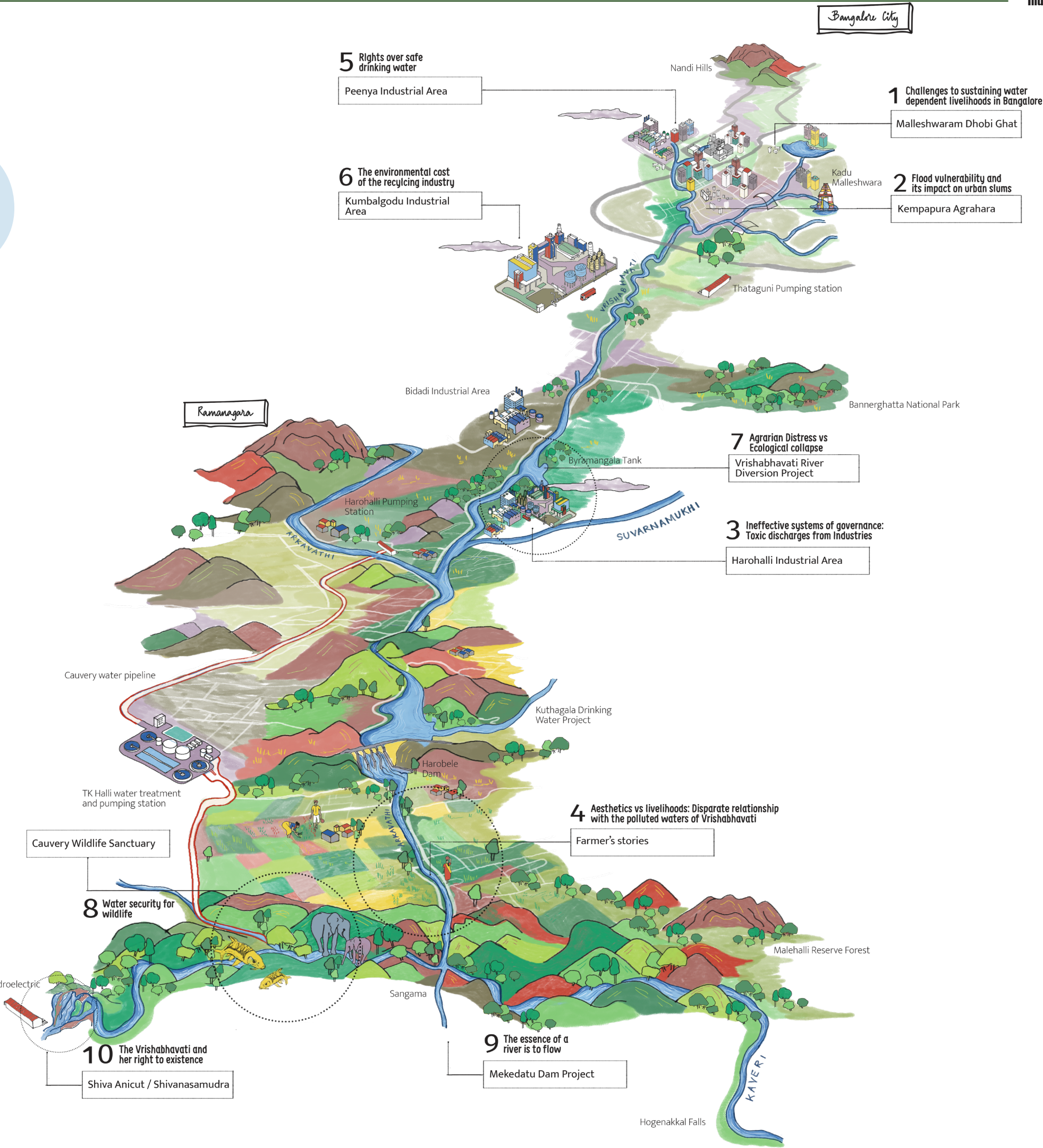# Whose river is it anyway?

Documenting memories of an urban river

Kadambari Komandur, Namrata Narendra, Megha Kashyap

The Vrishabhavathi river runs through the south-western parts of Bengaluru and Ramanagara district for about 69 km. With a catchment area of 170 sq-km, Vrishabhavathi carries the toxic wastewater of one-third of Bengaluru. Flanked by large industrial areas in Peenya, Yeshwanthpur, Kumbalgodu, Bidadi and Harohalli, it meanders past dense residential neighbourhoods, prestigious institutions, shopping malls, temples and farmlands before emptying itself into the Arkavathy river. As it passes close to national parks, this polluted wastewater becomes wildlife's drinking water source. The Vrishabhavathi then feeds into the Arkavathy near Kanakapura town.

This river has been designated as 'critically polluted' by the pollution control board. Polluted natural systems like these are usually very difficult to conserve. The Vrishabhavathi and its catchment have over time been overwritten and polluted. With the provision of piped water supply from the Kaveri, the idea of the river as a holistic system, has all but receded from public memory. The situation is made more complex by the diversity of people impacted, many of whom go by unseen. For instance, the larger impact of upstream apathy is felt by farmers downstream. Here, water stresses and the contamination of agricultural lands result in livelihood disruption and health concerns. Furthermore, the loss of natural resources has sidelined scores of resource dependent urban communities like potters and dhobis. Added to this is the stress that this degradation is causing to resident biodiversity, in the lower reaches of the river.

Bangalore City

5 Rights over safe drinking water
Peenya Industrial Area

1 Challenges to sustaining water dependent livelihoods in Bangalore
Malleshwaram Dhobi Ghat

Nandi Hills

Kadu Malleshwara

2 Flood vulnerability and its impact on urban slums
Kempapura Agrahara

6 The environmental cost of the recycling industry
Kumbalgodu Industrial Area

Thataguni Pumping station

Bidadi Industrial Area

Bannerghatta National Park

Ramanagara

Byramangala Tank

7 Agrarian Distress vs Ecological collapse
Vrishabhavati River Diversion Project

Harohalli Pumping Station

SUVARNAMUKHI

3 Ineffective systems of governance: Toxic discharges from Industries
Harohalli Industrial Area

ARKAVATHI

Cauvery water pipeline

Kuthagala Drinking Water Project

Harobele Dam

4 Aesthetics vs livelihoods: Disparate relationship with the polluted waters of Vrishabhavati
Farmer's stories

TK Halli water treatment and pumping station

Cauvery Wildlife Sanctuary

8 Water security for wildlife

Malehalli Reserve Forest

Shimsha Hydroelectric Station

Sangama

10 The Vrishabhavati and her right to existence
Shiva Anicut / Shivanasamudra

9 The essence of a river is to flow
Mekedatu Dam Project

KAVERI

Hogenakkal Falls

Livelihoods, water and its governance
A case of Dhobi Ghat

The ghat as it exists today, is an impressive local industry, with over 400 dhobis washing clothes or running small dry clean businesses. In this ghat, water is a critical resource, managed through fairly effective communal systems. With a local union structure that takes decisions on matters of community resources and governance, the ghat is a case study in the success of the urban commons.
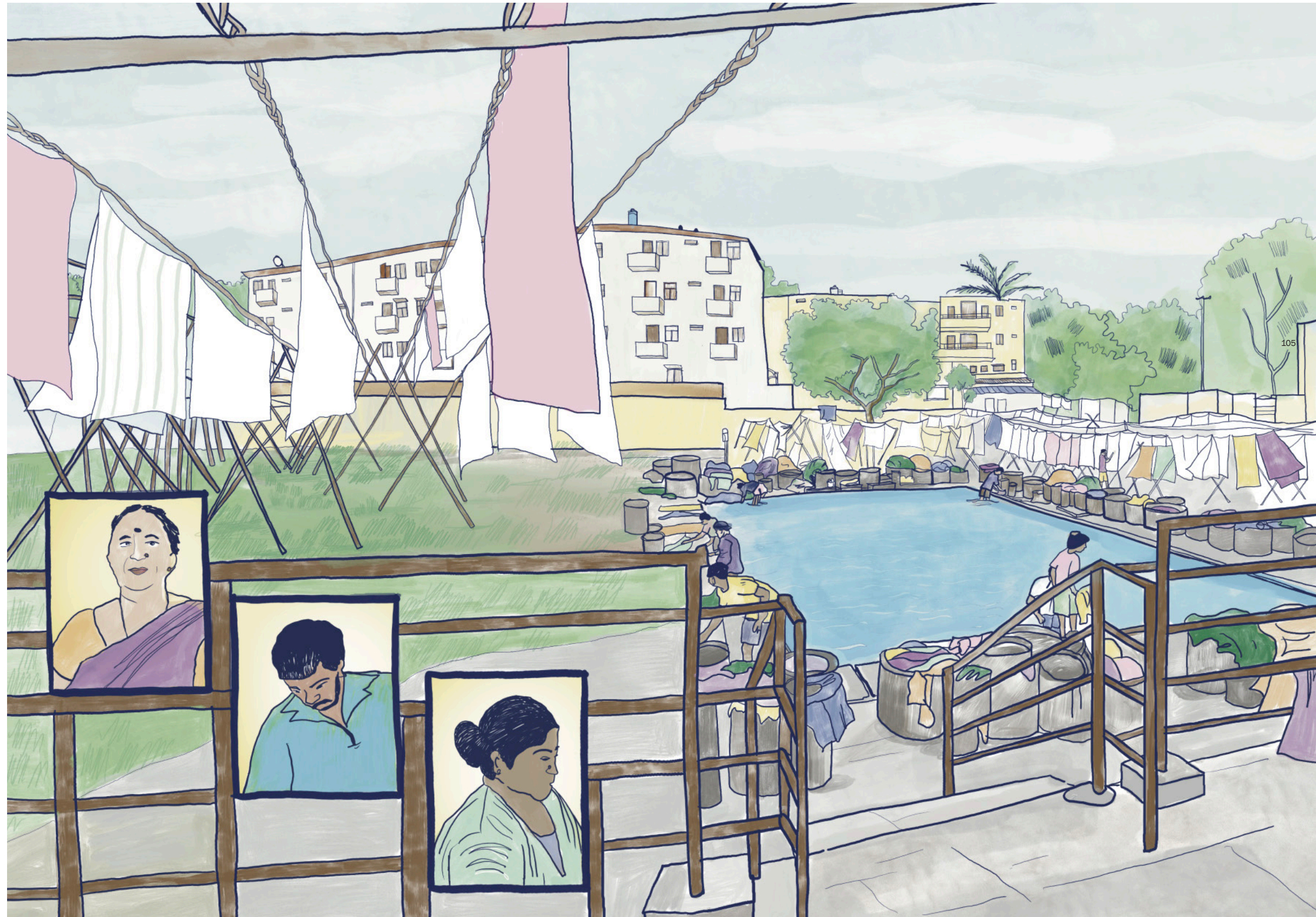
These disparate groups are rarely represented together, making it extremely difficult to understand the complexity of the river. To begin a conversation for conservation, it is imperative for people to understand their individual roles. For the polluters, this means understanding the implication of their activities, which will only come with a comprehension of ground realities. For the marginalised communities, it would mean understanding the causes, as well as their rights and capacities. Saving the Vrishabhavathi is therefore a momentous task, requiring one to see multiple natural, social, cultural and political forces. Few people are able to see these connections, largely because there is no cohesive, people-centric narrative.

Through this storytelling initiative, we hope to uncover stories about the river and its significance that are orally preserved by diverse communities all across Bengaluru and in the downstream areas.

The Malleswaram Dhobi ghat, speculated to be over 85 years old, is situated at the origin of the Vrishabhavathi catchment. It grew organically along the banks of Sankey Tank to serve the needs of nearby residential areas.
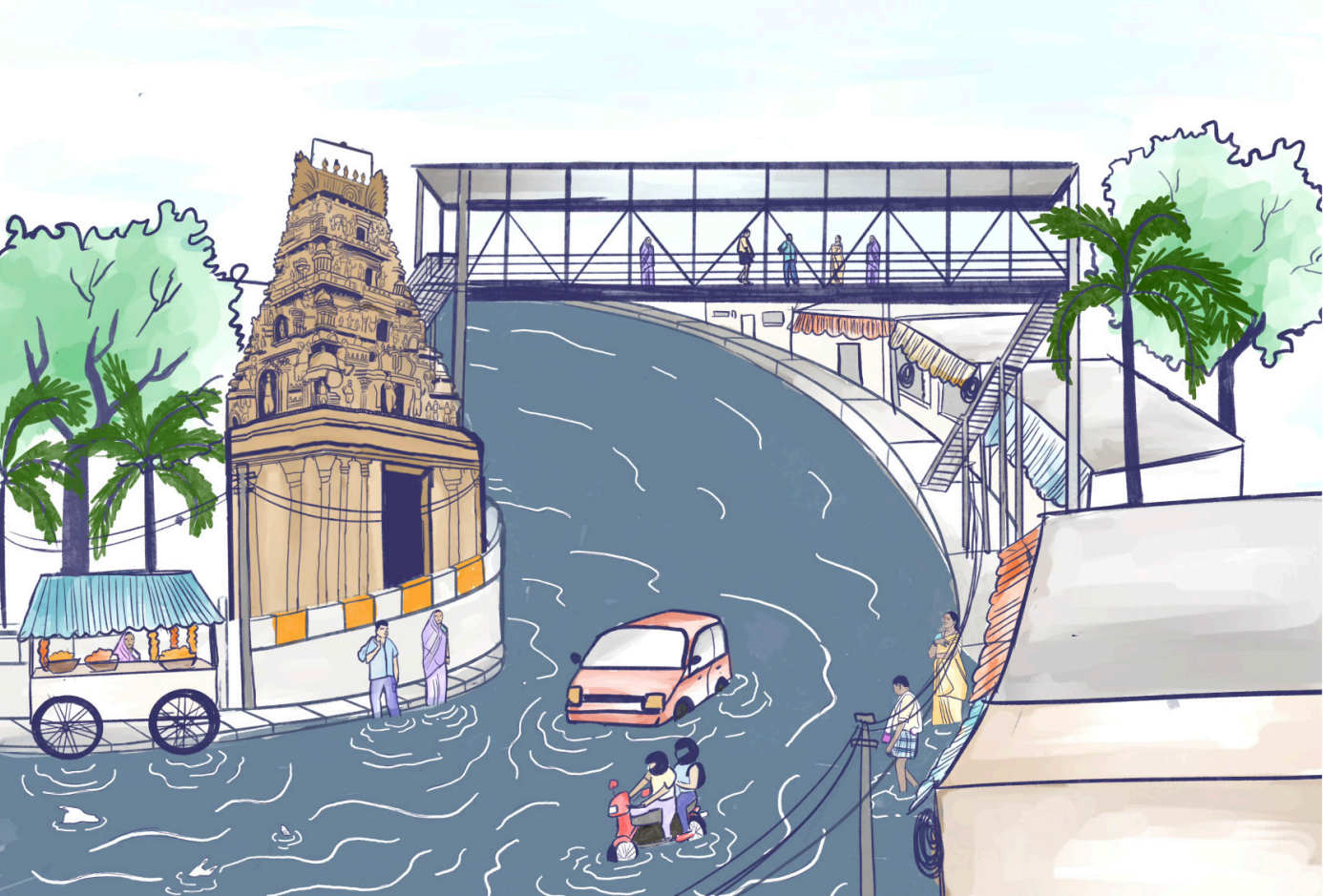
The ghat has a strong relationship with water, both individually and collectively and both ground and rainwater. Politicisation and gentrification over the years has had a massive impact on access to water for the workers in the Dhobi Ghat. This is a story of local resilience, aspiration and industry. In saying so, it is also a reflection on the efficacy of top down resource management visions, especially when contrasted with more bottom up governance systems.
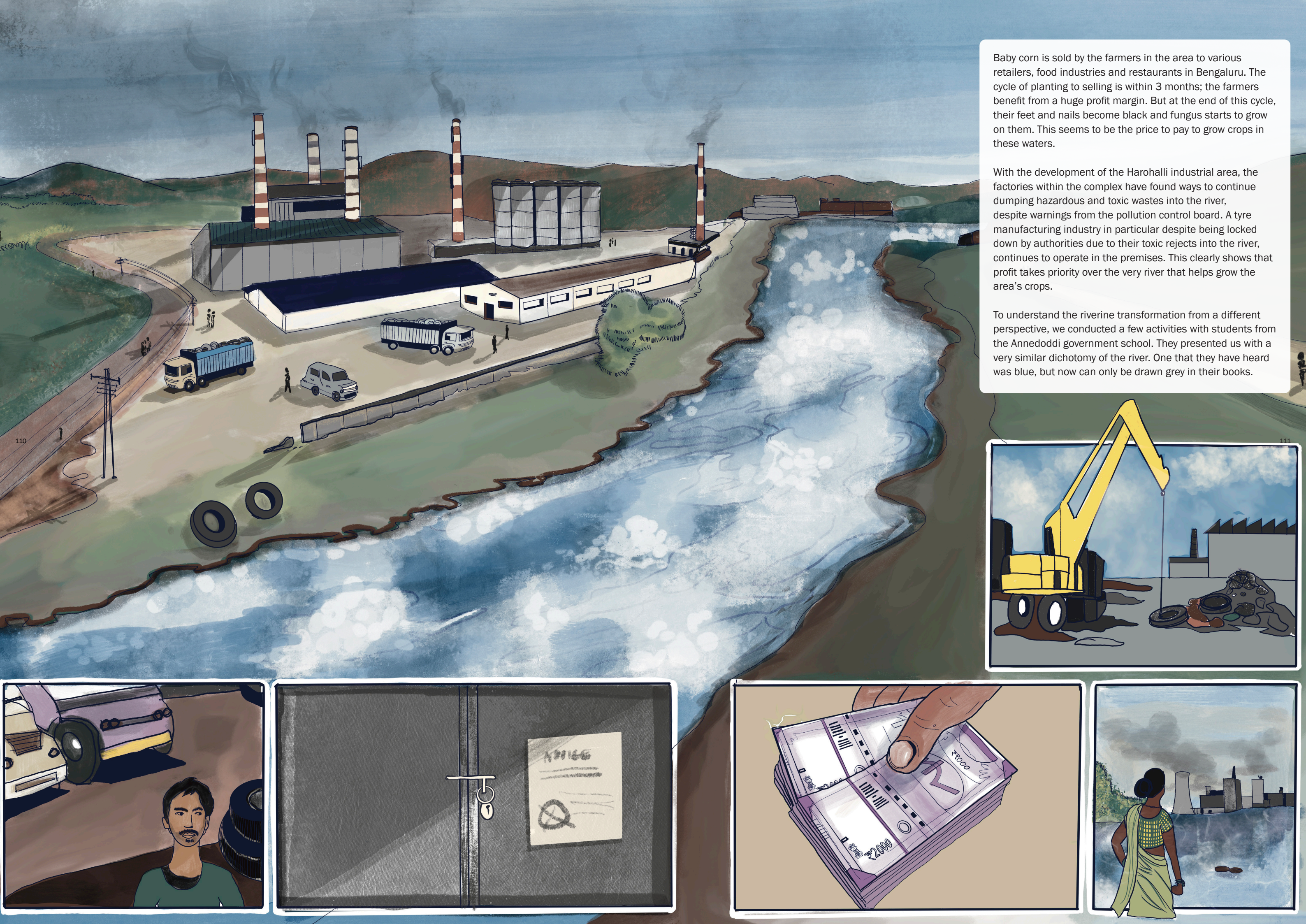
Consistent conversation with the shop owners and vendors are beginning to reveal a disjunction in planning and citizen benefit, with development tending to envision a better future rather than a liveable present.

Pollution for profit?

A case of the market at Gali Anjaneya Temple Economics of degrading water quality : A case of agricultural practices and childrens' perspectives in Harohalli, Byramangala and Annedoddi villages

Sweeping the water back
A case of the market at Gali Anjaneya Temple

"I have to close the shop and sweep the water back onto the streets. Since I sell food, none of the merchandise is recoverable, resulting in significant losses. This happens every year, and there's no way to prevent it. The land owner had to reconstruct the shop at a higher level to avoid water entry, but with the increasing waste disposal, more water flows onto the streets each year", said Mrs. Nagamma, an owner of a tea stall near the temple.

With every passing year, the rains are becoming more unpredictable, both in their quantity and their frequency. This has severely impacted the area around the Gali Anjaneya temple which is located right by the river. New construction in the form of highway pillars, metro pillars, white topped roads are adding debris and waste every single day leading to a rise in water level even during a small shower.

Adding to the challenge of ensuring there is enough funds to fix the damage incurred by the floods, the shopkeepers and vendors also have to be careful of the water entering their shops. What was earlier just sewage, is now also mixed with industrial effluents which cause more harm since the shops sell food amongst other things.

Baby corn is sold by the farmers in the area to various retailers, food industries and restaurants in Bengaluru. The cycle of planting to selling is within 3 months; the farmers benefit from a huge profit margin. But at the end of this cycle, their feet and nails become black and fungus starts to grow on them. This seems to be the price to pay to grow crops in these waters.

With the development of the Harohalli industrial area, the factories within the complex have found ways to continue dumping hazardous and toxic wastes into the river, despite warnings from the pollution control board. A tyre manufacturing industry in particular despite being locked down by authorities due to their toxic rejects into the river, continues to operate in the premises. This clearly shows that profit takes priority over the very river that helps grow the area's crops.

To understand the riverine transformation from a different perspective, we conducted a few activities with students from the Annedoddi government school. They presented us with a very similar dichotomy of the river. One that they have heard was blue, but now can only be drawn grey in their books.
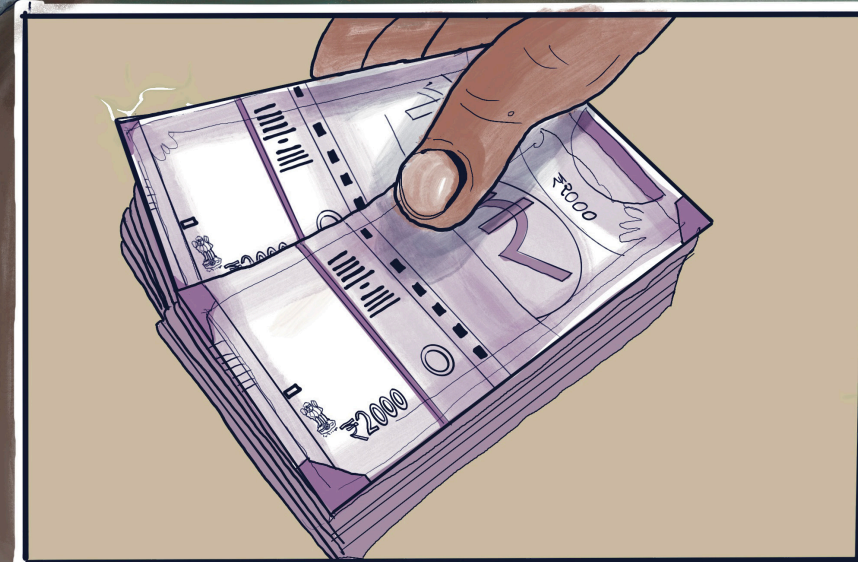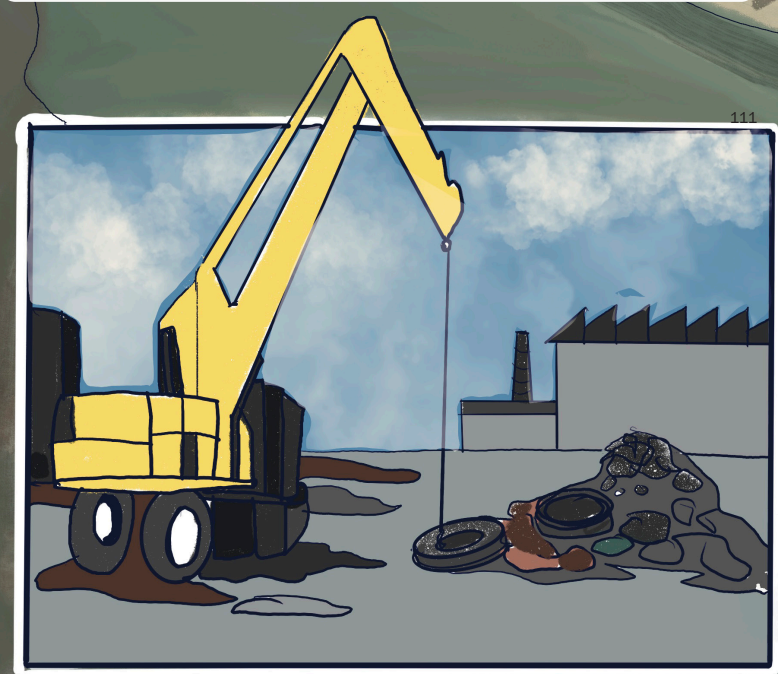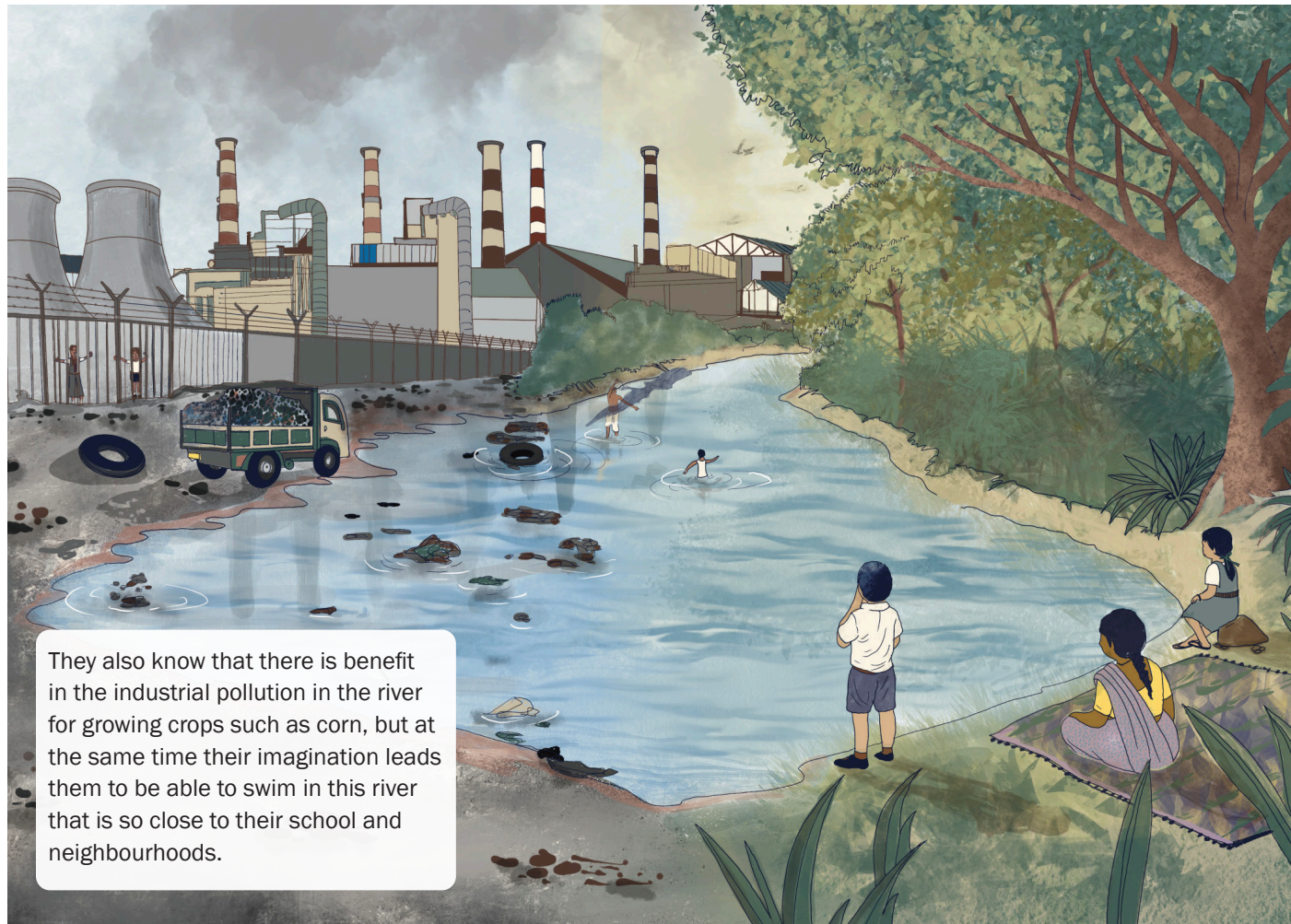
They also know that there is benefit in the industrial pollution in the river for growing crops such as corn, but at the same time their imagination leads them to be able to swim in this river that is so close to their school and neighbourhoods.
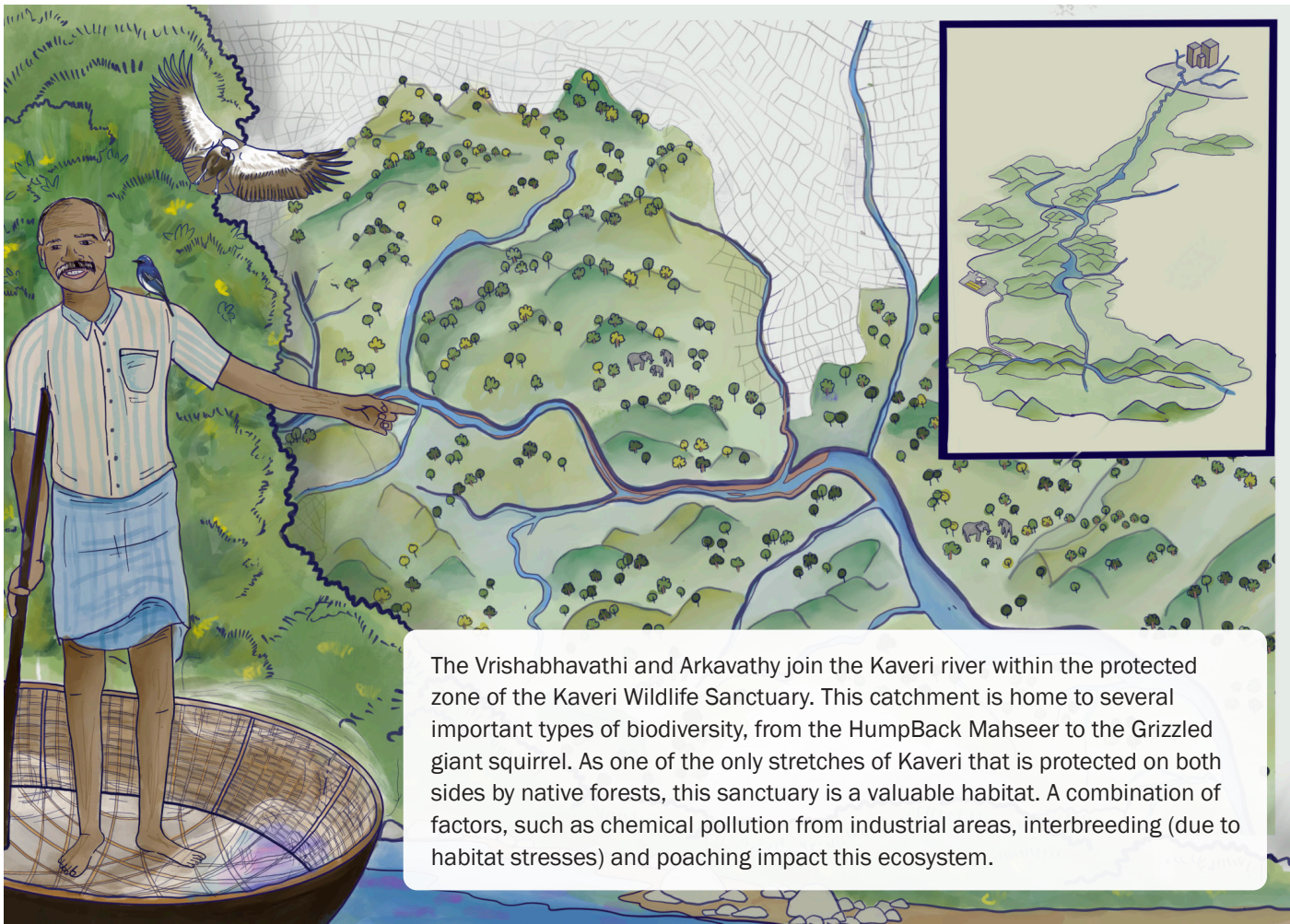
The Vrishabhavathi and Arkavathy join the Kaveri river within the protected zone of the Kaveri Wildlife Sanctuary. This catchment is home to several important types of biodiversity, from the HumpBack Mahseer to the Grizzled giant squirrel. As one of the only stretches of Kaveri that is protected on both sides by native forests, this sanctuary is a valuable habitat. A combination of factors, such as chemical pollution from industrial areas, interbreeding (due to habitat stresses) and poaching impact this ecosystem.
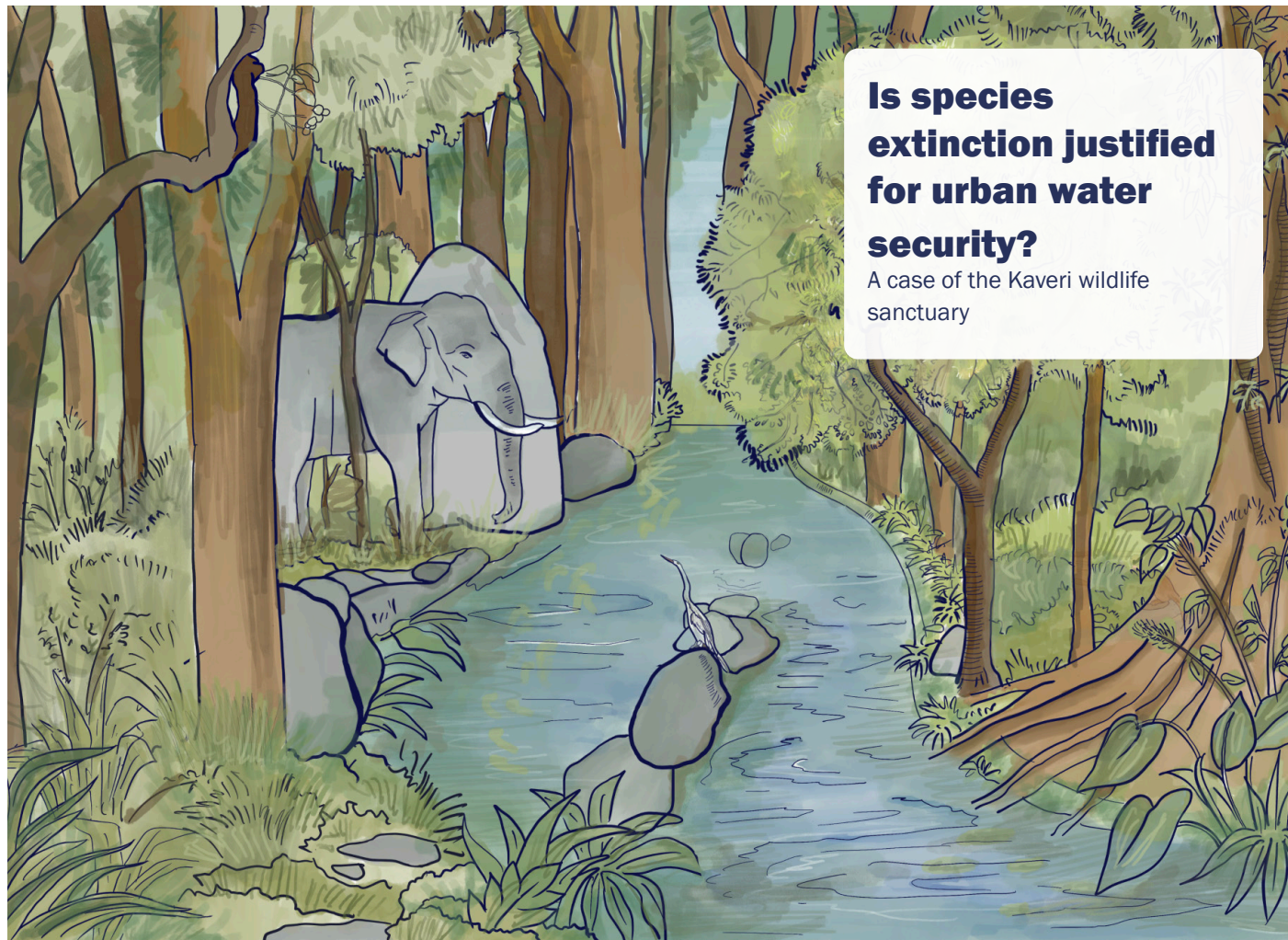
Is species extinction justified for urban water security?

A case of the Kaveri wildlife sanctuary
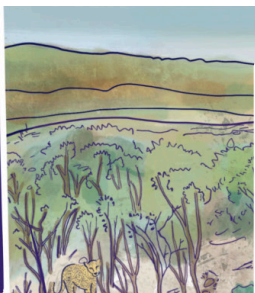
However, chief amongst these threats is the proposed Mekedatu dam, which will inundate this catchment and adversely impact biodiversity. For animals, like the elephant, the rise in water level can impact movement and ability to cross the river. Important tree species like the Holemathi (Terminalia Arjuna), which have formed along the river edge over centuries, will be completely destroyed. In addition to this, it will also displace locals, some of whom have lived in these forests for generations. There are also others who rebuilt their lives here in the 1940s, following the destruction of their original homes in the process of creating the Manchanabele reservoir.
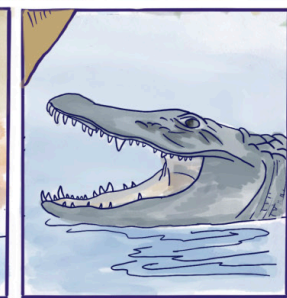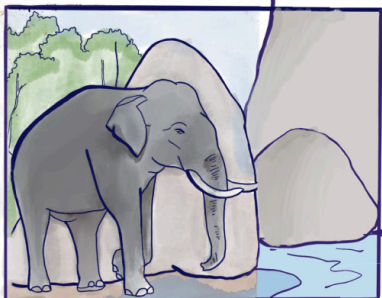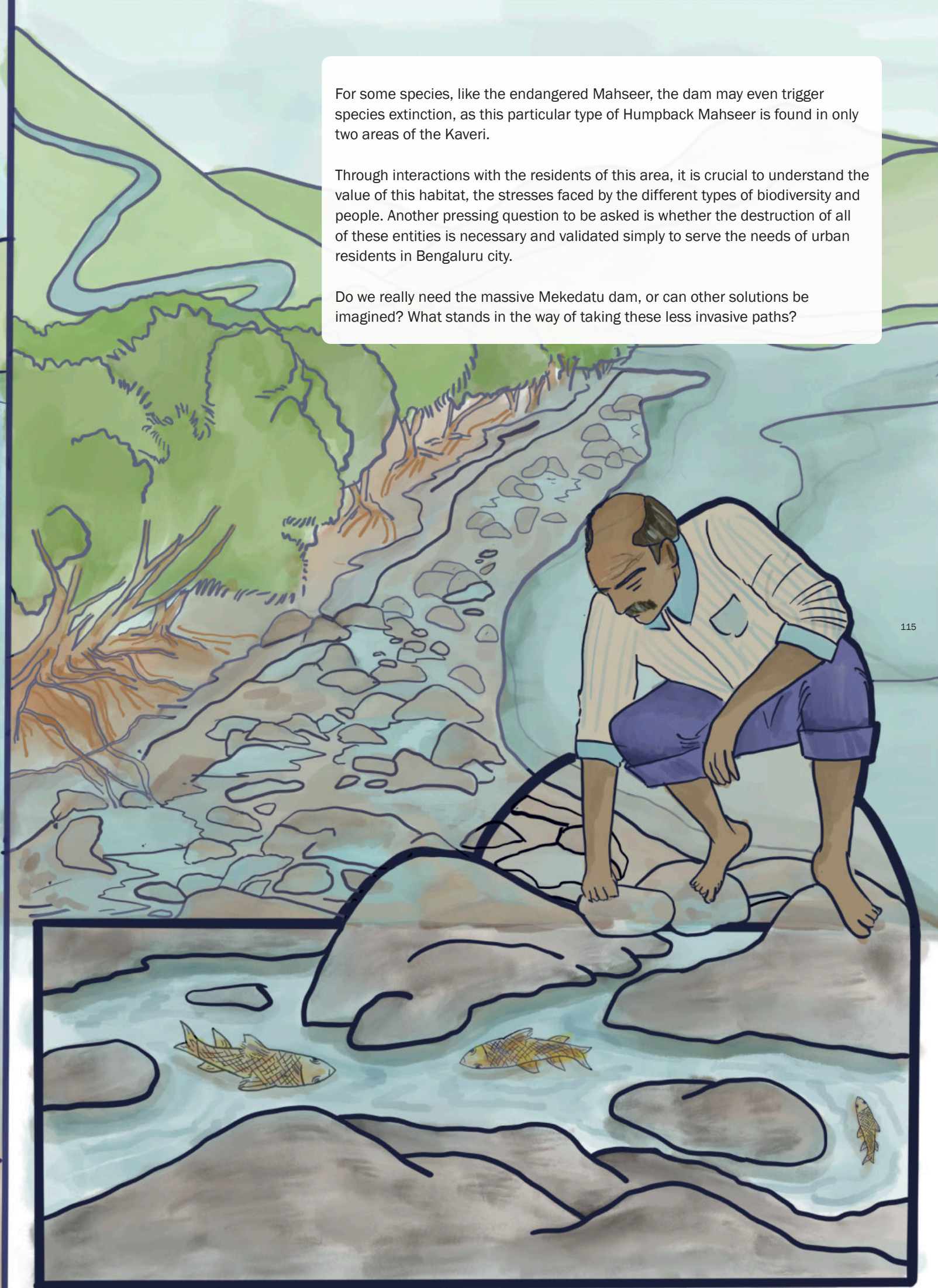
For some species, like the endangered Mahseer, the dam may even trigger species extinction, as this particular type of Humpback Mahseer is found in only two areas of the Kaveri.

Through interactions with the residents of this area, it is crucial to understand the value of this habitat, the stresses faced by the different types of biodiversity and people. Another pressing question to be asked is whether the destruction of all of these entities is necessary and validated simply to serve the needs of urban residents in Bengaluru city.

Do we really need the massive Mekedatu dam, or can other solutions be imagined? What stands in the way of taking these less invasive paths?

Our journey of discovery and creation

During the peak of the first COVID wave, in July 2020, we came across an article in the Times of India, with a picture of a comparatively clean Vrishabhavathi river. This was a period where the industries in Peenya were not functioning and therefore, not discharging effluents.

Our journey with the project began at this point, as a personal journey of understanding what we (as young architects, and citizen scientists) could do to raise awareness about the river. A combination of initial unsuccessful grant applications and personal career journeys have made progress slow. The project is now four years in the making. Over these years, we were fortunate to gain perspectives from others working in this space. We ourselves also grew as individuals and professionals, enabling us to tackle fairly complex issues with more empathy, than we would have four years ago. The project, which began with grand notions of building a cohesive digital repository of the river, was simplified to understanding how the river is used on ground, and who it impacts. As we are illustrators, the idea of creating a graphic novel took root.
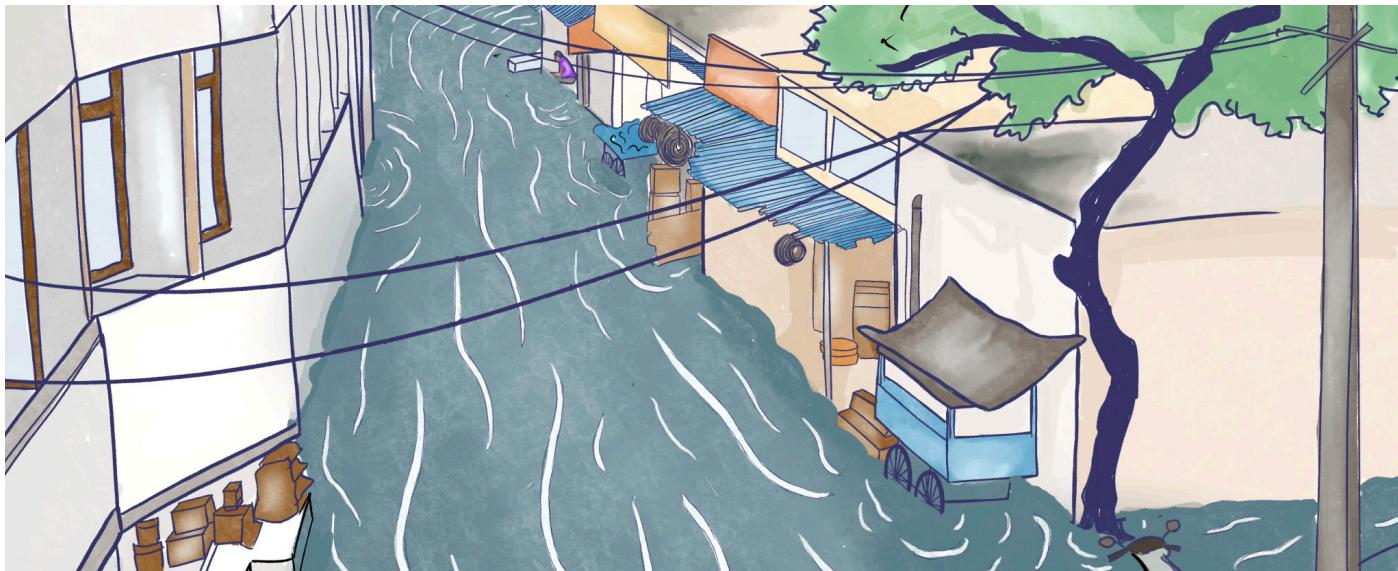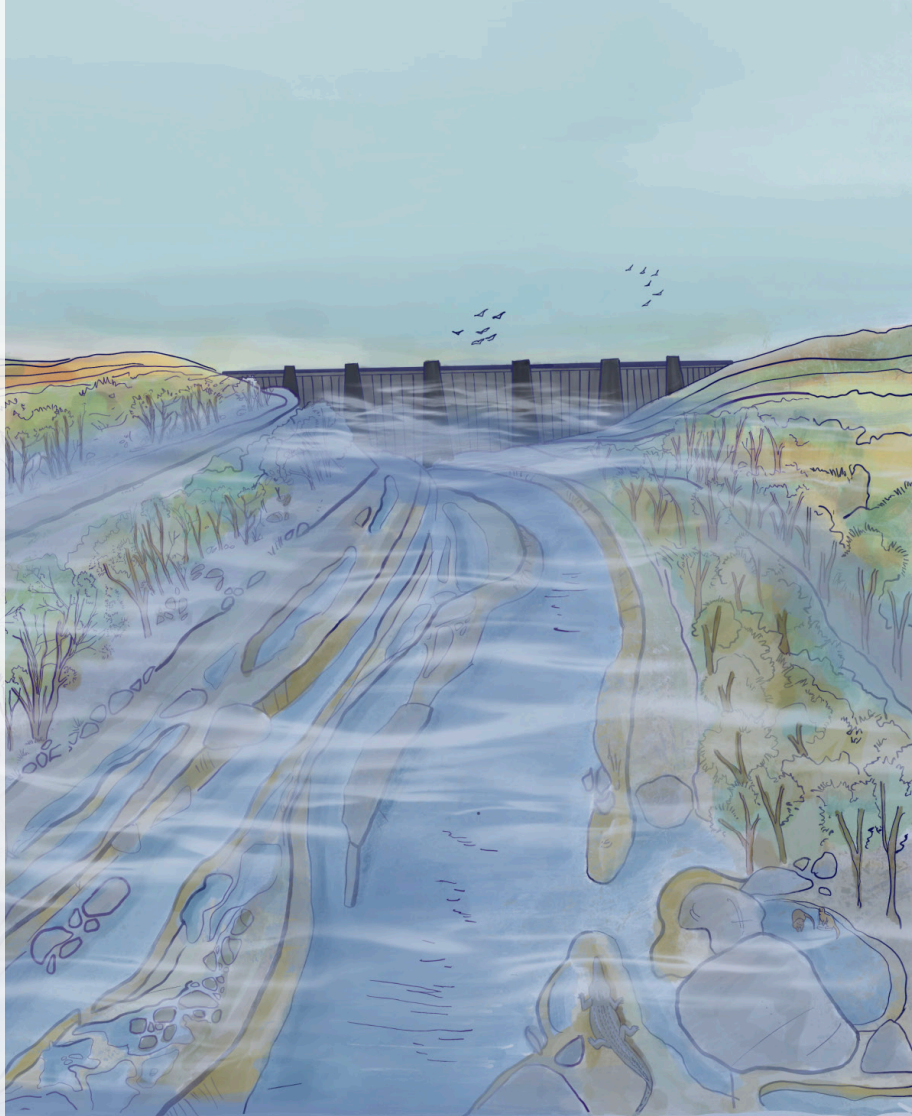
So each of our stories involved engagement with people using or associated with the river (Dhobi Ghat, school children in Anedoddi and the shopkeepers in Nayandahalli). In the case of the Dhobi Ghat and Nayandahalli for instance, we made visits to the Ghat to observe and document stories from different individuals. In Byramangala, we interviewed farmers, and later conducted a small drawing workshop with school children, to understand how they perceive the river.

Though enriching, these field visits and engagements had their own share of challenges. In the dhobi ghat for instance,

after creating the initial set of storyboards, we went back to the community to get their perspectives on the story, at their fortnightly union meeting. We presented the draft for the first time to the (male) leaders of the union, as well as to the women we had initially interviewed. Expecting interest and collaboration, we were instead met with confusion and distrust over the representation. While we have speculations on why we caused this reaction (our strong use of a female narrator, the nuances of local politics and the broader political narrative that we discuss), we have not been able to go back and work out this confusion.

However, the teachers at Byramangala showed interest in the drawings of stories from the dhobi ghat. They understood what we were trying to do, and were agreeable to involving their children in the process. While working with the children at Byramangala, we initially wanted to co-create some of the illustrations with the children, however limitations of time and resources made this difficult. The drawing workshop we conducted was brief, but enjoyable, with the awareness that greater engagement could lead to more sustained impact. We are yet to show the children the illustrations we have made for this book, but are hopeful that it resonates with them. In the case of the Kaveri story, we were presented with the challenge of

carefully representing a sensitive narrative of the state backed Mekedatu dam, against the potential for its mis-use. Throughout the project what is strikingly clear is that each of us engage with the river in different ways, whether it be through ignorance and apathy, or through everyday struggles to contain its flow or through finding ways to profit from it.

Overall, the project, its steps and mis-steps have been a journey of learning, on the field and otherwise. We aim to finish the graphic novel by the end of this year, and publish soon after.

Fable of an urban ನದಿ (river)

She lays wasted between retaining walls of concrete
diverted one too many times to retain her origins,
left to dry in the interstices of collective memory
owners of which dress her daily,
one new accessory of human consumption

// crack

she who broke free from ಅಗಸ್ತ್ಯ ಮುನಿ's kamandala
ಕಾವೇರಿ is now trapped by human ಅಭ್ಯಾಸ, ಸ್ವಭಾವ
how does one discard disregard,
when she can't anymore disregard discard?
how do you curtail the currents of consumerism?

// crack

she escapes the water cured walls
with help from the clairvoyant skies
ವಿಷಭಾವತಿ, a river no more
she's transfigured into annals of human greed
flowing recklessly into homes that buried her

Kadambari Komandur is an information designer with an interest in landscapes and ecology. She is a UX designer by day and a researcher, data visualizer and explorer otherwise. She is currently engaged in projects examining the relationships between communities and urban landscapes. With a belief in using design as a tool for critical thinking and social justice, she imbibes this thought process in her work.

Namrata Narendra is an urban artist-researcher based between India and the Netherlands with an interest in the built environment and infrastructure provisioning with a focus on climate and environment. This project

amongst others is her attempt to understand Bengaluru's water journey, especially the conditions of urban rivers, social and spatial injustice and challenges caused by fragmented urbanisation.

Megha Kashyap is a designer from Bengaluru, with an expertise in research, illustration and UX design. After graduating from Srishti Institute of Design, Megha spent a year working in urban sustainability with various organisations such as NCF and IIHS. Her work explores the connections between people, nature, and cities, bringing attention to critical environmental and social issues.