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# The Agasthyamalai landscape

Land of mountains, wetlands and biodiversity

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A typical day would begin with a sip of tea and crunchy 'vada' in one of the roadside *chaai kadais* (tea shops), breathing fresh air and watching the sun rise on one side and mists wrapping the mighty Agasthyamalai hills on the other.

On our drive, we would stop by several wetlands and watch spoonbills scooping the shallow edges as if sweeping the muddy bottom with a sideways motion; long-legged stilts doing a ballet on pink legs; Wood Sandpipers and snipes skulking in the grass, Little Ringed Plovers with their pretty, yellow, eye rings daintily picking grubs and the unforgettable frenzy of feeding storks, egrets and pelicans in near-empty ponds stocked with fish trying in vain to escape. Occasionally, a Marsh Harrier swooped by the edge of the tank flushing all birds and making our birdcount that much easier.

## The Agasthyamalai range

The towering Agasthyamalai range in the southern Western Ghats shadows a flat semi-arid land that stretches eastwards and south as far as the eye can see. Perennial rivers arise here from the mountains and meander through this dry, hot and densely-populated region. The landscape in Tirunelveli in south Tamil Nadu is stark but beautiful – a panoramic canvass of hills, paddy fields, ponds, palmyra trees, and waterbirds embellished by distant chimes from ancient temples and churches.

Agasthyamalai's rivers are supplemented by a man-made river-canal-tank network established centuries ago. The value of this water was so well-recognised that the British administrators who wrote in the *Manual of the Tirunelveli district of 1879* said: "The Government did not encourage coffee planting in Tinnevely, being anxious to preserve the forests which clothe the *ghauts* for the sake of their influence upon the rainfall on the



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**FACING PAGE AND LEFT** The towering Agasthyamalai range in the southern Western Ghats shadows a flat semi-arid land. Perennial rivers arise here from the mountains and meander through this dry, hot and densely-populated region. The landscape is a panoramic canvass of hills, paddy fields, ponds, palmyra trees, and waterbirds like the Spot-billed Ducks *Anas poecilorhyncha*.



**ABOVE** Agasthyamalai's rivers are supplemented by a manmade river-canal-tank network established centuries ago. These welcome exquisite migrants like the Little Ringed Plover *Charadrius dubius*. Their webbed toes enable them to move through shallow waters along the edges of waterbodies, especially along the muddy patches from where they pick up small arthropods and worms.

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The natural matrix of paddy fields, palm trees, ponds, lakes and rivers offers vital shelter to a diverse assemblage of waterbirds, including winter migrants. Additionally, the old trees and plantations in the tanks and villages support heronries that locals believe bring prosperity and well-being. A search for information on the birds here revealed very little – few anecdotes from the past and some from recent exploratory surveys. Otherwise, birdwatchers seem to have forgotten this landscape which is home to large populations of avians. The large tanks were quite literally an oasis in a relatively lifeless dust bowl.

### Surveying the tanks

We have conducted bird surveys in several tanks in Tirunelveli and Tuticorin over the

In the summer of 2010, we counted around 1,100 terns, 320 White Ibis and 84 Spot-billed Ducks in the tank and, in June, over 150 Spot-billed Pelicans and 57 Eurasian Spoonbills. Incredibly the tank is used for domestic purposes on one side with wild bird flocks congregating peacefully on the opposite shore

past three years. Some, such as Vattakulam, on the Tirukurangudi-Nagercoil road, looked at a distance like a green field decorated with black and white spots. A closer examination revealed hundreds of Glossy Ibis and egrets feeding in the drying tank bed. Where the water was deeper, pelicans, cormorants and egrets would join the feeding frenzy.

Amazed to see over 200 ducks including Spot-billed, Garganey, Northern Pintail, Lesser Whistling and Comb (Knob-billed) Ducks, we stopped at midday for a longer look at the large Veetirundan *kulam* tank. The first thing we saw were relatively large numbers of Ashy-crowned Sparrow Larks on the bank, with waders including Black-winged Stilts, Eurasian Spoonbills and Little Ringed Plovers, hunting in the shallow margins.

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The Pirancheri Periyakulam tank situated on the Tirunelveli-Ambasamudram road also sustains a rich diversity of birds.

While the floating vegetation in the tank supports moorhens and jacanas, the grass and reed beds are used by ibis, herons and egrets. In winter, the tank is virtually taken over by Lesser-whistling Duck, Cotton Pygmy-goose, Spot-billed and Comb Ducks, together with Common Coots.

It was on one of those typically hot afternoons that we came upon a tank, Vagaikulam, which was encircled by paddy fields. As we approached the tank we could see semi-submerged *Acacia nilotica* trees adorned with a treasure of birds we could never have imagined seeing outside a Protected Area. There before us were Black-crowned Night Herons, Black-headed Ibis, cormorants and egrets, all nesting or roosting. Seeing our interest in the birds, the villagers suggested we return in the evening, assuring us that we would see no less than a thousand roosting birds. We did just that and as we saw the Night Herons depart for their nocturnal hunt, the sky suddenly filled with silhouettes of birds flying in to roost. Soon the trees looked like they were illuminated with white bulbs – all egrets and ibises.

Soon we began exploring more tanks, fed by the Tamiraparani river. By now we expected to see many more heronries and important bird habitats. The river basin fed many tanks in the Tuticorin district, of which Kadamba *kulam* was the largest – a mini-reservoir that fed 14 smaller tanks.

It was September 2010 and most tanks fed by the Tamiraparani river had already run dry, but in Kadamba *kulam* we could hardly believe our eyes for, before us was a congregation of over 10,000 coots, hundreds of Painted Storks, Black-winged Stilts, Spot-billed Pelicans and Black-tailed Godwits. That winter we counted over 9,000 migratory ducks including Northern Pintails, Shovellers and Eurasian Wigeon. The nearby Arumugamangalam tank, a humungous waterbody, also sported a large number of migratory ducks that were



**ABOVE** A congregation of egrets in the drying tank bed of Vattakulam on the Tirukurangudi-Nagercoil road. The value of this water was so well recognised that the British administrators who wrote in the *Manual of the Tirunelveli district of 1879* said: "The Government did not encourage coffee planting in Tinnevely, being anxious to preserve the forests which clothe the *ghauts* for the sake of their influence upon the rainfall on the mountains upon which the rice cultivation of Tinnevely entirely depends."

difficult to count in the carpet of aquatic vegetation that clothed the tank.

### Threats and conservation

But we also saw the dark side of heaven. Cormorants caught in snares, an adult rock python killed and thrown into the tank and more horrors, too numerous to list. We once caught up with a group of local youth with a bunch of garden lizards, which we convinced them to release. Birds and lizards were poached on a smaller scale by the locals, but the biggest threat was to the turtles. Poaching of flap-shell turtles in the large tanks around Sirivaikuntam was rampant, largely to supply distant markets.

Landfills and agriculture along the edges, whittles away the tank, reducing it in size. Many small tanks have disappeared altogether, replaced by paddy fields with only *Palmyra* trees to remind us of a glorious past. The tank water is diverted for non-agricultural purposes and invasive weeds like *Ipomea carnea*, *Eichornia crassipes* and *Pistia*

*sp.* have intruded upon the waters. Many local traditions have also been discarded. Earlier, a system of voluntary service helped maintain the tanks. Today, locals expect the government to maintain the waterbodies that support them.

What does all this mean? Does the present generation not value water as their forefathers did? The disconnect among the present generation with their environment was palpable. The young farmers mistakenly blamed harmless birds like Jacanas and sandpipers for crop damages! The pest control service of egrets that followed the farmer as he ploughed his field, or Jacanas and sandpipers picking off insects in paddy fields were simply not valued. Incredibly, farmers burst crackers to chase them away, even though the older generation-farmers would repent such activities.

How on earth are we to preserve and protect such biodiversity with changing landscapes and mores? Young locals who have lost respect for their traditions and the wisdom of their elders view the biodiversity as a hindrance or of no significance to their livelihood! They want the water, but cannot make the connection between water and the birds and other life forms that enhance the quality of water. Towards this end, conservation education programmes may provide some help. Even the simplest of leaflets of common birds handed over to

children in whom the joy of birdwatching is being inculcated by a local NGO, can go a long way in reconstructing stewardship. The tanks in which we saw so much biodiversity were protected by traditions whose loss is going to have a direct bearing on the survival of one of India's least known and fast vanishing wetlands. The hope lies in the stewardship for nature that has to be built into the local communities' mindset. What we have done with our surveys is merely document the treasure... we now hope that people with different talents, different strengths from our own, will somehow convince communities to protect these heritage sites, which are really life-rafts of survival in a landscape that will die without the life-giving waters and their wild inhabitants. 🐦

#### Herony under threat

Vagaikulam, the herony situated near Alwarkurchi in Tirunelveli district, was discovered by us in 2008. The herony is under threat as the *Acacia* trees are being auctioned to be cut by the Forest Department. A PIL has stayed the cutting and the Ashoka Trust for Research in Ecology and the Environment (ATREE) which is working in the region is planning to obtain a 'Biodiversity Heritage Site' status for it. The herony is used as an important education site for kids and for research by local colleges. The villagers of Nanalkulam and their children have been responsible for preventing the cutting of the trees.