



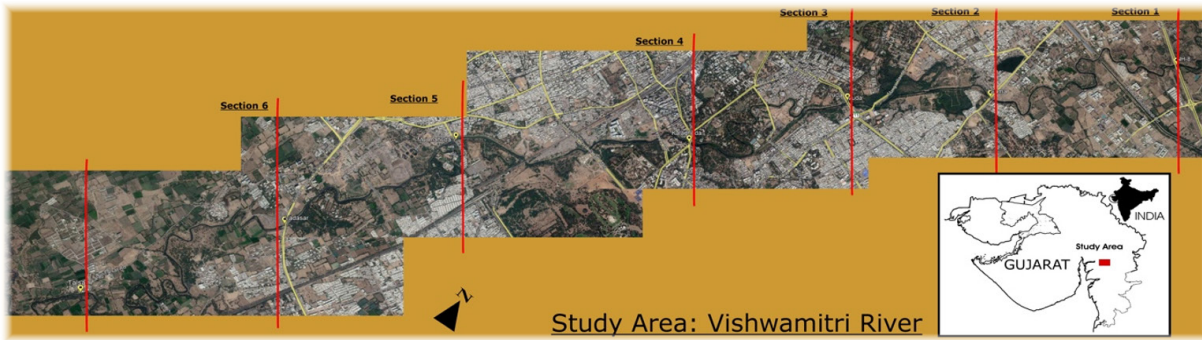
## Banyan City becomes Makara City: My City, Motto and Marsh Crocodile

The role of rivers as lifelines in the history of human civilization is unequivocally true. Civilizations have flourished and perished along the banks of different rivers across the continents. This habitable blue-green planet that we call home, means much more than rivers simply being natural sources of fresh water. Though water is one of the fundamental precursors of life on Earth, it remains increasingly challenging for any life form to sustain or thrive without clean and non-polluted fresh water.

Today, we find ourselves in this detrimentally extractive state of existence, where rivers are subjected to continuous contamination, irreversible damage, and steady degeneration. As humans, we are bound to make mistakes and learn from them, making us all, to some extent, imperfect and evolving. Nonetheless, we share this planet with millions of life forms, all of which deserve a chance to survive, grow, and live a peaceful life. As a result of our anthropocentric view of growth and development cultivated over the centuries, we have eventually conditioned ourselves to complicate life, making every day more

challenging and chaotic. In doing so, we have disturbed the order and balance of nature, exacerbating the loss of life, ease, and diversity. Life of not just humans, but collectively the life of this planet, everything non-human, encompassing all forms of life and the systems that sustain them. Even so, nature has ways of restoring its order and balance, almost like rules and regulations, the natural law as we understand it. In isolation, though a singular human lifespan is trivial compared to the age and history of Earth, the aggregate of man's presence across countless generations has significantly affected and interfered with the laws of nature. Time and again, we lose, and nature wins.

On this note, I present an anecdote about the Vishwamitri River. Vishwamitri is a small 200km long (approx.) non-perennial river. This rain-fed river originates from the Pavagadh Hills and flows westwards to meet the Gulf of Khambhat. In between, Vishwamitri flows across Vadodara's densely populated urban city. This city and its surroundings lie in urban pockets, home to a few hundred Marsh Crocodiles *Crocodylus palustris* (Vyas 2010, 2012).



The aerial view of the Vishwamitri River flowing through the urban city of Vadodara.

Tracing back, Vadodara was once the capital of the princely state of Gaekwads, later anglicized as Baroda during the colonial era. Before the Gaekwads, Vadodara was known as Chandravati under the reign of Chanda of the Dodiya Rajput dynasty. Historically, the city was renamed from time to time, with shifts in power and control. Post-independence, with democracy heralding

the formation of modern India, the city then came to be known by its current name, i.e., Vadodara, or the Banyan *Ficus benghalensis* City. With rapid urbanisation and industrialisation, the demographics of Vadodara changed faster than ever. As Vadodara continued to grow as an urban centre, the demand for housing and land grew exceedingly. The growing demand for housing

and the institutionalisation of the real estate industry subsequently translated into a large-scale deforestation drive. The banyan groves, which once reflected Vadodara’s identity, were lost in no time. Most of the banyan groves and wilderness pockets disappeared within a few decades. Like many other contemporary cities of similar fabric and scale, the quest for cosmopolitanism and modern identity resulted in a near-complete erasure of Vadodara’s indigeneity, heritage, and unique identity.

The city embraced a new identity of being an industrial and student city. Alongside industries followed tech parks and the suburbs. It saw a steady rise in the influx of diverse settlers from near and far. With all three elements of land, sky, and water now being shared across the maximum strength of human



An illustration of rescuers with rescued adult mugger from the urban city of Vadodara. © Hemant Vadhvana.



**The river diversity with half a dozen muggers basking on the banks of Vishwamitri River. © Rakesh Vadhvana.**

presence Vadodara has ever witnessed, the conflict crawled regardless. Once a beautiful cultural capital and Gaekwad's legacy, it changes faster than ever. It is now a bustling metropolis, imitating global trends, seeking modernity, and chasing development. A permanent address to different societies, traditions, and cultures. It is not just the land that undergoes urbanization; the sky and the waters also transform. In ways in which a countryside river compares to a cleaner, natural, and generous version, in contrast to its urban segment, Vishwamitri changes as it travels from the rural to the suburban and the urban. Parts of Vishwamitri that cut across the city have murky, black, frothy waters polluted with industrial and medical waste, and debris.

The river ecology, along with its interface, changes unrecognizably (Shah 2024). The river's calm waters have become muddy, erratic, and problematic (Vyas 2010). The depths are being manipulated as and where needs arise. The monsoon, historically romanticised and cherished,

has become a nightmare for the citizens, to the extent that the municipal corporation must survey and repair the entire city at the end of every summer. A few inches of rain quickly floods most of the city and almost all the suburbs. The river differs from being the harbinger of life to a dreadful force of nature.

The same riverside that defines the architecture and approach to all the city's historical monuments, once the most coveted parcels of land, and now fall in the most overlooked flood zones. Citywide evacuations, rescues, and rehabilitation occur invariably, testing the resilience of Vadodara's citizens. It is peculiar how the river



**The victim of a large 4-m-long mugger after the fatal attack in the rural area by locals of Vadodara. © Pravin Maharaj.**

### Box 1: Saga of Mugger Flourished at Vadodara

Today, wildlife conflict is a common issue on the earth, but there are a few pockets where man and wild animals live in proximity without harm or each other adjusting their existence. We call this a coexistence life. Such coexistence is a big hope for the survival of each other.

Here, I will emphasise the unique and ideal correlation between giant carnivorous reptiles and modern men who co-exist in Vadodara, Gujarat's highly populated urban city. The urban city of Vadodara is a grown modern industrial hub with the essence of traditional Marathi cultures and the last remnants of Gaikwadi monarchies. The river is an abode of much wildlife, including over 400 different sizes of mugger crocodiles *Crocodylus palustris*, including juveniles, subadults and adults over three meters. Such an ideal example of the co-existence of men & muggers is gratitude to locals who live in the city and love the mugger crocodiles. This unique example of the co-existence of big carnivores and men credit goes to over a half dozen non-government organisations and two dozen of its volunteers and staff of the state forest department, who work 24x7 to rescue muggers from human habitation and also, serve volunteering awareness programmes to cities and surrounding of rural villages.

Undoubtedly, such good numbers of muggers survive within human vicinity. Still, the proximity of muggers and human settlements also creates some interaction between both, either positive or negative. There were 441 various sizes of muggers surviving in the city area of Vishwamitri River, as per the last official mugger census in 2020. However, every year, numerous muggers are being rescued from urban areas of the city and translocated with the involvement of various NGOs and staff of the State Forest Department. The forest department rescue registered data indicated that a total of 119 and 225 muggers were rescued in 2021 and 2022, respectively. Unfortunately, 20 muggers were found dead, including five muggers on a road and railway accident. This small and dense population of muggers survives in the kernel of Vadodara, Gujarat, and is a notable example of crocodylian conservation and man-mugger concordance. The preservation of this population now lies in the hands of the residents of Vadodara City and various local government agencies, including the State Forest Department, Urban Development Authority, and Municipal Corporation, Vadodara. The interaction between crocodiles and men in Gujarat State is usual and has a long cultural history. Gujarat is the place where people believed in worshipping crocodiles as 'Mogra Dev' and believed it to be the vehicle of Goddess 'Khodiyar Mata' and 'Namami Devi Narmade.' These are a few of the best examples in the state, where a mugger and man are found in the same vicinity and tolerate each other's presence, but Vadodara City is noteworthy.

looks and behaves, although all 'Barodians' (dwellers of Baroda) identify themselves as mindful and attached to river Vishwamitri. The wildlife rescue data maintained by the local forest department shows alarming numbers of wildlife rescues from human settlement areas, including snakes and crocodiles every year. Over a hundred volunteers from various non-government organizations voluntarily provide wildlife rescue services round the clock. According to the official data, over a thousand snakes (Vyas 2013) and an average of over six dozen different-sized mugger crocodiles are

rescued from the city every year (Vyas 2012). In the early eighties, the city's silent night is broken by the howling of Golden Jackals *Canis aureus* and screaming by nocturnal birds like owls and owlets. The day rises with open empty skies with dotted designs of flights of White-rumped Vultures *Gyps bengalensis* and many other birds, but by the end of the century, the above pictures changed. The sound of automobiles and vehicles breaks the city's silent night, and the darkness is filled with artificial neon lighting. The city's days begin with polluted skies, vultures vanish from the skies of



Vadodara, and jackals leave the abode of the riverside forest. However, such environmental changes could not be accepted by jackals and vultures. Still, silent, secretive animals like muggers could accept changes and flourish in the river's waters. Slowly, muggers took charge of these urban scavengers and showed survival abilities in such situations.

Now, Banyan City has been identified as the home of abundant mugger crocodiles. Muggers, the apex predators of freshwater ecosystems, have adapted to the city with urbanized survival mechanisms, feeding on carcasses and scavenging predominantly. True to the nature of a city, where every citizen has a job to carry out, muggers have adopted the role of converting. Muggers now break down meaty waste by picking dead matter off the river banks.

The natural habitat of Golden Jackals, White-rumped Vultures, and non-scavenging bird species like a Red-whiskered Bulbul *Pycnonotus jocosus* disappeared from the city (Vyas 2006), alongside riverine undergrowth and scrub forests. Traditionally, scavenging species of urban wildlife have gone locally extinct from these localities, leaving more significant accumulations of disposal to the crocodiles' share. Other species, including the Hanuman Langur *Semnopithecus entellus*, flourish and reside in close proximity. All these good numbers of Hanuman Langur survive as subsidized species on the vegetable foods that humans leave as garbage. Over one dozen langur bite cases and electrocuted injured langurs are found in the city, as per forest officials. However, the natural scavengers' duty is replaced by monkeys acting as veg and muggers acting as non-veg scavengers in the

absence of Golden Jackals (omnivores) and vultures (scavengers). The loss of riverside natural habitat and the disappearance of natural scavengers from in and around Vadodara City indicate drastic changes within the human-dominated landscape area. Still, nature is always ready to balance to meet requirements. Here, nature is so obligatory to add new scavenger species within the site. The urban population of muggers has been growing steadily. And yet, the conflict is inevitable. There is constant territorial tension between humans and muggers, reclaiming their habitats and place in the city. While humans dominate the lands, muggers maintain control over the waters. In Vadodara, this interspecies tug of war is now commonplace.

Directly and indirectly, human-crocodile interactions have increased too. They resulted in frequent encounters and sometimes conflicts (Vyas & Stevenson 2017; Pooley 2022). Occasionally, the humans, and other times the muggers suffer (Vyas 2019). There have been a few incidents where crocodiles were found road-killed or botched under trains while crossing railway tracks (Vyas & Vasava 2019). Moreover, an interstate network of Narmada irrigation canals provides convenient access, like a highway for the muggers travelling from one water body to another in search of stable water levels, territorial dominance, and fresh-food security (Vyas et al. 2023). Essentially, Barodians include both humans and muggers cohabiting in the city.

This coexistence presents a unique anecdote, one of the many subchapters of a city's history where cultures rise and fall along the river banks. While both species thrive and coexist,



Vadodara's identity is synonymous with a 'Mugger City.' Vadodara is thus an acute case of man's coexistence with urban wildlife. Not just Vadodara but the whole of India has been exemplary, where animals and humans live in accord without harming each other. Having spent almost four decades in the city as a citizen of Vadodara, I present this symbolic account of the symbiotic existence between man and muggers based on first-hand observations and experiences.

However, I'd not overlook or dismiss the current reality where this harmony has been interrupted occasionally, leading to a dilemma and uncertainty. There have been records whereby muggers attacked, and humans lost their lives. If not fatal, there are several cases where the victim has a permanent disability (Pooley 2022). There are also ample instances where people attacked the muggers. Sometimes, out of revenge, some people have injured the crocodiles and killed them too, and other times, destroyed their nests or habitats. Such incidents characterize a negative reflection of wildlife conservation within urban areas. Attitudes and incidences like these threaten the delicate coexistence of humans and wildlife in dense urban environments.

After spending around four decades in the city, I think of Vadodara as my 'Karma Bhoomi' (place of duty). Hence, I refer to M3 ( $M^3$ ) as three Ms, for myself, my city, and the muggers. But there is an iteration, another M, that I'd like to add to the M3 connotation: the mantra of trust, the motto of coexistence between man and muggers.

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