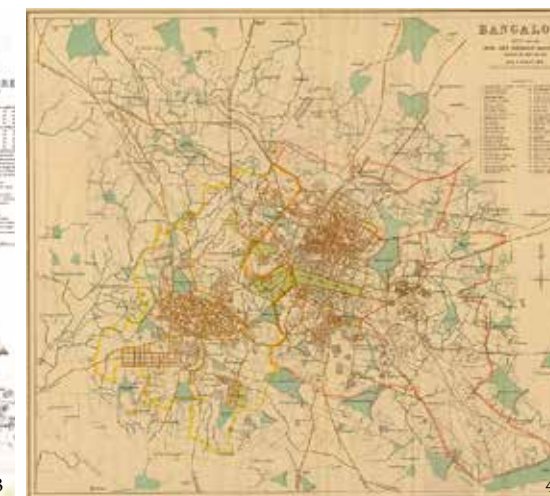
1800



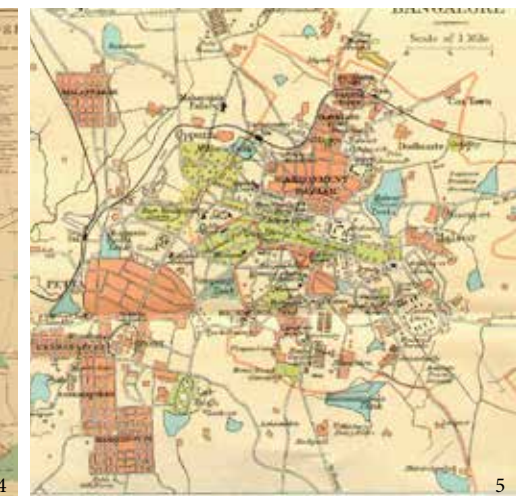
1832



1854



1892



1924

*“The terrain in place today was drawn out by British surveyors beginning in the 18th century in a land they saw as terra incognita, and described by them through maps, gazetteers and administrative and educational practices in terms of town and country, land and water, public and private, building and open space.
...an era disposed towards drawing clear and distinct boundaries.”*

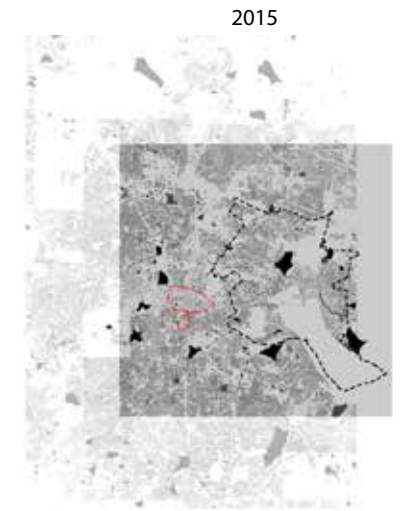
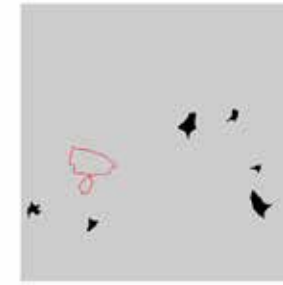
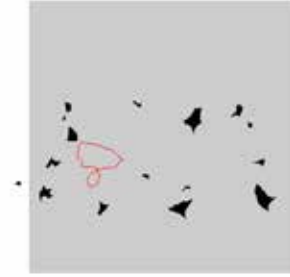
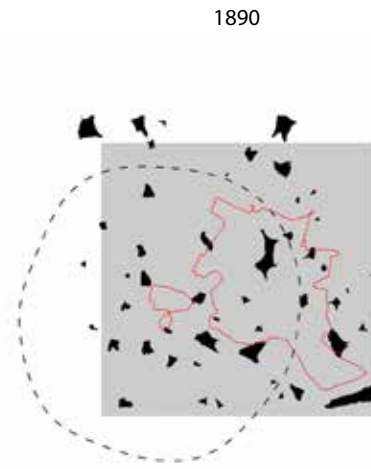
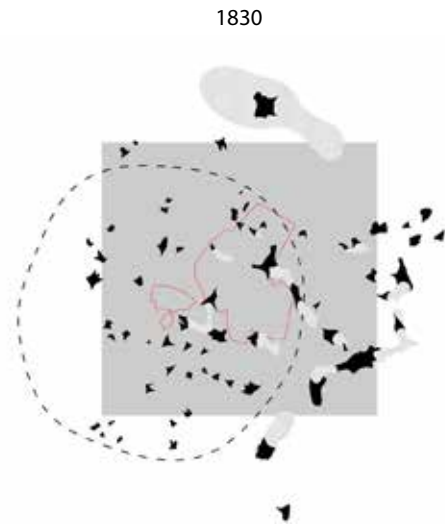
– Mathur and Da Cunha: *In Depth, Inscribing the Indian Landscape*

1,4 British Library [online]

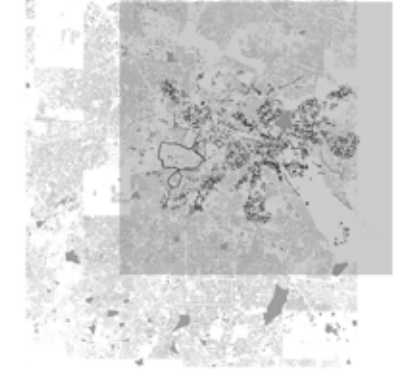
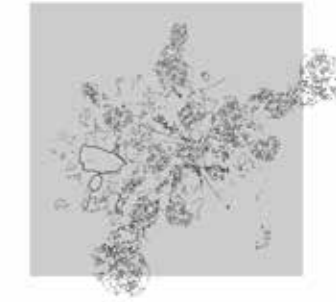
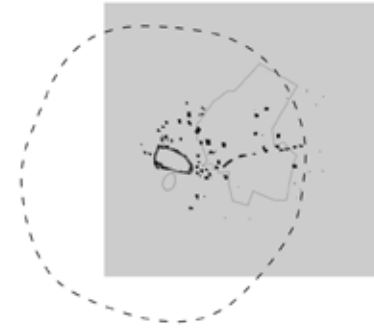
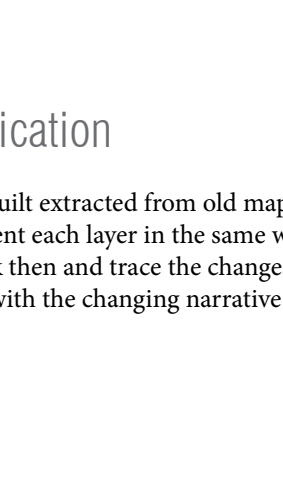
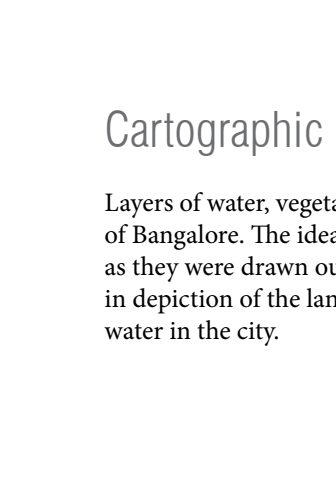
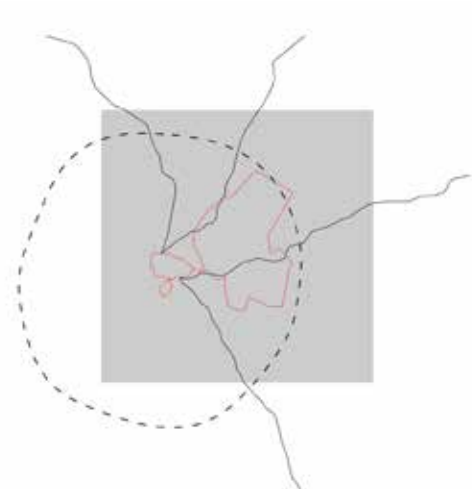
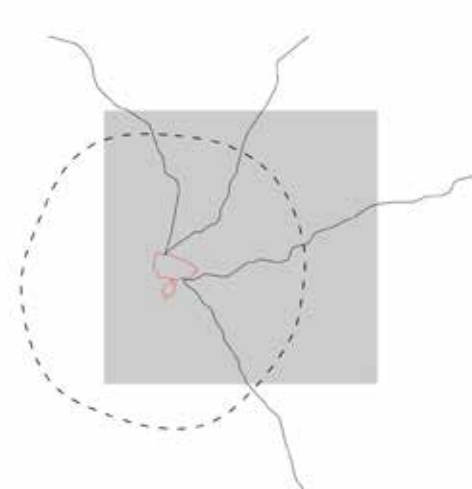
2 Deccan Traverses, Mathur / Da Cunha

3,5 Wikimedia commons

water tanks



vegetation

road networks and
the built boundaries

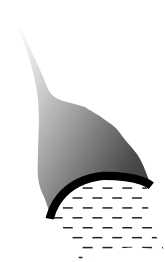
Cartographic Communication

Layers of water, vegetation and the built extracted from old maps of Bangalore. The idea was to represent each layer in the same way as they were drawn out in maps back then and trace the changes in depiction of the landscape along with the changing narrative of water in the city.

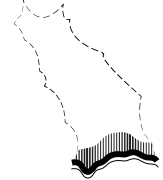
1830s



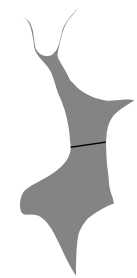
1890s



1920s



1970s

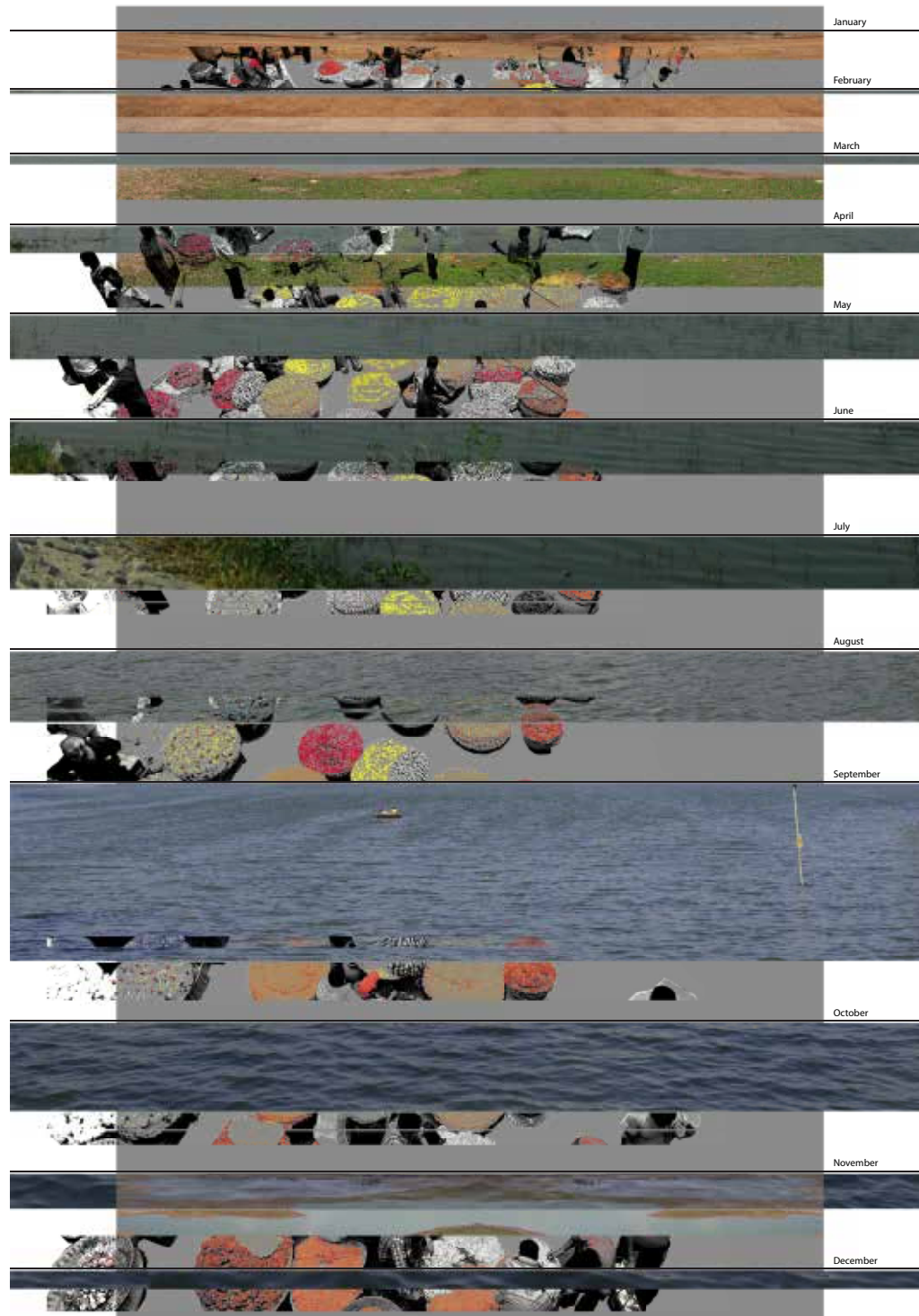


2010s



Depiction of the Tanks through time

The tanks were depicted by surveyors in 1791 with clear distinctions between bunds and the water flows. Over the years, the representation of bunds has disappeared and is instead replaced by definite boundaries around the tank. These tanks were generally rendered blue giving a false impression of a perennial “lake” rather than seasonal surface flows of material (water, silt, clay, etc).



Inscribing the Bangalore maidan

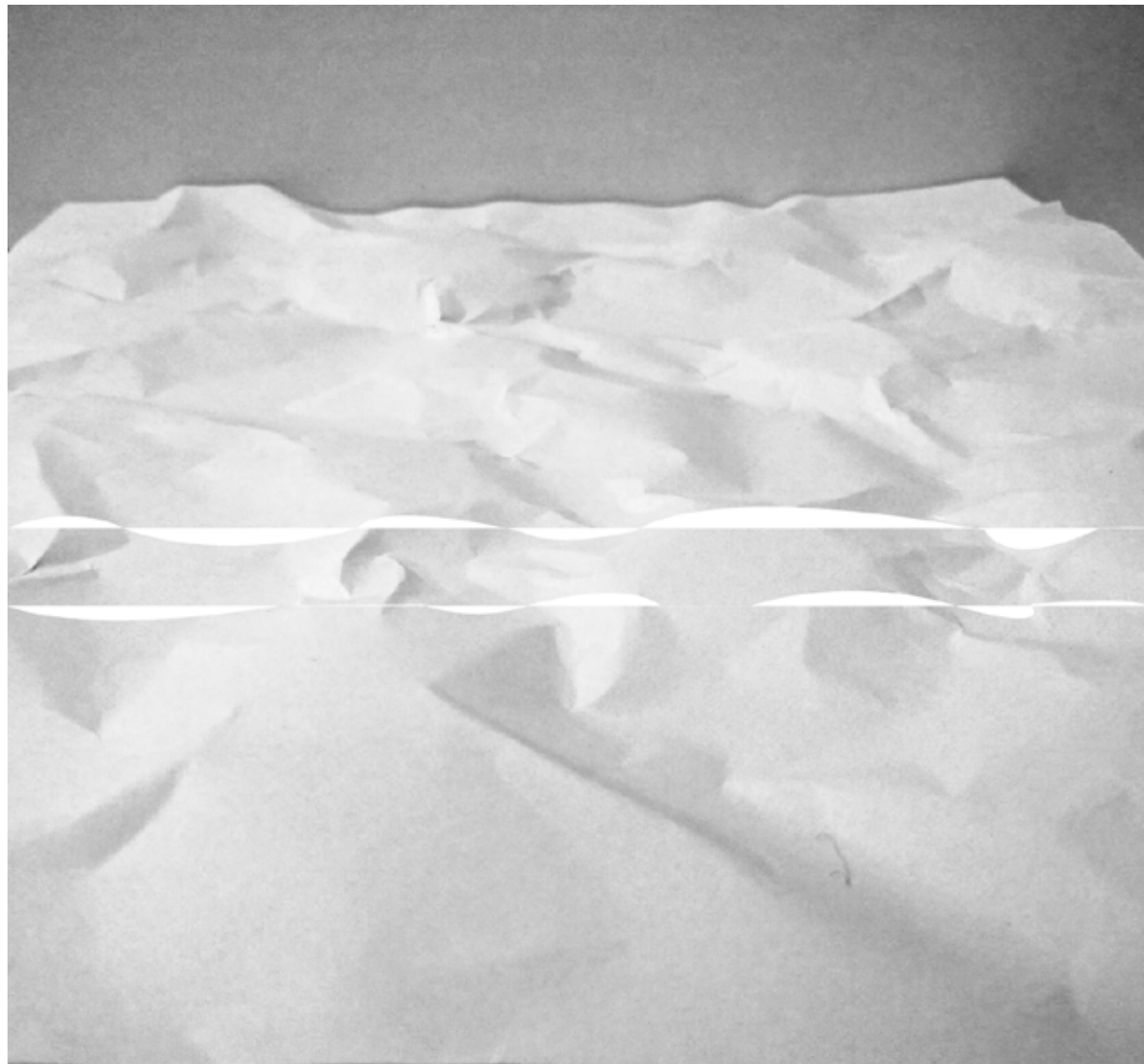
“The word maidan belongs less with the nomadic sensibility of the Persian heritage of the word and more with an ambitious European project: the portrayal of the Indian subcontinent as a spatially articulate terrain.

What surveyors take for granted is the bounded nature of ‘things’ in order to facilitate their presentation in maps.”

It is a cultivated literacy and is difficult to shake off the surveyor’s delineations; indeed the surveyor’s imagination that is so embedded in the field and vocabulary of design.”

Gandhi’s assemblies on the Sabarmati, out of convenience perhaps, but also to evade authorities who discouraged him from using public spaces in the city, suggest that the maidan is not there to be described as much as there when initiated.”

“This translation of the maidan as a name with a propensity for durations and extensions belongs in a landscape where names do not signify objects in a land exhausted by categories of use and spatial demarcations as much as a multiplicity of terrains and possible initiations.”



Terrain 1

“Just beneath the surface initiated by Lambton, however, is a Bangalore that would continue to anchor terrains that resist the surveyor’s surface.”

– Mathur and Da Cunha: In Depth, Inscribing the Indian Landscape

Concavities and convexities
Low grounds and high grounds



Terrain 2

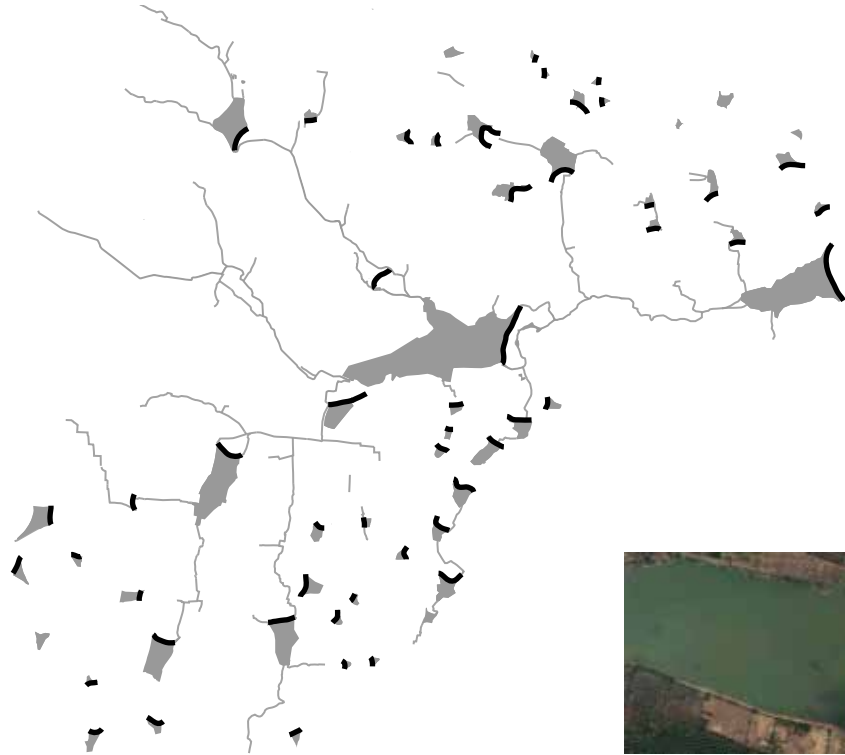
“Translated from its Kannada roots as tank, kere resists the isolation that has allowed tanks to be made into scenic lakes. It refers instead to a terrain initiated in the construction of a bund – an earthen embankment – and extended by run-offs.

When waters recede in the kere following the end of the rains, plants are accommodated and clay and silt are harvested.

the kere does not appear anything like the water bodies or lakes that people often expect to see in the ‘tank’ today.”

– Mathur and Da Cunha: In Depth, Inscribing the Indian Landscape

“Tanks appear as lakes only during a certain period of the year”



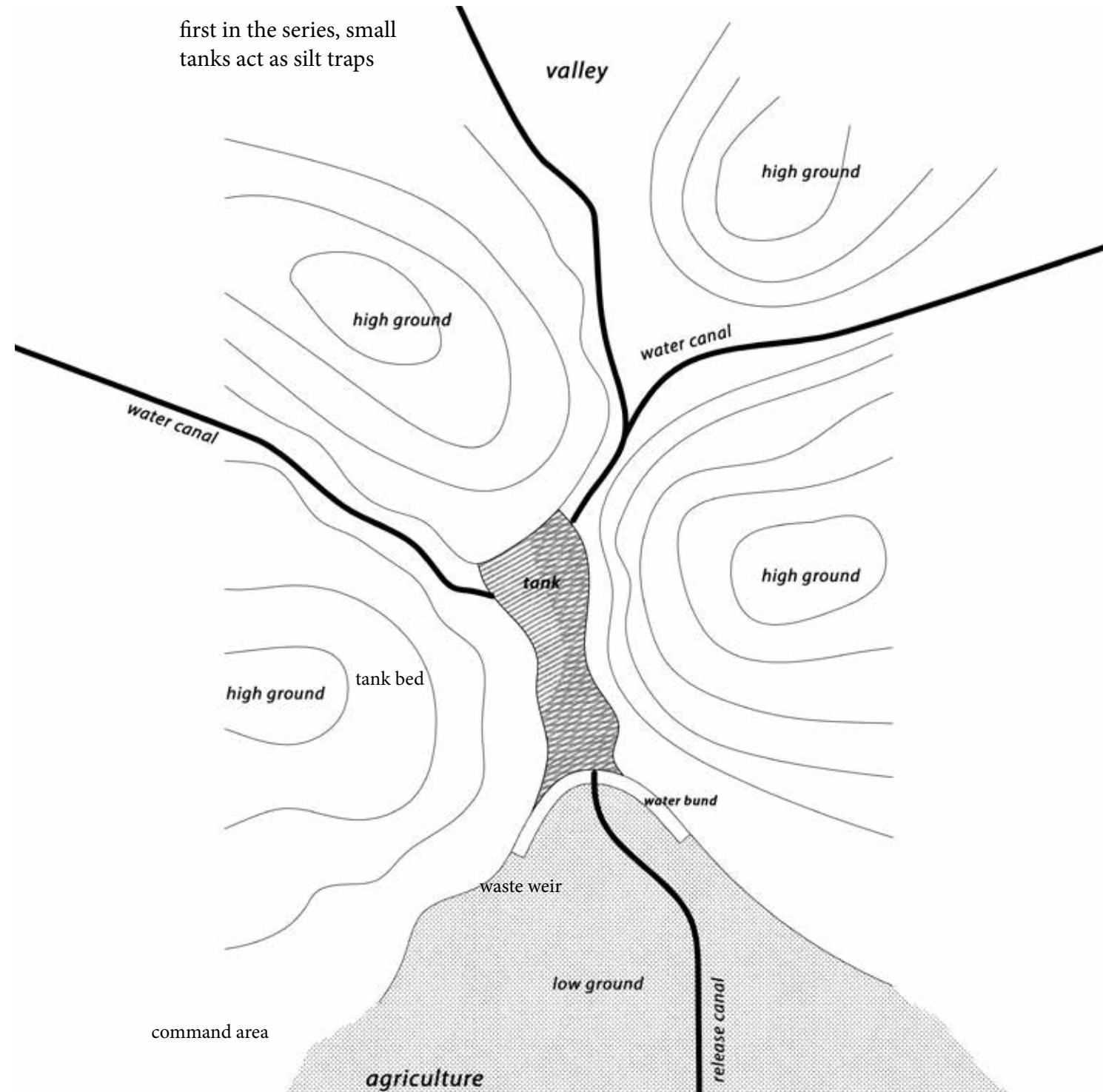
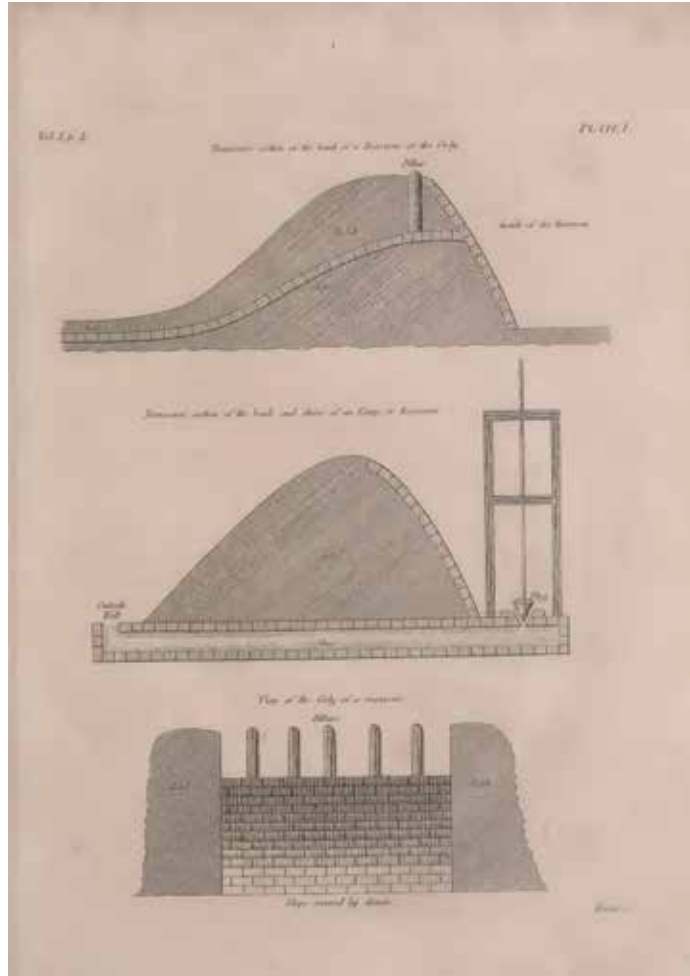
The engineering of the tank pertains to the positioning of the bund (embankment).
 Landscape as the first act of settlement
 The bund became the tool to situate habitation in the landscape.



Construction of a tank

The first documenttion of the tanks and bund was by Francis Buchnan, a Scottish surveyor, botanist surgeon with the East India Company.

There has been no documentation or records by the locals who built the tank.





Terrain 2

“Bangalore’s reputation as a Garden City developed largely as a result of its many parks, lakes, trees, tree-lined avenues and gardens, but also because of a botanical and horticultural enterprise at its centre: Lalbagh. These gardens were taken over by the British in 1800 to cultivate plants for troops, and also to anchor and generate flows of useful and exotic plants across the world. They continue to operate on an open terrain inscribed by global trajectories of plant movements and local trajectories of cultivation.

Many of these flowers remain in movement in women’s hair and on deities in vehicles. This terrain is only momentarily contiguous, operating by diverse and emergent calendars of festivals, by walks in a market that are dictated by the daily settlement of vendors, by acts of bargaining, and by the contingencies of a largely unpredictable infrastructure.”

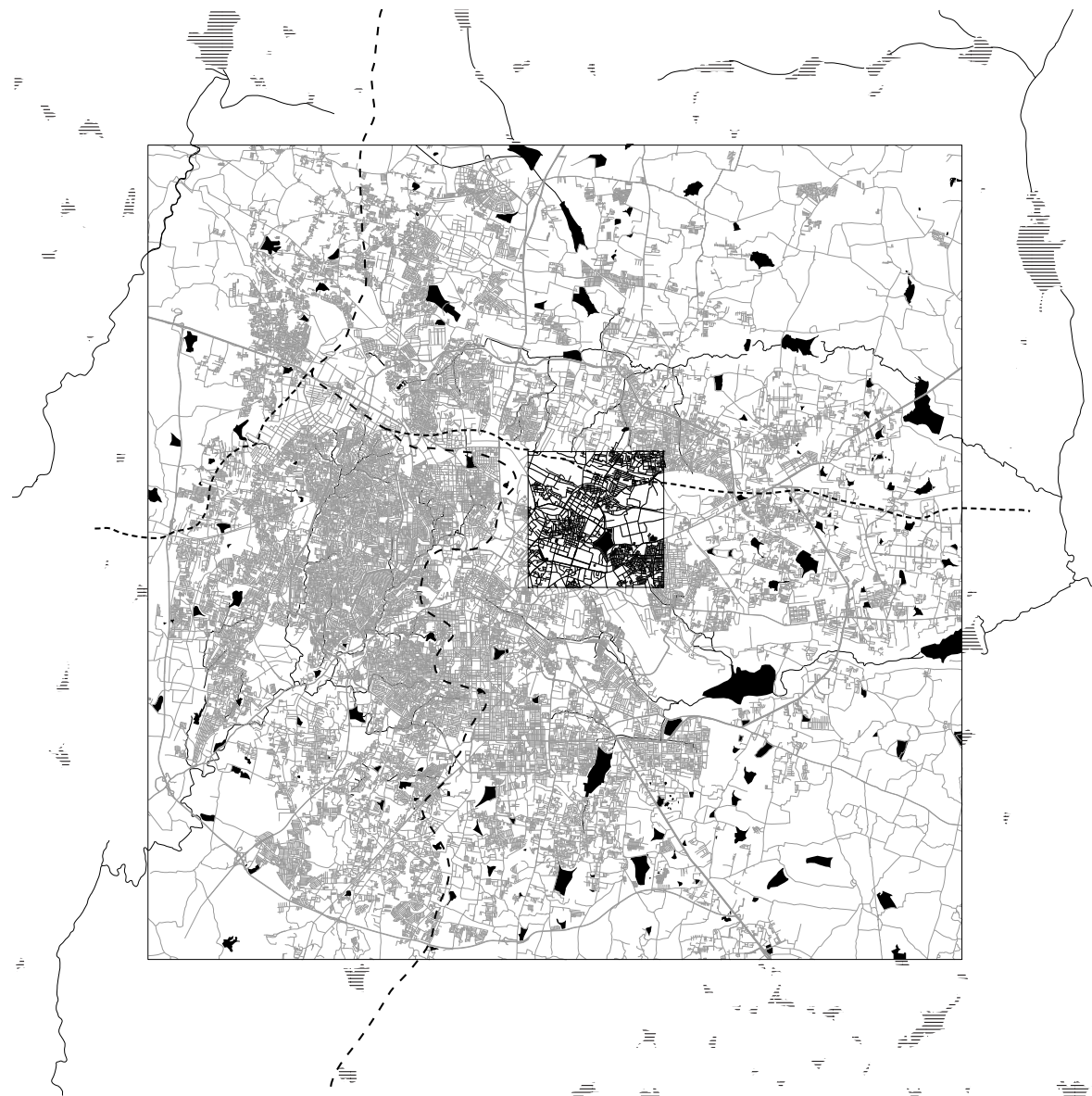
– Mathur and Da Cunha: In Depth, Inscripting the Indian Landscape



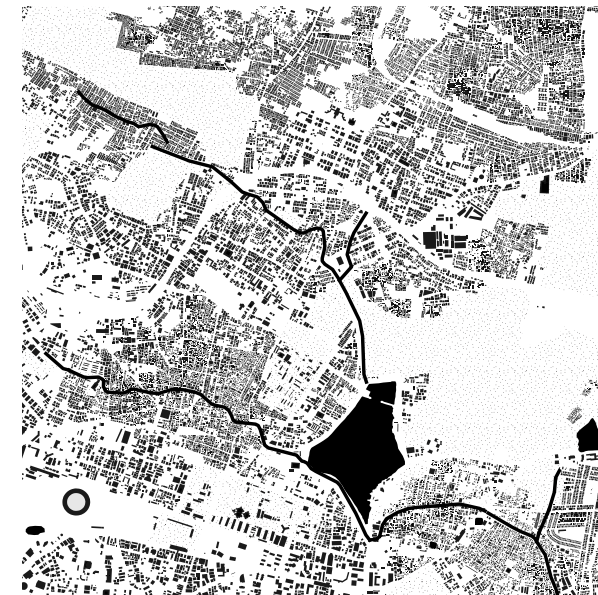
July (wettest month)

Feb (driest month)



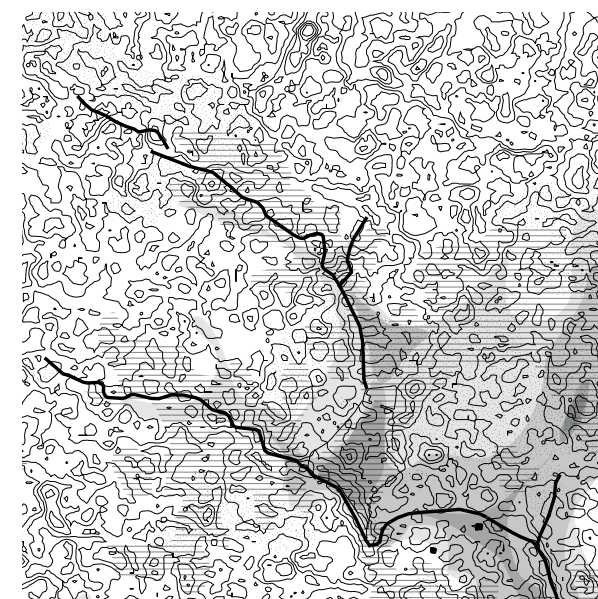


Bangalore and its tank systems

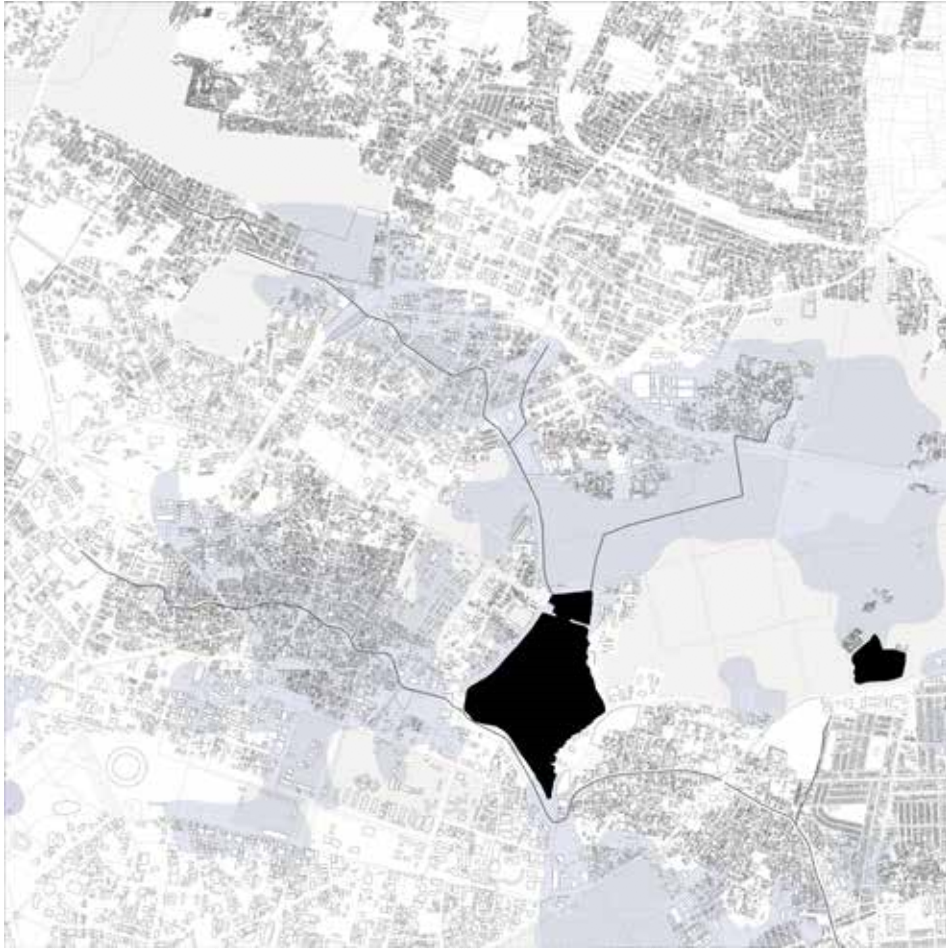


Urban

Ulsoor tank was one of the early and only surviving tanks built by the founders of Bangalore. The first British military station was set up on the high ground beside it and the tank was then used to supply water to the cantonment. Over time, some parts of the tank systems got reduced to the sewage system of the city. Ulsoor tank, an upstream tank in the catchment, has been undergoing massive cleaning actions to restore it to what the city now expects, which is- a lake.



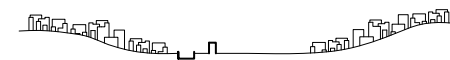
Water flow and topography

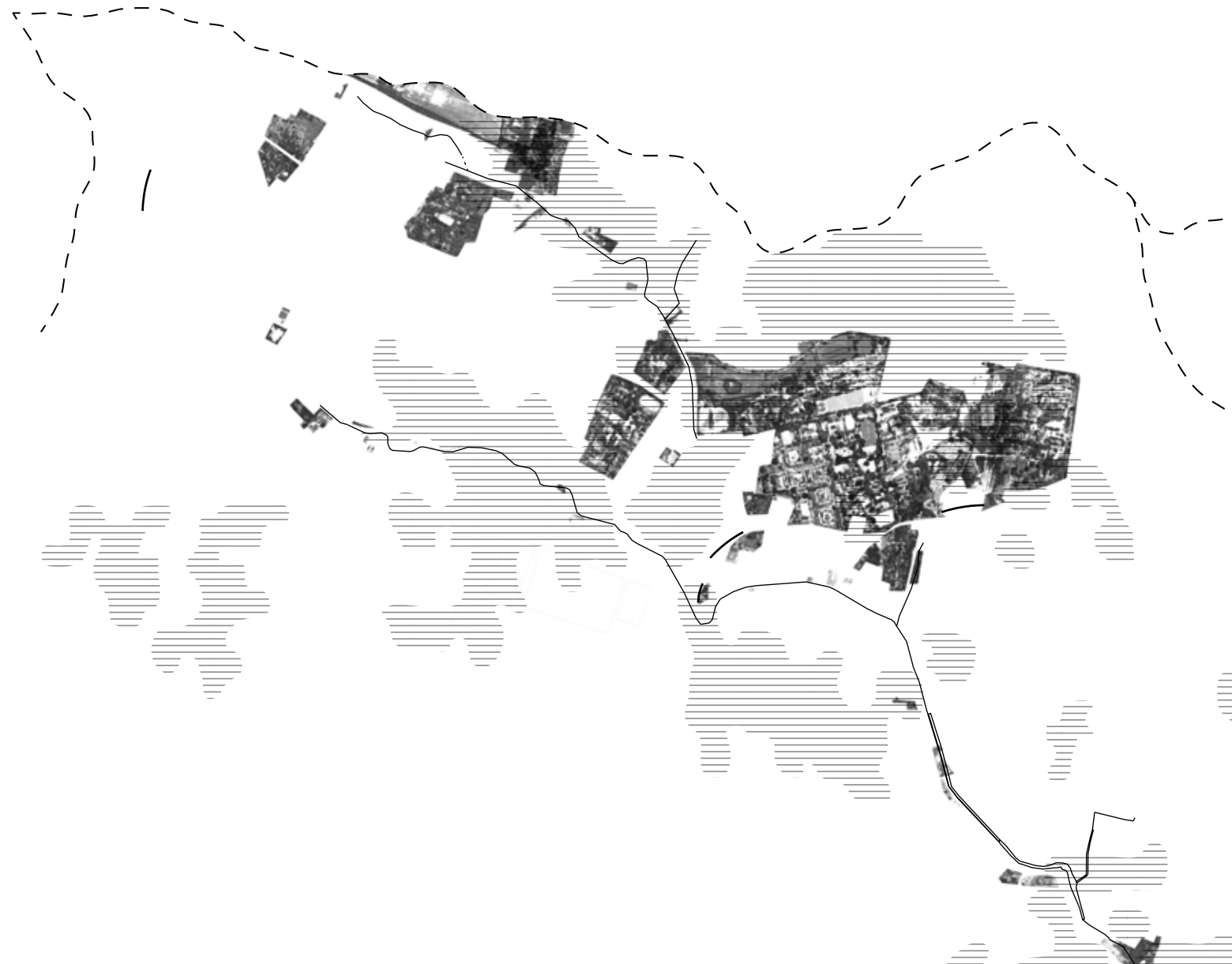


Water inundation around the tank and its supply channels/drains

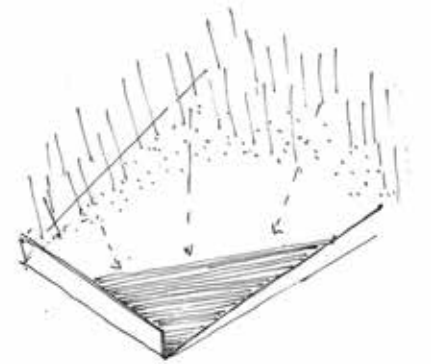
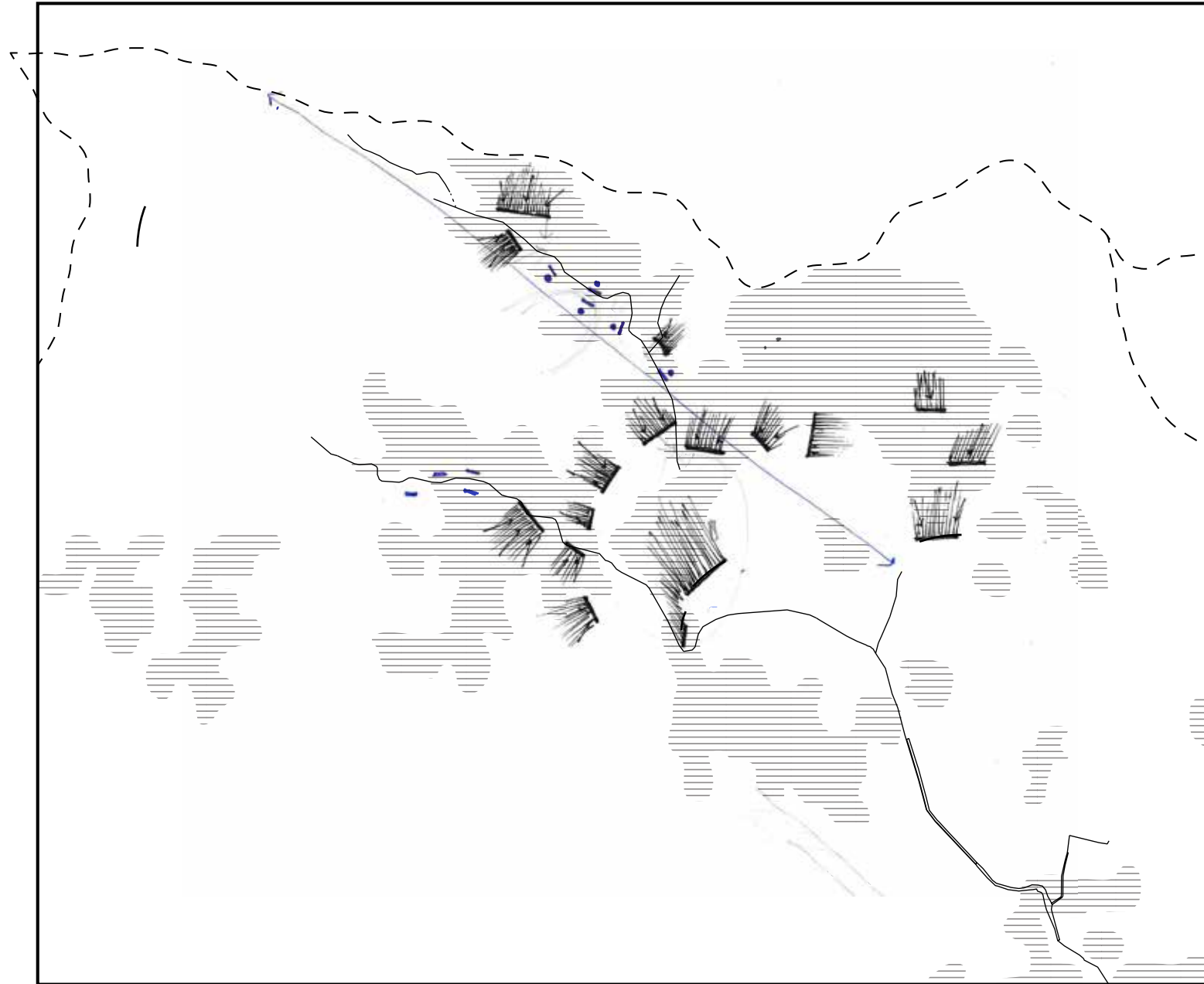


The strategy is to use flooding as a mechanism to retain water in the available open spaces before it flows into the drains to get dirty. For this “neo- bunds” are situated at locations to gather water and accomodate different practices that generate and facilitate local economies. A pilot project site has been chosen to demonstrate the above.

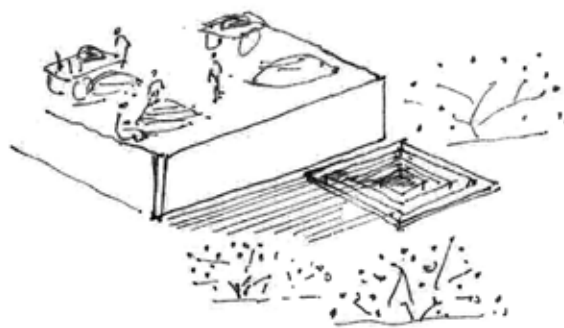
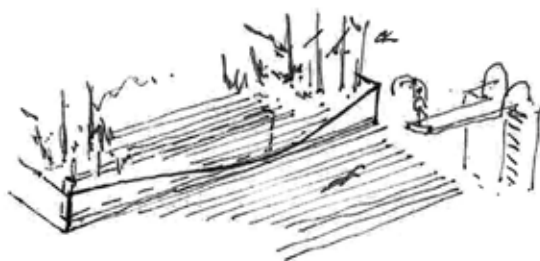
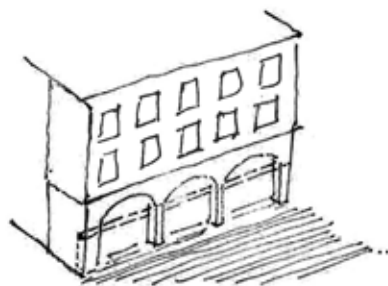
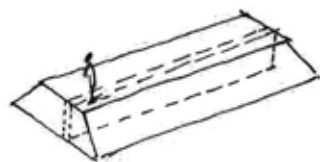




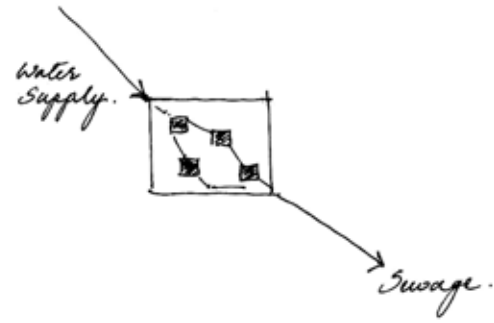
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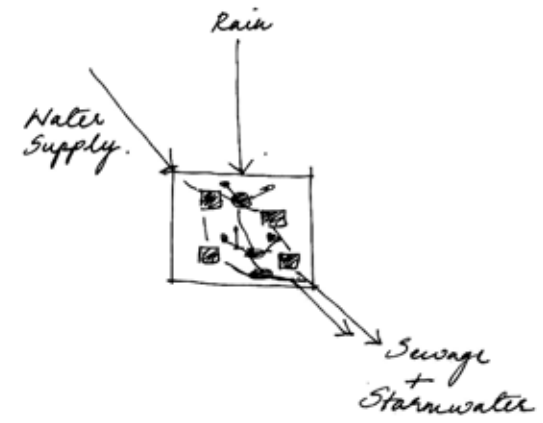
Bund defining the “neo-lowground”
A line that holds and gathers activities
or ephemeral landscape practices.







Perennial flow



Seasonal flow

