

## ATREE Celebrates 25 Years



ATREE completed a quarter-century of ground breaking work in the field of conservation and sustainability. We celebrated **ATREE@25** with a two-day event in Bengaluru under the broad theme '**Life and Lives**' with sessions on **Naturescapes**, **Urbanscapes** and **Waterscapes**.

Attended by over 1000 people, the programme was a combination of technical talks, stimulating discussions, café-style debates, panel discussions, fascinating films, environmental board games, a sound booth and a cultural programme.

### Keynote Address

#### **Bridging Disciplines, Bridging Roles: Inter-and trans-disciplinary challenges in environmental research**

*By Sharachchandra Lele, ATREE*



Dr Lele began his keynote address by tracing ATREE's journey over the years since its inception. He charted its shift in focus from knowledge generation to impact-driven research, stressing the importance of 'knowledge for change'. In his vision for ATREE for the next 25 years, Dr Lele said ATREE must remain true to its knowledge mission by investing in rigorous, long-term, salient biophysical science, bringing back rigorous social science, expanding its engagement with technology/engineering and providing policy inputs based on ATREE's interdisciplinary research.

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### Naturescapes

#### **Plenary: Why do we conserve species that kill people?**

*By Nitin Sekar, WWF-India*



Nitin Sekar spoke about the complicated relationship wildlife conservation has with evidence and logic, underlining some of the "ecological mythologies" that conservationists put forth to justify conservation of wildlife that do not stand up to scrutiny. He cited cases where certain species are considered 'keystone species' without real evidence. One of the case studies he mentioned was the wolf reintroduction programme in Yellowstone National Park, whose effects remained overstated and trophic cascades in the area were not very evident. Instead of making tall claims that are difficult to prove for conservation, could we use evidence-based moral reason and animal welfare as central to conservation?

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## **Shola-grassland mosaics: past, present and future**

*By Mahesh Sankaran, NCBS*



Dr Mahesh spoke about the unique grassland habitat – the shola forests mosaic ecosystems –found in only some parts of the world. He described one of the studies done by his team in the Nilgiris where invasion by exotic plants into the grassland is a major concern. One of the studies by his team led by Dr Atul Joshi found that low temperatures don't let trees take over the grasslands, implying that future warming can affect these ecosystems directly. The study also found better survival of invasive species in case of higher temperatures, which is a major cause of concern.

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## **Tri-decadal phenology monitoring of evergreen forest trees: some insights and challenges**

*By T Ganesh, ATREE*



Dr T. Ganesh spoke about the long-term phenology study being conducted at Kalakkad-Mundanthurai Tiger Reserve (KMTR) and BR hills. The study in KMTR has involved monitoring over 800 trees since 1993. The studies have shed light on a few interesting phenomena, apart from noting how cyclical patterns occur naturally in terms of flowering or fruiting. Dr Ganesh also spoke of the challenges in conducting such long-term studies like commitment at an individual and an institutional level, trained manpower, funding, and permits from the forest department.

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## Place-based solutions for biodiversity conservation in Eastern Himalayas

*By Sarala Khaling*



Dr Sarala Khaling, in her talk, reflected on the 20 years of the Community Conservation Centre (CCC) in Darjeeling, raising important questions on the scale and impact of the CCC.

Drawing attention to the importance of engaging with local communities, Khaling highlighted the CCC's thrust on working together, building institutions and focusing on the rights of the forest dwellers as part of its PRA activities. She questioned whether there has been a distancing of indigenous people due to outside interventions.

In conclusion, Dr Khaling emphasised the need for place-based approaches that are site-specific, have direct engagement with the communities and have a shared vision and commitment to conservation. For this, she focused on the need for piloting, scaling and replicating to see changes in impact.

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## Yuk to yum! Edible insects as future food

*By Priyadarsanan Dharmarajan*



Priyadarsanan, in his presentation, took us on a journey of alternative protein sources, which are “uncommonly common”. Over 300 species of insects are eaten by approximately **2 billion people in 150 countries**. Despite such large numbers, the seemingly cheap alternatives to protein are actually high-priced. Insects have more nutritional value, are rich in protein and low on fat and have high quantities of micronutrients, yet the consumption of these remains taboo.

In India, eating insects could challenge questions of global food security. Priyadarsanan also shed light on the practice of rearing insects for food and how that can be managed sustainably. Insect farming has a low water footprint and also contributes to the SDGs. However, Priyadarsanan lamented the large policy gaps that remain viz-a-viz insect farming and how FSSAI does not certify any insect produce except for honey. Viewing insects as alternative sources of protein has a long way to go before it is legalized in India.

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## Urbanscapes

### Plenary: Urban Equipoise -the search for better balanced and healthier urbanscapes through scenario-thinking

*By Anne Feenstra, Principal Designer, Himalayan Architecture & Planning*



‘Once upon a time, a city was a solution for commerce, trade, industry, but today we talk about cities as a problem. What went wrong? Between 2011 and 2021, Mussoorie’s population grew by 35%.’, Feenstra remarked during his talk. He was part of the team that prepared the Mussoorie 2040 plan. One of the cornerstones of this design was understanding how the population of Mussoorie changed with the tourist season. His talk asked the important question, ‘How do we prevent urban sprawl?’ He emphasized that urban settlements should be co-designed along with the community.

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### Integrating water circularity into Blue-Grey-Green



## Infrastructure

*By Shreya Nath, ATREE-CSEI*



Shreya Nath presented a talk on the interlinkages between blue-green-grey infrastructure in cities. She spoke about how wastewater can become a valuable resource, and illustrated the three campaigns: "Grey to Green"- reuse of treated wastewater for greening public spaces, "Grey to Blue"- Reuse treated water for groundwater recharge and "Grey to Yellow"-reuse wastewater for construction/roads/industry.

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## Growing Cities: Farmscapes across Rural and Urban India

*By Chandni Singh, Indian Institute for Human Settlements*



Chandni Singh furthered the urbanscapes discussion by focussing on growing cities. She quoted Amartya Sen and Jean Dreze (Uncertain Glory): 'India's growth story is making the country look more and more like the islands of California in a sea of Sub-Saharan Africa.' There's been a geographical decoupling in cities of where the food is produced and where it is consumed. Singh drew the attention of the audience to the fact that 'Urban drought is the silent disaster we don't talk about. Cities are literally sucking water from the peripheries.'

Bangalore has 30-40% urban farmers growing food for their families. Urban farming allows for a better relationship with food, the kind of inputs required, bonding and cohesion within households and communities and more awareness around integrated systems like recycling, reusing wastewater and solid waste management. For sustainable cities, we need decentralised solutions with citizens at the centre.

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## Bees and cities - is there a win-win?

*By Chethana Casiker, ATREE*



Chethana Casiker runs a hotel for bees in Bengaluru! Bees pollinate 90% of plants, but they are losing their habitats in cities. An online survey she conducted in Bengaluru found that 45–55% of our diet is pollinator-dependent (vegetables, spices, fruits, cooking oils and pulses). Chethana's work with solitary bees looks at integrating them into cities. Bee hotel provides Deadwood resting spaces for solitary bees that do not live in hives. She hopes that her work will improve urban awareness of solitary bees.

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## Becoming and Being Urban: Reflections on Nonhuman Urbanisation

*By Anindya Sinha, NIAS*



Anindya Sinha shed light on the change in the relationship between humans and macaques. He noted that macaques have developed a communication strategy to directly communicate with humans for food. They hold up their hand in a food requesting gesture and put up a low 'coo' call. His study has found social transmission of this behaviour, with individuals learning from each other.

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## Waterscapes

### Stressed and Insulted Waterscapes: Countering Mal-Development and Climate Change through the Nexus Approach

*By Dipak Gyawali, Pragma, Nepal Academy of Science and Technology & Former Minister of Water Resources of Nepal*



In his plenary lecture, Dipak Gyawali used two waterscapes of Kapan and Springs to illustrate the stressed and insulted waterscapes.

Water sources have their own local names depending on whether they are perennial or seasonal and also which particular season they show up in. The August spring is an indicator of a water buffer being available for the winter

months. Conflicts over spring access are due to the local sources being bought over by the hill-top resorts, with one even drilling a couple of hundred-metre-deep borewells through the mountain. He says that springs revival cannot be done by the centre or the provincial or the local government but has to be done at the smaller units of administration.

For water, the new environmentalism has to address consumerism and include water accounting, water footprints and energy consumption per capita.

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## Viewing water pathways from the HILLTOP: Himalayan Instrumentation Laboratory and Long-term Observation Program

*By Sumit Sen, IIT Roorkee*



Dr Sen introduced the HILLTOP: Himalayan Instrumentation Laboratory and Long-term Observation Program, its members and partners. The team's methods range from field installations, lab work, and modelling to theory building and more. The group studies hydrological functioning and relevance. The waterscapes they focus on are - mountain aquifers, high gradient rivers, forested watersheds, and mountain lakes. HILLTOP aims to draw from research into action via conceptual vulnerability models, quantification of hydrological services (pine vs oak), hydrodynamic processes in the Himalayan lake systems and development of bed-load estimation.

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## Water circularity at rural schools: Insights from Berambadi, India

*By Priyanka Jamwal, ATREE*



Berambadi, Karnataka lies in a highly contaminated watershed region. A school was chosen for the implementation of the water reuse and recycling systems. The school had two types of water. First, grey water from the kitchen and hand wash area that flowed into the open storm water drains. The other was black water from the toilets that went into the soak pits.

For the grey water, a gravity-based treatment method was set up with multiple levels of sand and stone filters and reused for flushing. For the black water, septic tanks were designed and built. A rainwater harvesting system was

Additionally built. This system attempted to convert water usage from a linear cycle to circular water use. Involving students enables the co-development of sanitation practice with the students. The project assessed water quality, water budget and social behaviour. Social behaviour enabled the design of septic tanks. They were also able to capture seasonal variation.

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## The Environmental Injustice of Living and Leaving- Restoring Chennai's Cooum and Adyar Rivers

*By Siddhartha Krishnan, ATREE*



Environmental Justice redefines the environment from nature outside people's stay and play areas. Vulnerable spaces and people are intertwined. The marginalised and vulnerable places present unhealthy living setups with pollution exceeding limits. The study based in Sathyavani Muthu Nagar in Chennai explores the social and psychological states of uncertainty, frustration and righteous indignation of the communities living there.

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## Panel Discussion

### What lies ahead? Challenges and opportunities for Samaj, Sarkar and Bazaar

*Ms. Rohini Nilekani, Chairperson, Rohini Nilekani Philanthropies, Co-founder & Director, EkStep Foundation (Moderator)*



The panellists discussed the role of government, people, markets, and technology in the solution-based discourses surrounding what is to come in the future.

Is there a technological silver bullet?

Is there room for optimism?

Who will be the drivers of such large-scale change?

**K. VijayRaghavan** stated that science and technology have historically been the fulcrum of social and economic change. And if the fulcrum is strong, positioned correctly and adjudicated well by people, it will be crucial in a developmental context, but whether it will be used appropriately in India is a different issue.

**Veena Srinivasan** spoke about the need for change in market strategy and the structures that enable the continuity of unsustainable consumption models. The



role of the people within this dynamic is to demand better consumption practices.

**Harini Nagendra** echoed this point and added that substantial change could be largely brought about by citizen activism citing the recent US inflation bill.

**Sameer Shisodia**, on the other hand, located the problem as one of perspective. He felt that a change is required from an individual to a place-based perspective to tackle environmental and developmental problems, where solutions should be sought locally.

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## Cafe Controversial

### Cafe Compassion: To feed or not to feed animals?

*Moderator by Neha Panchamia, RESQ Charitable Trust*

*Speakers: Abi Vanak, ATREE; Nandita Subbarao, Civic Welfarist*



Article 51 G in the Constitution of India outlines that it shall be the duty of every citizen to protect and improve the natural environment, forest, lakes, rivers and wildlife and to have compassion for all living creatures. This fundamental duty is often quoted by people who feed animals including the homeless/abandoned, wild and domesticated animals. This act of feeding can be sporadic or everyday, but does this act benefit the animals or hurt them? Does it foster conflict or coexistence? Is it an act of compassion or misguided compassion? What impact does feeding have on the animal?

[Watch here](#)

### Cafe Organic: To turn or not to turn organic?

*Moderated by Veena Srinivasan; brief presentation on soil quality and farming by Nirmalya Chatterjee*

*Speakers: Kavitha Kuruganti, who works with the Alliance for Sustainable and Holistic Agriculture (ASHA), Kisan Swaraj Network, and KM Sreekumar, Professor at Kerala Agricultural University.*



Are you a big believer in chemical-free organic food for your family?  
How can organic farming feed the nation?  
Critics argue that organic agriculture is inefficient, requiring more land than

conventional agriculture to yield the same amount of food. Proponents have countered that increasing research could reduce the yield gap, and organic agriculture generates environmental, health and socioeconomic co-benefits. Further, large monoculture agriculture is vulnerable to pests in a way that integrated organic farms aren't and will lead us down a path of an escalating battle against nature that we will eventually lose.

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## Cafe Vriksha: To plant or not to plant a tree?

*Moderator by Shrinivas Badiger, ATREE*

*Speakers: Anand M Osuri, NCF; Jayashree Ratnam, NCBS; Durgesh Agrahari, SayTrees, Dipika Goyal Bajpai, IFS, DCF, Gadag Division, Karnataka*



Trees are a source of oxygen. They help us in the fight against air pollution and climate change. Green Cover is crucial to our survival because it helps to produce rain. We have all heard these slogans for tree planting initiatives, but how effective are these campaigns? Is this the best way to spend our climate budgets? Is there a right way to do it?

Tree planting initiatives have been gaining popularity and are touted as nature-based solutions to emerging environmental problems without attempting to understand casualties.

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## Book Releases

### Checklist of India's Plants



Culminating 30 years of research, ATREE has released the Checklist of India's Plants, a series of 5 volumes out of a total of 15 volumes. It contains updated plant names in consensus with the global taxonomic practices. It will provide every flowering plant's "accepted name" linked to the most relevant categories of associated names available so far. An online platform was launched for digital databases to manage biodiversity more sustainably.

Speaking at the release, ATREE's Founder President, Dr Kamal Bawa said, "The curated Plant Checklists will form the platform for digital databases to better catalogue and assess our country's rich and unique biodiversity." He added, "An

authenticated checklist of plants will be critical for further explorations and evolutionary studies, especially with molecular and computational tools. Ultimately the Plant Checklist can contribute to the compilation of people's biodiversity registers and once integrated with other plant databases, provide a solid base of information for our plant wealth at one place."



**Ullam:** A book for school students to learn about soil, water, air, biodiversity, social background and the socio-cultural milieu of Vembanad.

**Snakes and Lizards of Sky Islands:** Sky Islands are separated from each other physically and environmentally, but have similar communities of species distinct from elsewhere in the Western Ghats. This book covers about 58 species of lizards and Snakes of the Sky Islands of the Western Ghats.

**Why are some species found everywhere, and why does it matter?**

Human activities have played an important role in altering species ranges by moving them accidentally or intentionally, shaping ecological communities worldwide. This eBook compiles ATREE's research in the past 25 years documents patterns, processes, and socio-ecological impacts of Invasive Alien Species, and suggests a way forward for management.

**Common Dryland Trees of Karnataka:** A bilingual handbook of common farmland tree species, and their place in the semi-arid agricultural-rural landscape of Karnataka. A must-have for every Tree enthusiast!

**A Field Guide to Fishes of Vembanad:** A simple field guide for fish enthusiasts to identify the common fishes of Vembanad. Instead of conventional technical terms used to describe the morphological components of a fish, we use names corresponding to human structural features to describe the fish.

## Closing Remarks

### Moving forward

*By P. Balaram, Co-Chair, ATREE*





Prof. Balaram addressed the audience in the concluding session of the two-day event. He commended ATREE for its contributions to creating a direct impact on society and interacting with a wide array of stakeholders. He hailed these achievements as a mark of resilience and thanked the donors for their support.

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### Thankyou Note



We would like to extend our sincere gratitude to all speakers and panelists for the informative and engaging sessions packed with learning.

We would also like to thank our board of trustees, former directors, our esteemed colleagues from other organizations, members of the media, students, academia and well-wishers for being a part of the event.

To all those filmmakers, artists, and game enthusiasts, a big thank you for exhibiting your work and helping us view environment and conservation through different lenses.

We are humbled and grateful to all the committees and sub committees for their creative zeal, hard work and meticulous planning in putting this event together. And finally, a big shout out to each and every one of you at ATREE for coming together beautifully to create a memorable event.

