WAVING OR DROWNING?
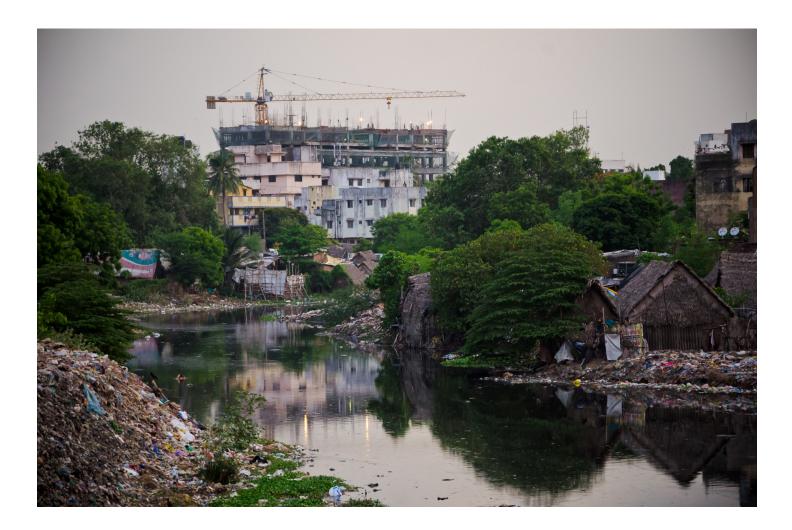
The Battle for Chennai's Vanishing Waterways

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NEXT CITY

Morning in Chennai. The pale blue sky blushes deep pink before it is pierced by a bronze sun. Amid the ever more frantic cries of the koyal, the clanging bells calling the faithful to prayer and the nasal bleats of taxi horns is the sound of water – a storefront owner rinses the sidewalk in front of his vestibule, a street sweeper bends low and brushes the wet street with her broom of dried grasses, a woman fills up her plastic bucket from a pump at the entrance to her slum, a taxi driver gargles and spits in an arc out of his vehicle, a buxom lady of a fine house sloshes bathwater all over her marble bathroom floor, a maid thwacks a wet sari against a stone slab in a courtyard, a man mutters his morning prayers before the altar in his high-rise flat, plunking a silver spoon into a brass vessel of holy water fragrant with fresh basil leaves.

To hear all this splashing, one would never know that this city suffers chronic water shortages, but water has a special place in the lives and rituals of the people of Chennai, one of India's most traditional cities. Years ago, worshipers bathed in the Cooum River, one of four waterways running through the city's center. Today, rather than divine spirit, a noxious stench rises from its opaque, sluggish waters, pumped steadily with fifty years' worth of sewage and industrial effluents. The city's new evangelists – its urban planners and future-forward architects – promise another kind of salvation on its banks, the kind that will position the city to take a larger share of the technology and back-office support business that is transforming the country and will transform the city, in their minds, into a gleaming modern metropolis that may join the elite cadre of "global cities."

In the last five years, half a dozen major development projects have converged on the Cooum –– a riverfront beautification initiative, waterfront real estate development, a high-speed elevated expressway, a cutting-edge subway and a waterways rehabilitation and waste-management effort. Proponents of a plan to "beautify" 1.1 kilometers of the river's waterfront described it as a bid to transform the Cooum into an Indian Thames, with parks and a luxury retail-and-residential district. Of course, the riverbank is already alive with commerce and growing neighborhoods: The one-room storefronts, roadside food stands and single-story shacks of slum communities. All of the urban development projects on the Cooum are predicated on the mass eviction of the nearly 45,000 families that live in these slums.

This tension is present throughout Chennai today. Reclaiming the city's waterways has become a priority, and the perceived key to achieving that goal is clearing the slums that exist along those waterways. Rather than something to sweep under the rug, these mass evictions are a pillar of the city's urbanist vision – in 2008, the state government declared that Chennai would be slum-free by the end of 2013. For city leaders, this is a kill-two-birds solution: Rid Chennai of its slums while cleaning and redeveloping its famous water bodies. Approached thoughtfully and inclusively, waterway restoration could mean development and water management to benefit the entire city. Certainly, restoring waterways to health and providing people with safe, permanent alternatives to shacks are laudable goals.

At issue is how the city is carrying out these efforts. It's far from certain whether the development the city is fostering is sustainable or merely cosmetic, and whether everyone will be allowed to participate in the new Chennai. In the name of "eco-restoration," slum residents are being evicted from the banks of the Cooum and from public lands owned by the city's water utility, and resettled far from job opportunities. In reality, they are simply making way for a global gentrifier's work-playground – the very sort of real estate development that experts agree is the gravest culprit behind the city's water scarcity. Even as more Chennai residents turn to private and off-the-books vendors for drinking water, Chennai is undertaking massive, costly infrastructure projects to bring in water – one more element of its bid to be a highly competitive world-class city. On the outer fringes of the city, where the water table has been pumped to exhaustion and where the former slum residents of the city center have been resettled, illegal, unregulated, often-contaminated water is the only game in town.

The implicit message in all of this seems to be that the city center belongs to the global economy, and that its rightful residents are people who work in offices and drive cars and live in flats with their nuclear families. These are the people who are entitled to the new Chennai and its revitalized waterways, as well as its planned state-of-the-art water-delivery infrastructure. The other people – who work off-the-

Shack dwellings along the Cooum River.

books, in homes or storefronts or in the open air, who live in informal settlements they built themselves, who buy and sell and make without permission or licenses – are being moved out to the periphery of the ever-expanding city. They are becoming, quite literally, outsiders. But in the endgame, the real exile here may be water.

A CENTURY OF DRYING OUT

In Theyagaraya Nagar, a densely populated neighborhood in the heart of Chennai, there is a street called Lakeview Road. It is one of many T. Nagar roads with the word "lake" in its name. But there is no lake to be seen from any of these roads. Today, all you'll find in this neighborhood is a great cacophony of shoppers in stores and open-air shops, gridlocked cars and careening rickshaws.

One hundred years ago, however, this was the site of the Long Tank, a three-mile-long, two-mile-wide lake surrounded by trees and approached by a broad, shady avenue. Its waters dropped slightly during the dry seasons and rose during monsoons, and every year, at the end of the rainy season and

before the sun grew ferocious, the city's colonial rulers enjoyed an annual regatta from a boathouse on the lake's placid shore.

That lake is long gone. By 1925, the city government had drained it, filled it with rock and sand, and sold it off in parcels to real estate developers for a tidy profit. This is the one of the earliest documented instances of large-scale urban development on top of a body of water in Chennai, and it set the stage for a century of sacrificing water for real estate. Chennai at the beginning of the 21st century is not so unlike Chennai back in 1925. A burst in population and an economy in transition is demanding more housing and more middle-class amenities in the city center. Because of a shortage of publicly held land in the center, the waterways have become a prime target – the lands on and around them are owned by the city and can be sold off for development without lengthy disputes. As a result, every single one of Chennai's 43 original natural lake systems and four waterways has been encroached upon.

Although there is no complete account of all of Chennai's lakes, ponds and reservoirs, a study by IIT Madras's Centre for Environmental and Water

Resources Engineering reported that, 20 years ago, there were some 650 bodies of water in the Chennai metropolitan area. Today, very few of these remain intact. According to a June 2011 report in The Hindu, the Water Resources Department said that the total surface area of 19 of the city's larger lakes had shrunk from 1,130 hectares to 645. And though officials inside Metrowater, the city's official water supply department, say that encroachments on bodies of water have been halted since 1998, media outlets reported on major construction projects on and alongside waterways and lakes in 2004, 2007 and this year.

Until recently, these encroachments were automatically associated (at least by the English-language media) with the construction of slums and other informal settlements. As such, every major waterway cleanup project has been kicked off, to great fanfare, with a series of slum evictions. As Karen Coelho and Nithya Raman wrote in their 2010

pools and contaminating groundwater throughout the city.

Meanwhile, the best places in which to catch the wealth of fresh water that falls from the sky – Chennai receives about 1,290 millimeters annually, much more than the national average – are shrinking. Much of the last decade's real estate boom has occurred not just alongside but actually on top of the city's water bodies. The proposed elevated expressway would shrink the Cooum River from its current width. Much of the public housing in the city's southern resettlement zone is being built on top of the 50-square-mile marsh in Pallikaranai. As the city's water bodies shrink beneath buildings and the waste their inhabitants generate, only five percent of its abundant annual rainfall makes its way into the groundwater supply, and the ever-growing population becomes more and more dependent on water from outside the city.

In 2003, Tamil Nadu became the first Indian

Every single one of Chennai's 43 original natural lake systems and four waterways has been encroached upon.

essay, "Salvaging and Scapegoating," slum evictions are easily achievable and have an immediate and visible impact on the city center. But a growing number of scholars, advocates and experts – many of whom are former government engineers – point out that it's actually large-scale formal development that impacts the long-term health of the city's water bodies the most.

In fact, according to the environmental group Exnora International, slum residents' waste accounts for just 0.14 percent of Chennai's river pollution. The overwhelming majority of pollution comes from industrial effluents and the untreated third of the city's total raw sewage that is diverted into the waterways. High-rise buildings and raised expressways not only pollute at a much grander scale than flimsy, single-story homes made of tin, thatch and hand-laid bricks, they also sink cement and steel foundations deep into the riverbed, barricading water and waste into stagnant

state to legally mandate rainwater harvesting. A statewide campaign was launched to build awareness about how individual citizens should harvest rainwater in tanks on their roofs. The results have been widely praised by city and state officials – Metrowater engineers claim that the increase in groundwater levels has been demonstrable. Despite this, according to economist L. Venkatachalam, to avoid flooding, massive amounts of rainwater are diverted into the sea. Ironically, the city spends millions to rid itself of this potable water. Its recent efforts include a INR 90 million ($1.67 million USD) project to construct a 62-mile channel from the Kolathur Lake that empties into the Bay of Bengal.

Metrowater focuses tremendous amounts of public monies on these sorts of mega-projects. Perhaps the most famous case is the ill-fated Veeranam Lake Project, launched in the 1970s. It faltered when the 66-inch cement pipes were found incapable of

bearing pressure and were abandoned along a highway. Migrant workers soon moved into the empty pipes and set up homes, creating what was, in essence, the most expensively built informal settlement in Chennai. The pipe-dwellers were evicted when the project was finally completed in 2004. But by then, Veeranam Lake had run dry. The city paid for the pipes to be demolished, and used the rubble to reinforce the coast against seawater erosion.

Even supposedly successful projects to augment the city's drinking-water supply – such as the

Desalination may be a boon in the deserts of Israel or Chile, but such water augmentation solutions appear baffling in a city in which a wealth of rainfall is gifted from its skies.

They seem even more absurd alongside more dynamic solutions to water problems being tried elsewhere. For instance, technology developed by the non-profit Water for People employs low-cost data-mining – some of it channeled through devices as simple as GPS-equipped cell phones – to pinpoint and track problems with water infrastructure; so far,

High-rise buildings along the Cooum. Chennai is systematically remaking the river's banks, replacing slum-dwellers with residential and retail development.

Telugu Ganga interbasin transfer project to bring in water from a neighboring state, some 400 kilometers away, or the new Veeranam project to pipe water in from a reservoir some 250 kilometers away – require tremendous public and private resources to complete and maintain. Now Metrowater leadership is marketing its new desalination plants, which clean seawater through an elaborate process of reverse osmosis, and at the great expense of maintaining equipment and constructing still more pipelines out into the ocean.

the technology, called Field Level Operations Watch (FLOW) has been deployed in 17 countries.

According to retired civil engineer and Chennai city historian V. Narasaiah, that acronym spells out the key issue: The core principle of water management is "that water must flow." Rather than fancy projects, he says, we need to remove waste from waterways, allow riverbeds to breathe, maintain the riverbanks and prohibit encroachment on the water. He offers solutions no more innovative than simply engaging a

A woman fills jugs from a tap that runs for only two hours each day.

community of water consumers to participate in the good stewardship of their own resources.

And here is where the hidden cost of this simple approach to water management enters the picture. Rainwater cannot be harvested in large scale without preserving and maintaining large reservoirs and water bodies, which cannot be done without sewage treatment, waste management, and, of course, housing for an exploding urban populace. Tamil Nadu is India's most urban state, with half of its population living in cities, and Chennai is its largest and most rapidly growing city.

In a chapter in a 2007 edited volume on peri-urban water conflicts, S. Janakarajan, John Butterworth, Patrick Moriarty and Charles Batchelor write that the city's quest for drinking water may, ironically, be making it grow even faster. As real estate development continues to compromise Chennai's water supply, causing city and state officials to look further and further beyond the city's borders to find drinking water for its residents, city and state officials have "drained water resources from peri-urban villages" surrounding Chennai. In forty years of industrialized water pumping, the groundwater surrounding the city

has dried up or turned brackish, forcing unemployed farmers into the city in search of work. What emerges is a picture of endless displacement – the thirsty city removes water from the villages, so the village farmers flee to the city in search of work; the growing city needs land upon which to build more housing for these newcomers, so it displaces the same urban poor who arrived from the villages. All the while, the city's water supply grows ever more fragile. As Chennai strives to keep up with the demand for clean drinking water, its residents, rich and poor alike, turn to the informal water market to meet their needs.

PAYING THE PRICE

Afternoon in Chennai. An elderly woman rises from her siesta, rinses and powders her face and orders the maid to fix her a cup of coffee, when she hears a call from the doorway. "Come!" she shouts, and two tall, thick-haired, thick-mustachioed young men step out of their sandals and enter the house, each hoisting on their shoulders two large, plastic containers – the kind you'd find in an office water cooler. She signs a slip charging her Rs. 90 (about $1.50 USD) for each

container and sits down to her coffee. The maid begins to fill reusable plastic bottles to refrigerate.

The two men start their small transport truck, loaded with dozens of other bottles, each labeled "Bisleri" or "Kinley" or "Aquafina," and merge into the sea of traffic oozing down the hazy street. These days, it is rare to see a cow or a goat among these afternoon throngs of compact cars and autorickshaws, but on every street, there are transport trucks and cyclists pulling flatbeds of water containers. One such cyclist

phone books are thick with listings under "packaged drinking water," with such evocative names as "Blessings" and "Pure Delight." Some of these vendors are subcontractors of respected international water-supply companies with extensive quality-control programs; others are private entrepreneurs bottling water from untested, unnamed sources. These are just two types of players in the vast and expanding informal water market in Chennai, from bulk suppliers shuttling up to 120 million liters of pumped groundwater into

Water is purchased by people of all classes in Chennai, from impoverished slum-dwellers to wealthy residents living in gated communities.

passes the transport truck in the opposite direction and heads down an unmarked street into a public-housing tenement building. There, he meets women at their doorways, who hand over cash payments of Rs 25 (about 40 cents) for each of their own water containers. These containers are unmarked and scuffed nearly to opacity from reuse, but the women here say they trust this water more than the water that comes from their kitchen taps.

Both the cyclist and the transport truck deliveryman work for private water vendors. Chennai's

the city in giant tanker trucks daily, to small suppliers dealing in plastic sachets, individual water bottles, canisters and water-cooler-style containers.

Until 2000, large tanker trucks dominated the private water market, according to L. Venkatachalam – an estimated 10,000 such trucks clog inbound city highways every morning. But in recent years, the water-cooler containers have become the most widespread source of private water bought and consumed throughout Chennai. In his 2010 survey of informal water in Chennai households,

Venkatachalam found that some 50 percent of low-income households purchase water privately, some spending more than five percent of their income on it. Although many people purchase water because the city's water quality is poor and its supply inconsistent, he says the people he interviewed said they would still buy water even if the city improved the public supply. "They believe private water is better. It is part of the culture now."

But faith in the private water market has been severely tested. In March, the Central Bureau of Investigation and the Bureau of Indian Standards inspected some 300 drinking-water packaging plants and found rampant and widespread violations. One of the plants in Mambalam was found simply funneling water from a filthy overhead tank full of dead cockroaches through a cursory filter into containers for sale to private consumers. Following the inspection, 92 plants were ordered closed.

Regulating and monitoring the quality of informal drinking water has become a significant challenge for government officials. In May, the Tamil Nadu Pollution Control Board disclosed that of the 121 mineral-water packaging units in and around the city, only 23 are operating under license and with government authorization. The sheer magnitude of regulating informal water providers – whether they are mineral-water packagers or unlicensed lorries transporting water into the city from watershed areas – boggles the mind.

Now, says Narasiah, "Water is being sold black, and what is happening is we are creating an area of criminals." He describes a troubling sequence of events: In a water-rich area, entrepreneurs begin drilling borewells. The city places a restriction on drilling and pumping and places a police officer there to enforce the restriction. The unlicensed water sellers bribe the officer, and engage thugs who can provide protection. With water now also springs a criminal enterprise.

Here we see a theme emerging in this new urbanist approach: Rather than seeing the city's poor as innovators filling a gap in the formal system, the city's current architects seek to scapegoat, criminalize and displace them. In doing so, they exacerbate the very urban problems they sought to avoid. Further hindering any effort to regulate informal private water

markets is the fact that, when they first emerged, Metrowater was one of the biggest consumers of tanker-truck water bought from private borewell operators outside of the city. As S. Janakarajan wrote of largely failed attempts to enforce the 1987 Chennai Metropolitan Ground Water (Regulation) Act, "Even though the main purpose was to control groundwater extraction and illegal transportation of water from these areas into the city, the [Act] is apparently grossly violated not only by private individuals but by the government itself."

Private packaged drinking water suppliers have responded to regulatory attempts in true South Indian fashion – with organizing and collective bargaining. Since the surprise inspections of packaged drinking water plants, the 869-member South India Packaged Drinking Water Manufacturers' Association has filed multiple appeals on behalf of their colleagues whose operations were shut down, saying that the closures could compromise the water supply as the city heads into the backstretch of the dry season. Clearly, as evidenced by Venkatachalam's research, the people of Chennai agree that these markets are a necessary part of the city's water supply system. What began as an entrepreneurial market designed to bridge a gap in public service has become a widely accepted feature of urban life. Even if the city does succeed in improving its water supply and regulating unlicensed water suppliers, it is clear that private water is here to stay.

But better connections could at least provide an alternative, and some solutions being tried in other cities have shown promise. In Manila the delivery conundrum has been confronted with Bayan Tubig (Water for the Community) systems. Since the government there can't or won't create the underground infrastructure necessary to deliver water to private homes in slums, Bayan Tubig systems move water from the perimeter of these neighborhoods into them, using above-ground pipes that connect to centrally located meters. Each homeowner then creates their own "last mile" of infrastructure, connecting small-diameter pipes to the meters and running them to their own homes. In its first year, Bayan Tubig provided water to 19,000 households that hadn't previously enjoyed private connections, and reduced those households' water costs by an average of 25 percent.

Simpler still, a system called NextDrop

A man fills jugs from a tanker that brought in water from outside the city.

developed by a San Diego startup addresses the widespread problem in India of municipal water being available only in unpredictable spurts. For a small monthly fee, users receive text messages 30 to 60 minutes before the city's water will begin moving through the pipes in their neighborhood, eliminating the need to wait by the pump.

Such solutions, however, are not the current priority of the authority in Chennai. As the city's ambitious waterway restoration plans move forward, residents living in the path of those plans are expected to get out of the way.

WATER DISPLACING PEOPLE

Near the Kilpauk Water Works in North Chennai, through a passageway behind an apartment complex, flanked on one side by a small temple and on the other by a water pump, is a settlement of nearly 5,000 houses. Thirty years ago, no more than a few dozen flimsy shacks stood here, built by migrants from villages to the south of the city, in Kanchipuram or Thiruvannamalai. Shacks no more, most of the houses in this settlement are now brick row houses connected by an ever expanding web of narrow corridors and footpaths. At first glance, the homes seem sturdy and tell of a striving, middle-class kind of house pride. But a closer look draws the eye to bare overhead wires, held together with cheap spider clamps, funneling stolen electricity into the homes below, and, here and there, to the charred shells of houses burnt down in electrical fires.

The houses have low doorways and shared walls and rarely more than one or two rooms. Most cooking is done outside over open flames. None have running, piped water or indoor toilets. In the rainy season, every roof leaks — whether thatch or tile or tarp — and the corridors flood. In the summer, the heat collects and pools inside like water, because none of the houses have ceiling fans or windows that open and close. But they are all swept clean, neat and uncluttered, and decorated with photos of smiling gods.

The people who live here are as invested in this place as any real estate developer. The city has invested here, too; the water authority has built a pump at the entrance to the slum that provides free water twice a day, and has covered open drainage areas where mosquitos and wastewater once collected. The

residents benefit from the nearby street lights and bus stops that the city has erected. The children who were born and raised here attend city schools, where they are learning to work in offices instead of cleaning or serving the people who work in them. At least half of the people who live in this community have government ration cards, designating them, officially, as residents of the city of Chennai, eligible for public services and to vote in local elections.

According to the state government, this is a slum. Soon, the people who live here say, they will be evicted and their homes bulldozed. They have not

newly independent country passed its Slum Areas (Improvement and Clearance) Act in 1956 and Tamil Nadu established its Slum Clearance Board (TNSCB) in 1970. In the four decades since its founding, the TNSBC has largely failed to fulfill its objectives of improving the living conditions of slum residents and preventing the development of new slums. Between 1971 and 2001, the city's slum population grew from some 700,000 to nearly 1.1 million, and in this time, the TNSCB managed to complete about 72,000 tenements – or 2,000 new living units each year.

In 2005 the city contracted a study to review

Transporting water from one place to another is a major economic activity.

been given formal notification of this, but they know their day is coming. This settlement sits on top of an underground water pipeline, on land that belongs to Metrowater, which is taking the land back – by force if need be.

This clearance is part of a five-year plan unveiled by the Tamil Nadu state government in April 2008 to make Chennai and other Tamil Nadu cities "slum-free by 2013." Slum clearance is by no means a new objective in Indian governance – the

the physical infrastructure of Chennai's slums and determine whether the best approach was to upgrade existing settlements or resettle communities in public housing complexes. The study, which surveyed 1,431 slums across the city, classified 122 of the city's 242 "undeveloped slums" as "objectionable" because they sat alongside waterways, the public seashore, roadways, or other "places required for public purposes." By the time the city's Second Master Plan was approved in 2008, the number of objectionable slums had risen

to 150. Faced with the challenge of improving the living conditions of more than 100,000 families living in undeveloped slums – 75,498 of these in so-called objectionable areas – the government decided to pursue the eviction strategy, "retrieve the land under their occupation" and hand it back to the government agencies for good stewardship and development.

The Chennai Rivers Restoration Trust has positioned itself as just this kind of good steward. In March, it met with various city and state agencies, including Metrowater and the TNSCB, to plan the Chennai Waterways Rehabilitation Programme. The ambitious, $2 billion project seeks to stop illegal sewage flows into the river and to divert legal sewage to a dozen or more sewage treatment plants across the city. (Earlier studies documented more than 700 sewage outfalls into the Cooum). Whether this program is successful or, like the many earlier attempts to clean up the river, founders on political paralysis remains to be seen. Regardless, the riverfront slum communities are poised for bulldozing. In fact, evictions from slums on public lands throughout the city have been underway for nearly five years.

The evictions in the Kilpauk Water Works area began in earnest in 2009 when, wielding an order of the city's high court, Metrowater evicted some 867 families who had been living on 15 acres of land for more than 30 years. The Hindu reported that, at market price, the reclaimed land could be worth Rs 500 crore (more than $100 million), and both private residents and social justice advocates believe that the government plans to sell the cleared plots to private investors for real estate development. While families with a city ration card would be eligible for resettlement to public tenement housing, many would simply have to pack up and clear out before their homes are bulldozed.

On a sunny afternoon in early March, the neighborhood is quiet. All the men have gone to work and, here and there, women who have returned from morning shifts or finished their morning chores sit in thin slivers of shade under door jambs. Jayabharathi, a tall, broad-shouldered woman with a direct gaze and a resonant, authoritative voice has lived here for 25 years, ever since she joined her husband as his bride. She spent her honeymoon weaving thatch for their roof and pounding the mud floor till it was firm and

strong. She sits on a low stool inside her two-room house, looking over her daughter's shoulder. Her daughter sits on the cement floor, selecting courses for her first year of college on a laptop with a power cord running across the floor and out the window to some unseen power source.

The air inside the home is still and close, but the place is clean and orderly. This is the fourth house Jayabharathi has built in this same spot – she lost everything three times in fires, once in the dead of night. She is under no illusions that this is an ideal place to live, but it's close to the houses she cleans for a living and the schools that will ensure her daughter doesn't have to do the same. "Of course it will be hard for us to leave," she says. "I've been here my whole life."

Lakshmi, who lives two doors down with her seven-year-old son, takes a more optimistic view toward the relocation. Although she's been here for ten years and has steady work cleaning two houses within walking distance, she is tired of the uncertainty and challenges of life here. It'll be nice to have a flat of her own, she says. Although her son attends school in the city, Lakshmi is not worried about the move. "He'll just ride his bicycle to school."

But Lakshmi hasn't considered how far away the resettlement zone is from her son's current school. According to Virgil D'Sami, executive director of the 20-year-old nonprofit Arunodhaya Centre for Street and Working Children, the majority of children who have been evicted from slums in the city center – even those who have been resettled to public housing – have dropped out of school.

Those residents of slums in the Kilpauk Water Works area will most likely wind up in Semmencherry, she says, a neighborhood on Chennai's southernmost edge, some 30 kilometers away from their current home. There are still no schools in Semmencherry. By bus, the trip from here to Parry's Corner, the main bus hub near the Chennai High Court building, can take anywhere from two to three hours and can cost up to 21 rupees each way.

Today, five years later, the Semmencherry tenement complexes are crawling with unsupervised herds of school-aged children, loitering on corners, playing in alleys and, to D'Sami's great chagrin, working in pop-up canteens or roadside vehicle repair

A young boy strolls along the Cooum River, a symbol of both the city's woes and aspirations.

stands. She fears that the resettlements may well peel back the significant advancements in literacy and school enrollment that have been made among the city's poor in the last decade.

Resettlement zones still lack much of the public-service infrastructure slum residents in the cities have come to rely on, and slum growth has far outpaced the city's ability to meet its own goal of humane resettlement. According to the latest plans, the tenements in which Jayabharathi and Lakshmi will be resettled in Semmencherry will be much smaller than their current homes – on average, single-family apartments in the new eight-story tenements currently under construction are around 110 square feet. Unlike earlier resettlement buildings, these new buildings are equipped with elevators, but these will stall during the three-hour-long scheduled power outages throughout the city. And although residents in the apartments will now have indoor toilets, the inconsistent city water supply will likely cause waste matter to stagnate, filling the small apartments with a foul smell and disease-carrying bacteria.

In reality, the people who live in this and other objectionable slums will be lucky to be resettled anywhere. Unless they succeed in obtaining a ration card registered to the city of Chennai, they will not qualify to be placed in public housing tenements at all and will simply have to try their luck at building an informal house somewhere else. Still, to hear already resettled people tell it, their lives are no better now – and in some ways, worse – than before, when they were living in slums.

Increasingly, innovators and policymakers alike agree that developing slum communities where they have formed is a far smarter approach, and one that is likelier to contribute to the long-term stability and resilience of both communities in slums and in the cities they're a part of. UN-Habitat has described slum formation as a result of inadequate urban planning and featured case studies of successful in-situ development efforts in eastern and southern Africa.

In India, the current, arguably failed strategy of slum clearance and resettlement may soon be revisited on a national level, with the Housing and Urban Poverty Alleviation minister announcing last October that the government is looking to provide long-term and bankable property rights to slum residents. Exactly how this would work remains

to be seen. As it is, Indian governments are under tremendous strain to enforce the laws they already have in place. Still, it cannot be denied that slum communities are a source of labor, employment and innovation, and cities would benefit from incorporating them rather than displacing them.

Just as they would their water sources. "It is crucial to keep the waterways in public view. When you cover them up, people lose the connection to them," says Bharath Jairaj, a senior associate at the World Resources Institute and a former activist with the Citizen consumer and civic Action Group (CAG). Both the obscuring of waterways and the resettlement of poor communities speak to this – a city that literally cannot see its problems has very little incentive to connect with those problems, and even less incentive to address them.

ABOUT THE AUTHOR

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