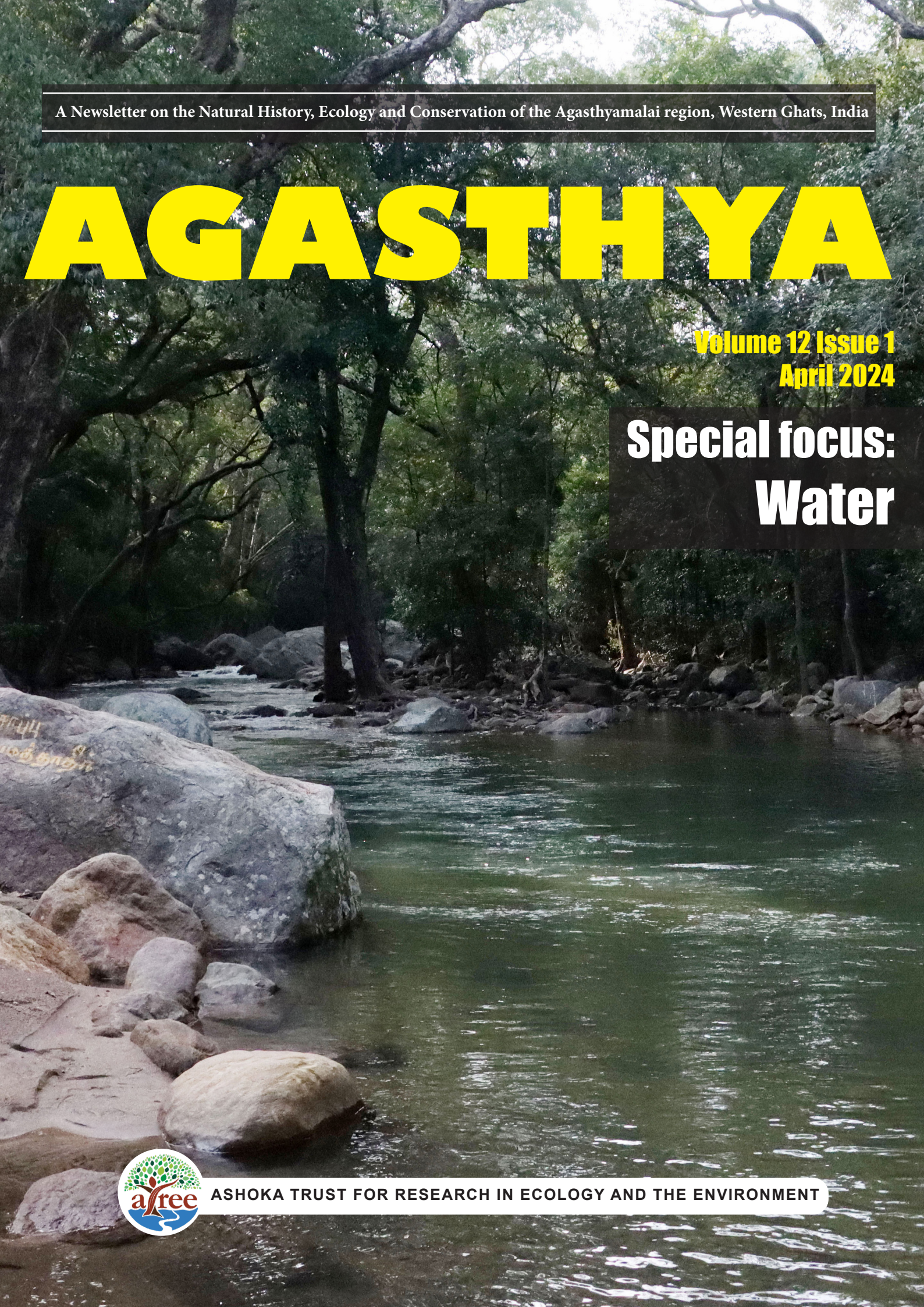

A Newsletter on the Natural History, Ecology and Conservation of the Agasthyamalai region, Western Ghats, India

# AGASTHYA

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## Special focus: Water

ASHOKA TRUST FOR RESEARCH IN ECOLOGY AND THE ENVIRONMENT

# In This Issue



**Cover page:** Kalakad - Thalaiyanai stream **Credit:** S. Thalavaipandi

**Back cover:** Agasthyamalai Community Conservation Centre **Credit:** M. Vinod Mumar


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Agasthya is a tri-annual newsletter by ATREE's Agasthyamalai Community Conservation Centre (ACCC) aimed at highlighting issues of research and conservation concern in the Agasthyamalai Region, Tamil Nadu





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# Editorial

## The Magic of Water

In the heart of a tranquil wetland in Vagaikulam, Tenkasi, where the morning mist kisses the water's surface, a Pied Kingfisher hovers with intent focus. Unbothered by the noisy cacophony of hundreds of roosting ibises, it utters its signature *chirruk chirruk* sound. In the blink of an eye, this black-and-white blur plunges into the water and emerges with a shimmering fish clasped in its beak. The wetland, teeming with life, provides the perfect haven for this beautiful bird, where water acts as both a playground and a pantry.

As the sun rises higher, brightening the landscape, the scene shifts to a salt pan at Punnakayal in Thoothukudi where black-winged stilts gracefully stride through moist ground. With their slender legs and needle-like bills, they delicately pluck insects and other invertebrates from the saline waters. The stilt is by no means alone in its foraging! With the full saltpan in focus, you'll see that it is joined by cattle egrets and pond herons. Fortunately, there are plenty of insects for everyone. Here, water plays a vital role in sustaining the unique foraging behaviours of these elegant birds.

Later the same day, in a small stream near Singampatti in the Tirunelveli district, a brown fish owl silently perches on a branch, its keen eyes scanning the water below. With precision and stealth, it swoops down, grasping a slippery frog in its talons from the shallow stream. In this intimate setting, water not only provides sustenance but also serves as a sanctuary for this nocturnal hunter.

Water, in its various forms, is the lifeblood of ecosystems, sustaining the unique niches and quirks of different species. Water holds an undeniable allure for all species, offering a wealth of resources and opportunities. Welcome to this issue of Agasthya, where we explore the pivotal role that water plays in shaping ecosystems and the lives of the creatures that inhabit them. We invite you to join us as we embark on a journey of discovery: from the changes to the landscape during the recent floods reminiscent of similar rains three decades ago, to the impact that water has had on the lives of species and the livelihoods of local communities. Let us marvel at the beauty of water and celebrate its vital role in sustaining life on Earth.

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Agasthiyar falls, Papanasam in all its grandeur.
Photo: Arun Kumar

# The Tale of Tamiraparani's Fury

Trees uprooted due to flood near Gopalasamudram. Photo: A. Thanigaivel

In January 2024, RV Pandi and I from the ACCC embarked on a journey to the districts of Tirunelveli and Thoothukudi. We were tasked with a challenging yet crucial mission: to evaluate the environmental consequences of the recent flooding events, which were the result of heavy rainfall that led the Tamiraparani to overflow and cause extensive damage to the area. As we began our journey from Mukkudal to Srivaikundam bridge, tracing the river's new paths carved through the land, the signs of its fury were everywhere. Near the Mukkudal bridge, the calm flow of the river belied the chaos it had unleashed just days before. Uprooted trees and battered palms lined the banks, silent witnesses to the river's wrath.

Our path led us next to the Cheranmahadevi bridge, where the once-mighty Arjuna trees had succumbed to the floodwaters. Three of these giants lay fallen, their defeat a stark reminder of the water's power. Nearby, a colossal *Albizzia* (Vaakai), uprooted, lay testament to the altered landscape. Further along, at the Palavur anaicut, we encountered *Prosopis* trees, leafless and dying, overwhelmed not by human intervention but by the force of nature. The story was the same in Suthamalli and Naranamalpuram, where the once plentiful palmyra trees had vanished as if wiped from existence by the river's relentless flow.

But it wasn't just the forces of nature that had left their mark on the landscape. Human negligence was evident too. Trees wrapped in clothes and plastic, entangled with invasive *Ipomea* (Veli kaattamanakku) shrubs, had formed a lethal embrace, weakening the trees' defences against the floodwaters. As we continued our survey, reaching Maruthur anicut and later Vallanadu Bridge, the extent of the destruction became painfully clear. The ecosystem, once vibrant and robust, was now scenes of devastation, with native and invasive trees alike toppled and strewn across the landscape.

By the end of our survey, which spanned across eighteen sites and documented the fall of over a

thousand trees, the lessons were unmistakable. The flood had laid bare the interconnectedness of human actions and environmental resilience. The invasion of non-native species like *Prosopis* and *Pithecellobium dulce*, exacerbated by our carelessness with plastics and other materials, had not only fueled the devastation but also underscored the urgent need for more responsible stewardship of our natural world.

In a touching scene close to the Melapalayam Kurukkukkudurai Bridge, we spotted a rat snake basking on a fallen tree. Similarly, in Mukkudal and at the Maruthur anicut, we observed a Grey heron skillfully fishing amidst the swift currents of the river. The floods had rearranged the landscape, turning uprooted trees into makeshift sunbathing sites for cormorants. Furthermore, the river had deposited dunes in Srivaikundam, which now served as a snoozing and preening ground for Painted storks and Spot-billed pelicans—these moments highlighted the resilience and adaptability of wildlife, finding new ways to thrive in the environments altered by the floodwaters.

Floods, seen from a human perspective, cause widespread damage to settlements and infrastructure. However, it is essential to recognize that water has a remarkable capacity to renew ecosystems. When floodwaters inundate riverbanks and floodplains, they bring a wealth of nutrients, sediments, and organic matter. These elements enrich the soil and water, fostering the growth of vegetation and providing habitats for various aquatic species. The inundation of floodplains can trigger the germination of dormant seeds, leading to the rapid establishment of vegetation. By understanding this aspect of floods, we can better prepare for their occurrence, mitigate their adverse effects, and even harness their potential for ecological restoration and resilience-building.

The story of the Tamiraparani's fury is a vivid reminder of the delicate balance between humanity and nature. It is a balance that, once disturbed, can have consequences reaching far beyond the immediate devastation, urging us all to reflect on our role in understanding and conserving our environment for generations to come.

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Vegetation devastated by the flooding of Tamiraparani in Srivaikuntam. Photo: A. Thanigaivel

# Restoring Ayan Singampatti's North Pond

In the past, the North Pond (vadakku kulam) in Ayan Singampatti was abundant in rooted and floating aquatic plants such as Water Snowflake (*Nymphoides indica*), Water Lily (*Nymphaea pubescens*) and Lotus (*Nelumbo nucifera*). They covered around 50% of the surface of the pond. The collection of Lotus flowers from the pond directly contributed to the livelihoods of the region. Additionally, the pond provided indirect benefits to locals through silt collection, as the deposition of silt on the pond floor increased due to the decomposition of plant material. Last summer, farmers collected silt from the pond and applied it in their fields to grow crops. The addition of silt increases water-holding capacity and enriches the soil with nutrients. This meant farmers could grow crops even with little rain. For instance, during a drought year in 2016, farmers had to spend more than ₹25,000 per acre for irrigating their crops. However, after the silt collection, the pond deepened and its water-holding capacity increased. Now, farmers get water for their crops in two seasons, saving them a lot of money on both silt collection and water usage. Unfortunately, Water lettuce (*Pistia stratiotes*), an invasive floating plant, introduced to the wetland in 2013, spread all over the pond's surface, blocking sunlight from reaching the bottom of the water. This hindered the survival of other aquatic plants. As a result, the number of lotus plants decreased gradually, and the whole pond's diverse ecosystem too.

Six months ago, ACCC began wetland restoration efforts. This included strengthening the bunds, removing the silt from the pond for farming and introducing native plants that support local livelihoods. ATREE and the local Panchayat mutually arrived at a restoration plan that could improve the biodiversity of the pond in a way that links to the livelihoods and irrigation facilities of the villagers. We planned on planting native vegetation like bamboo which provides nesting materials and habitat for birds. Just as the ACCC team prepared to reintroduce naturally occurring aquatic plants as part of the restoration process, heavy rains filled the tank unexpectedly. Consequently, *Pistia* rapidly regrew and once again covered the pond. To prevent the spread of *Pistia*, we are planning to bring in naturally occurring aquatic plants specific to the region in the upcoming years. We intend to engage villagers in physically removing *Pistia* from the pond. We plan on introducing paai korai (*Cyperus pangorei*), which can be woven to make mats, and amalai kizhangu (*Cryptocoryne spiralis*), an accepted substitute for the endangered medicinal plant Atish (*Aconitum heterophyllum*) from the Himalayas. We will bring

The Ayan Singampatti pond convered by the invasive *Pistia stratiotes*. Photo: ATREE-ACCC

back Lotus in the pond, which has a variety of habitat requirements, including deep silted soil, rocky areas with sandy soil, and shallow areas with clayey soil and plants. We believe that a part of the pond should be cleared of silt and reproductive materials, anticipating that the remaining patches will naturally regenerate with a diverse range of plants and associated animal life over a few years. By adding more variety to the plants, we hope to make the pond ecosystem healthier and help the environment and the people who depend on the wetland.
The North Pond in Ayan Singampatti is a reminder of the indispensable role of water in sustaining ecosystems and livelihoods. From nurturing a rich diversity of aquatic plants which directly contributed to local economies, to facilitating agricultural productivity, water serves as a lifeline for both natural habitats and human communities. The ongoing restoration efforts are aimed at protecting and managing water resources for the benefit of both the environment and the people who rely on it.

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# When Life Gives You Floods, Go for a Swim!

In December 2023, the southern Tamil Nadu districts of Tirunelveli, Thoothukudi and Kanyakumari suffered from the consequences of unprecedented rainfall. The rains lashed the southern districts for three straight days, causing flash floods in many parts of cities, towns and villages. Places such as Kayalpattinam and Tiruchendur in Thoothukudi district received as much as 90 cm of rainfall in a single day! As a district, Thoothukudi has drylands and coastal plains and to receive almost a year's worth of rainfall in a single day, the consequences can only be fatal.

Areas in and around Radhapuram taluk did not see the extent of damage that Tirunelveli town, Kayalpattinam and Tiruchendur witnessed. A few roads near the place I was staying had some caving but no movement was hindered. Many grasslands turned into large lakes, low-lying areas into ponds and roadsides into mini rivers. After the rains reduced, I took my bike around to check the extent of damage, if any. It was starkly contrasting to the tweets and news I saw from other parts of the district. Here, kids and youngsters had turned the stagnant pools of water into impromptu swimming pools. While their kids were engaged in play, women and men used the water to wash clothes and vehicles. Roadblocks were created by livestock groups as they found some respite from the warm roads. Flocks of waterfowl populated these grassland-turned-water bodies. They were accompanied by the nocturnal chorus of toads and frogs. Life seemed to be well and truly back to normalcy.

As I returned to my room, I could not help but think of the apparent contrast that existed within 50-60 km from where I was staying. People lost livestock, homes, valuables, vehicles, livelihoods, and most of all, their lives. Witnessing the Chennai floods in 2015, Cyclone Vardah in 2016 and the southern TN floods in 2023, I reminded myself about the unstoppable fury and the power of water.

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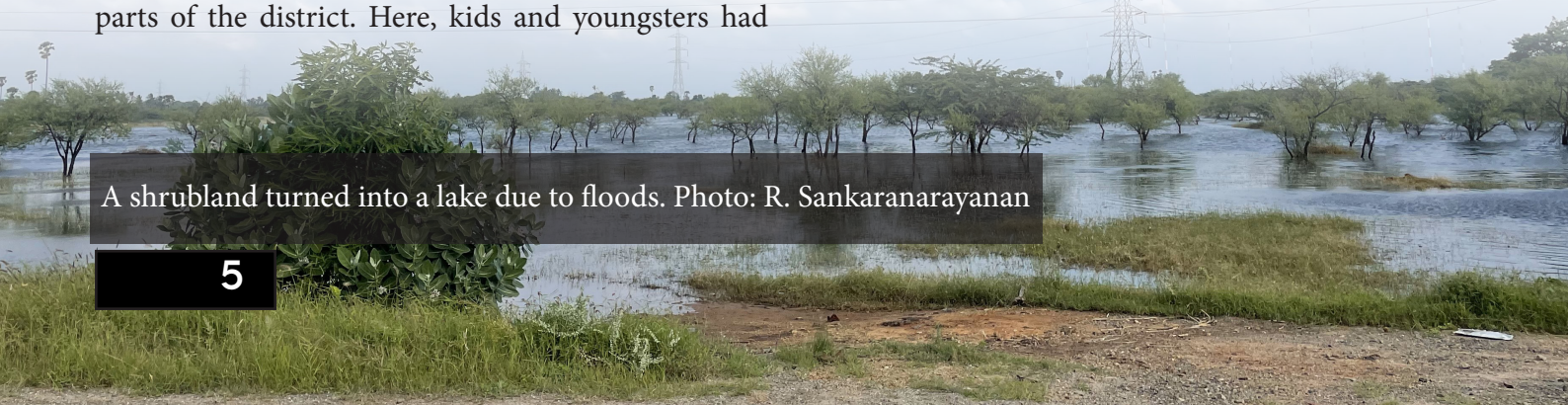

A shrubland turned into a lake due to floods. Photo: R. Sankaranarayanan

# Fishing in My Village

I enjoy observing and catching fish and have spent many hours watching others cast nets and hooks in the river. Recently, ACCC initiated a fish count in the Tamiraparani river, giving me an opportunity to try my skills in fishing.

I have tried to catch fish using a fish hook and thought throwing nets would be an easier way to catch. After a few attempts, I learned that it is very challenging. I practised several times in the ACCC campus before venturing to the 40-foot canal. The first throw in the Manimuthar river near Ramar Kovil was not successful but we moved ahead and tried again. This time, I succeeded and caught 30 fish which accounted for about seven species , including Filament Barb (*Dawkinsia filamentosa*), Long-snouted Barb (*Puntius dorsalis*), Giant Danio (*Devario aequipinnatus*), *Systomus* sp., *Xenentodon* sp., *Salmastoma* sp., and *Rasbora dandia*, with *Salmatoma* sp., being the most

*Rasbora dandia:* A freshwater fish species.
Photo: S. Thalavaipandi

abundant. Later, we went to the river near Agasthyar temple in Zamin Singampatti and caught around 12 species which also included the Marbled Spiny Eel (*Mastacembelus armatus*). It was interesting to see a few fish infected by fungus, which calls for further study to find the cause. Fishing went on whole day and we returned to ACCC at night after releasing the fish in their respective places.

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# Life Thriving in Hyper-saline Waters

A recent visit to Punnakayal Salt pan in Thoothukudi was part of one of our educational programmes, Rovers. It consists of 25 students who were amazed by the beauty of the unique ecosystem. Learning about salt pans, ecosystems characterised by high salinity and extreme conditions, reveals that they are surprisingly vibrant centres of life that demonstrate nature's adaptation and resilience. These fields are found in coastal areas where there are greater salinity levels because of seawater. With their saline nature, these sites create unique ecosystems and provide support for a diverse array of organisms, from microorganisms to birds. Halophiles (salt-loving microorganisms) play an important role here in nutrient cycling and soil formation. Some halophytic plants such as sea purslane, salt heliotrope, annual sea blite, and pickleweed found in these salt pans are specially adapted to hypersaline environments. Some of them are used to prepare local delicacies.

Molluscs and crustaceans are examples of the fauna that may be found in salt pans. One of the primary crustaceans found in these habitats is the brine shrimp (*Artemia sp.*). These brine shrimps, which contain beta carotene (a red-orange pigment), are partly the reason for the pink colouration in flamingos. Apart

A salt pan from Punnaikayal, Thoothukudi
Photo: R. Sahanashree

from these, salt pans support several migratory birds as well. It is a crucial stopover point for migratory birds, providing them with much-needed rest and nourishment during their long journey across the continent. In conclusion, our students, known as 'Roversians,' were mesmerised by nature's capacity for resilience and adaptability demonstrated by nature in these saltpans. Through their exploration of salt pans, they discovered that these landscapes are not merely salt-producing sites but dynamic habitats, interestingly connected to surrounding ecosystems and integral to local biodiversity.

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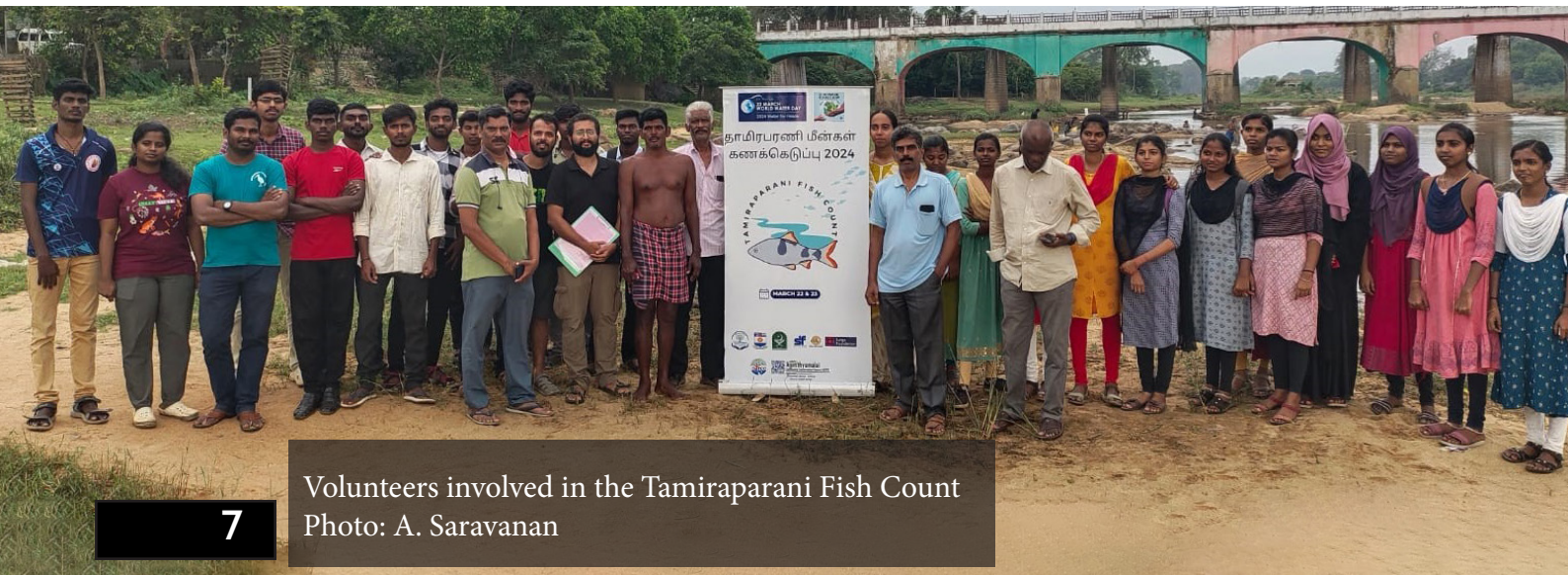
# Tamiraparani Waterbird and Fish Count

The Tamiraparani Wetland Count (TWC) was initiated in 2014 to bring in local volunteers from the Tirunelveli, Thoothukudi and Tenkasi districts to participate in wetland conservation and instil interest in bird watching. The 14th edition of the TWC took place from February 16 to 18, 2024 with over 150 volunteers covering 57 tanks located in Tirunelveli, Tenkasi, and Thoothukudi districts. A total of 24,207 birds from 66 species were recorded, with notable sightings including Northern Pintails, Northern Shovelers, and the Near Threatened Black-tailed Godwits. However, many tanks across the three districts faced the aftermath of the 2023 floods, highlighting the vulnerability of tanks and channels to natural disasters. Urgent conservation measures and proper management of tanks are needed to protect these vital habitats.

Over the past decade, ACCC's citizen science initiatives have had a significant impact in mobilizing local communities for research and conservation of natural habitats. In continuation of this mission, the Tamiraparani Fish Count was launched in March 2024, with the objective of understanding and comprehensively documenting the fish diversity of the Tamiraparani river. The survey commenced with a training workshop in Kallidaikurichi on March 22nd, bringing together students, local volunteers, and fisherfolk to learn sampling and counting protocols. On March 23rd, seven teams comprising experts, fishermen, and students conducted surveys across seven locations along the Tamiraparani River, including Papanasam, Kallidaikurichi, Thirupudaimaruthur, Gopalasamudram, Seevalaperi, Karungulam, and Srivaikundam. A total of 36 fish species and approximately 1197 individual fishes were recorded during the fish count. Kallidaikuruchi and Srivaikundam recorded the highest number of species, with 16 and 17 species respectively. Among the 36 captured species, 31 were native species, 2




Volunteers involved in the Tamiraparani Fish Count
Photo: A. Saravanan

were introduced and 3 were invasive. Notable sightings included the endemic Tamiraparani Barb, Mahseer, Half-beak fish, and Torrent catfish. The presence of rare Smooth-coated Otters at Papanasam underscored the river's vitality. Such initiatives are aimed at the conservation of wetlands and their associated biodiversity. It is important that such initiatives happen regularly and that there is greater stakeholder and public participation in conserving crucial wetlands.

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## Feature article

# El Niño's Impact: Unravelling the Tale of Floods and Droughts in Tirunelveli

Tamiraparani River, along with its resilient residents, has faced the relentless grip of El Niño's fury, experiencing firsthand the catastrophic consequences of this cyclical climate phenomenon. It's not merely about enduring harsh and erratic weather patterns; rather, it's about the profound impact of these disruptions, tearing through lives and livelihoods, and leaving behind a landscape scarred by destruction and despair. The recent hydrological rollercoaster of droughts followed by floods, all exacerbated by El Niño's influence, has pushed the community's resilience to its very limits.

The prolonged absence of rainfall from June to August 2023 plunged Tirunelveli into a state of water scarcity, with devastating consequences for both residents and agricultural productivity. Despite the presence of perennial rivers and numerous dams, farming activities in areas like Kallidaikurichi and Ambasamudram suffered crippling setbacks. Just when a glimmer of hope began to shine through with sporadic rainy days in September, fate dealt a cruel blow with floods striking in December 2023. The sudden deluge, confined to just a handful of days, wreaked havoc, displacing families and leaving behind a trail of destruction. The toll on the farmers has been immeasurable. Beyond the loss of crops and livestock, they've endured a profound emotional toll as their identities as stewards of the land were washed away in the torrents. Rice paddies, sugarcane fields, banana plantations, and vegetable plots alike were decimated, exacerbating the economic strain on the already vulnerable community.

Tamiraparani overflowing near a stand of *Terminalia arjuna* trees in Mukkudal.
Photo: A. Thanigaivel

The River Tamiraparani. Photo: Sneha Shahi

In places like Manimuthar, the devastation reached staggering proportions, with a single day witnessing an unfathomable 430mm of rainfall. The scars run deep, serving as a stark reminder of nature's unforgiving power and the vulnerabilities of climate-dependent livelihoods. As we speak to them and try to understand their realities after these natural disasters they inform us that they are trying to gather the shattered remnants and re-embark on the arduous journey of rebuilding their savings, farmlands for the next crop season, procuring the necessity of sustainable water management and they hope that there are robust disaster preparedness plans. We must stand united as a community to confront the impacts of El Niño head-on, ensuring the safety and security of all residents. These natural calamities have left an indelible mark on the Tamiraparani river basin. As we strive to rebound from these adversities, the urgent need for sustainable water management strategies and robust disaster preparedness plans becomes glaringly apparent. It's crucial for our resilience and future prosperity that concerted efforts are made to mitigate the impacts of these hydrological extremes, ensuring a safer and more secure environment for all. Together, we need to build communities and resilient ecosystems where the spectre of El Niño no longer casts a shadow of fear over our lives.

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## Glimpse into the Past

# A Rendezvous with the 1992 Cyclone

Given the recent deluge in the Thoothukudi and Tirunelveli dist., I thought I would recollect the 1992 cyclone that passed through Tirunelveli and KMTR on 16-17 Nov. It devastated Tirunelveli and Kanyakumari districts, similar to what happened in Thoothukudi this time.

It was late afternoon. Raja and I were completing the fruit plots when we felt a drizzle and a cool wind. We decided to hurry up and head to the jeep knowing how these drizzles can intensify and persist during the northeast monsoons. Those were the days when Nalmukh was the happening place for us where we would eat and drink endless chai in the good old Rajan kadai in the company of noisy workers dissecting every matter of concern under the sun. We finished our dinner and reached our little electricity board shack at Upper Kodayar. As the night wore on, the rain intensified and pelted as if the heavens had opened all their floodgates. I had never experienced such rain. Water was all around the house. Expecting it to flood the room I put all my stuff lying on the floor on the cot and curled up with it. Morning dawned misty with the stream in front of the house swelled and rose almost to the door. The jeep was standing in water. The kitchen water had receded and the toilet was still functional despite mud caving in. The thick stone wall had prevented further damage.

There was no sign of any bus or vehicle, but then Raja who lived just above our shack came running with the news of a cyclone. He said, "Sir, dam overflowing, shutters opened flood everywhere". The tea estate vehicle that came to check for power brought the news that the wooden bridge connecting Nalmukh with the rest of the world was overflowing and so was the Attupalam at Nalmukh. Those days Raja had some cows and supplied milk to Nalmukh every morning. Even though none of us were very familiar with driving, we took the vehicle with his milk can and headed to Nalmukh. The Attupalam was indeed full. We were hesitant to cross but with some guts, we pressed on and moved the vehicle through the water, it swayed widely but being a heavy one it could be controlled and soon we were on the other side. There was talk everywhere about roads and people getting washed away along the Tamiraparani and the road to Manimuthar cut off as the bridge at 'falls' itself was

The catchment of the Kodayar dam.
Photo: S. Thalavaipandi

A flooded Tamiraparani. Photo: S. Thalavaipandi

washed away! All excited, we decided to investigate. The wooden bridge was partly broken and the sturdy water flow monitoring station that had stood for decades on the Manimuthar river had perished with only one pillar barely visible under the water. The river was roaring and fuming as it tumbled down into the gorge with an enormous quantity of water gushing through. We were marooned.

We returned to Kodayar, Raja made food at his home and we remained in a restless bliss thinking of how to escape from the place. The rain at night was very intense. The rain gauge at Kodayar had overflowed and one at Nalmukh recorded close to 1000mm. There was no wind, and tree falls were limited, however, landslips were everywhere along the road. The only escape route was through Value House to Lower Kodayar and then to Nagercoil. This was a better option compared to taking the long route to Manimuthar. After some thinking and given the shortage of rations I decided to embark on the journey. One that nobody was ready to undertake except Raja. We left early in the morning when it was still dark, not knowing what was in store. We crossed the swollen Kodayar river through the tunnel in the main dam as the Chinna Kutiar bridge was washed away. The progress was good and in about 2 hours we were at Value House from where a steep descent to lower Kodayar begins. Completely soaked, we descended the steps along the winch route, viewing the expansive mountains around us. The steps became steeper after the second winch station, descending vertically towards the lower Kodayar dam. This was unnerving as one false step would result in a direct plunge into the dam. Shakti, our intern, had no choice but to accompany us, even though he was petrified. We had to move him step by step till we reached the safety of the plains, but by then it was already dark. To make matters worse, there was no road to walk on and everything was covered in mud. The only guide was the river, as I remember the road used to go along the river. Raja was a master of jungle exploration who had spent his young years moving from one jungle stream to another to brew arrack and support his family, including two young brothers and a sister. It was a hard life for him and working with us was a big relief. With a torch that was as good as nothing he took us through the muck as we trudged, fell, rolled in mud and finally reached the lower Kodayar EB camp. People were shocked to see us and they all had one question- did we bring along their executive engineer staying in Upper Kodayar? We did not know he was there but told them he could walk down with some assistance. Meanwhile, people crowded around three mud-laden shivering men sipping some hot tea as we narrated our escape from the ravages of the cyclone, or at least that was what we thought. As we hit bed more bad news trickled in - lower Kodayar was also marooned.

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# Strategic Feeding by Checkered Keelbacks

Upon arriving in Tirunelveli, we had a few items on our bucket list: observing new animals and learning about their behaviour. On a particularly hot day, after completing data entry, we decided to take an evening stroll along the canal. As we were busy birdwatching, we received a call informing us to hurry over. Initially assuming it was about fish, we diverted our attention to the mountains and birds. It was only later, when our colleague explained with pictures and directed us to focus on the broken stones in the check dam that we realised it was a snake called the Checkered keelback. The snake was nestled in the cracks of the check dam, patiently awaiting its prey. Despite the polluted water, both the snake and the fish seemed to thrive in it, with the fish swimming upstream. There were a considerable number of fish, and we noticed three checkered keelbacks eagerly eyeing them for a meal. They utilized the cracks in the check dam both as shelter and as a strategic feeding spot, undisturbed by the presence of people wandering in the water or along the check dam. Checkered keelbacks are known to be both aggressive and shy. One keelback was positioned on the right side while the other two were on the left side of the check dam. Through our binoculars, we could see the keelbacks patiently waiting for their prey and indulging in a feast. The one on the right side seemed to have a plentiful food supply, effortlessly capturing fish as they swam directly into its waiting jaws. It had caught seven fish but still wanted more. So greedy! On the contrary, the two keelbacks on the left side were less fortunate, patiently waiting for fish amidst fewer chances. The diminished water flow made it challenging for the fish to swim upstream, leading them directly into the grasp of the waiting snakes hidden in the cracks of the check dam. The sight of fish gliding effortlessly into the snake's mouth, accompanied by the clicking of camera shutters amidst the flowing water, created a joyous atmosphere. As we made our way back to the field station, we reflected on the predator-prey dynamics that unfolded in front of us.

A Checkered keelback patiently waiting for the right moment to grab its prey.
Photo: K. Drishya

# The Forgotten Toll of Pollution

A cormorant tangled in a fishing net.
Photo: Selvakumar

On the first day of the 2024 Tamiraparani fish count, a team of us reached the Karungulam river. While doing the count, amongst the Cyperaceae bushes, I noticed a small, water-filled pit. When I peered into it to take a closer look, I found a chilling sight. A cormorant, a resident in the Tamiraparani river, lay there lifelessly. I realised that it did not die of natural causes. Instead, the body of the bird was entangled in a discarded fishing net. It proved to be a stark reminder of the devastating impacts our actions have on an ecosystem.

As the weight of this discovery settled, a sense of profound sadness engulfed me. This was more than just the loss of a single life; it was a symbol of the broader environmental crisis we face. This encounter cast a shadow over the remainder of the day, serving as a reminder of the urgent need for greater awareness and accountability in our interactions with the natural world. There is an urgent need to call for action, urging us to confront the dangers of pollution and irresponsible fishing practices before it is too late.

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## News and Events

- A synchronised forest bird count was conducted by the Tamil Nadu Forest Department in collaboration with ATREE-ACCC in and around the Kalakkad Mundanthurai Tiger Reserve between 2 - 3 March 2024.
- Thalavaipandi and Sahanashree conducted workshops on moths and ants at the Auroville Botanical Garden, Villupuram on 10 March 2024.
- Gopalasamudram restoration site
- Rovers WilD Camp was conducted for 26 students from the Isha Home School, Coimbatore in collaboration with the Kalinga Centre for Rainforest Ecology (KCRE), Agumbe from February 22 - 24 2024.
- Synchronised harrier count was conducted in Tirunelveli and Thoothukudi from 8th - 10th Feb 2024. Around 80 harriers were recorded from 15 sites.

## Snippets

- During an owl survey near Kadayam, Aditya Ganesh detected Indian scops owls.
- R. Sankaranarayanan sighted three white storks flying over Kasthurirangapuram grasslands.
- R. Sankaranarayanan, M. B. Prashanth and Sankar Subramannian spotted Egyptian vultures in Zionmalai, Moolakaraipatti and Vijayanarayanan, respectively.
- S. Selvakumar spotted a Bare-bellied hedgehog exhibiting defensive behaviour in Moolaikkadu on 12 Jan 2024.
- Near Threatened Black-tailed godwits were spotted in Kuppaikurichi tank by TWC volunteers.
- S. Thalavaipandi and S. Selvakumar spotted an Osprey in Uchikulam Tank During TWC.

# Research Highlights

1. Thalavaipandi, S., A. Kannan, M.B. Prashanth & T. Ganesh (2024). First report of moth species of the family Tineidae (Lepidoptera) in regurgitated pellets of harriers in India. *Journal of Threatened Taxa* 16(3): 24992–24995. https://doi.org/10.11609/jot.8341.16.3.24992-24995

*Monopis* moth. Photo: S. Thalavaipandi

The study documents the first known occurrence of Tineidae moth caterpillars, pupae, and adults within harrier pellets, with significant findings from roost sites in Maharashtra and Tamil Nadu. The presence of moths such as *Monopis* cf. *monachella* suggests a novel ecological interaction between these moths and harriers, with implications for understanding dietary preferences and potential biases in ecological studies.

2. Ganesh, A., Kannan, A., & Ganesh, T. (2024) Rodent communities in a neglected grassland landscape: Investigating species-specific responses of grassland rodents to habitat type and shrub presence. *Journal of Arid Environments* Vol. 222. https://doi.org/10.1016/j.jaridenv.2024.105156

In the grasslands of Tirunelveli, this study investigates the relationship between habitat type and shrub presence on the activity and density of rodents. The findings reveal species-specific responses to shrub presence, with the Soft-furred rat dominating and showing adaptability to different shrub levels. The Indian gerbil exhibited reduced activity in densely shrubbed sites, whereas the Indian palm squirrel showed increased activity. The research highlights the importance of considering habitat structure for the conservation of rodents and grassland ecosystem health.

Indian gerbil. Photo: A. Thanigaivel

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