



ANNUAL REPORT 2018/2019

*Dear participants of BSF activities
in the past and the future,*

It has been a year since the inception of the Bengaluru Sustainability Forum (BSF). This report gives you an overview on our agenda, what we did in the last year and where we are heading in the upcoming year.

BSF is an initiative that offers inter-disciplinary conversations within the realm of urban sustainability. It was established with the idea of placing the 17 UN sustainable development goals in the context of Bengaluru's needs and resources, including its peri-urban spaces. What does Bengaluru need to do to achieve these goals? Which goals are most relevant or achievable? How far away are we from reaching them?

BSF is also a space for reflection, listening and learning on issues relating to long-term sustainability of urban and peri-urban landscapes with a focus on liveability. Currently we focus on public goods like water, air and soil along with biodiversity. These conversations will hopefully foster a denser network of interaction, interdisciplinary discourse and collaboration in the future.

Our two major activities in the last year were retreats on 'Urban water', 'Urban biodiversity' and 'Urban climate change' and the start of the 'Small grants programme'. More details on this can be found on the following pages.

We will continue organizing retreats along with the small grants programme. Additionally we are planning round tables on relevant topics. We are also excited to be part of the 'Urban survival' theme for the upcoming Bangalore Science Habba, which is expected to happen in 2020. For more information check our website www.bengalurusustainabilityforum.org and our social media accounts on twitter (@sustainBLR) and Facebook (Bengaluru Sustainability Forum).

Current member organizations of BSF are the National Centre for Biological Sciences (NCBS), Azim Premji University (APU), Wipro Ltd., Biome Environmental Trust, Science Gallery Bengaluru, Nature Conservation Foundation (NCF) and Ashoka Trust for Research in Ecology and the Environment (ATREE). BSF is fully financially supported by Wipro Ltd.

Retreats

The objective of our retreats is to facilitate knowledge exchange, to ignite conversations across a broad range of stakeholders and to encourage and establish (interdisciplinary) collaboration towards making Bengaluru a more sustainable city. BSF hosted two retreats in 2018, discussing the situation of urban waters (April) and urban biodiversity (September) across pan-Indian stakeholders. In 2019 BSF hosted a retreat on urban climate change.

BSF invites participants across multiple disciplines, stakeholders, a good representation of different career stages and gender balance. The 3 retreats in 2018/2019 welcomed between 20 and 40 attendees each time. A brief summary of each retreat can be found below. The full documentations are available on the website



School of Ancient Wisdom, Bengaluru. Venue for the retreats

Retreat - Urban waters (April 2018)

Where does our water come from, where does it go? How much water do we have and what are alternative sources of water for the future? How can we ensure access to water to all strata of society? Where and how is used water treated? What is the state of Bengaluru's lakes?

Participants of the retreat discussed the challenges and barriers in the water sector in Bangalore and deliberated on ideas for interventions to some of these challenges. Over the two days it became clear, that a system transformation will need to be envisaged across multiple stakeholders, from policy makers to citizens, from technology to education, from research institutions to the private sector.

Conclusive points were:

- Formalize slum communities to allow for piped water supply for every member of society
- Reimagine sources of water beyond bore wells, tanker water and Cauvery water supply.
- Involve citizens in monitoring lake health, increase accountability and transparency of agencies responsible for lakes
- Incentivise use of treated water and make property builders accountable until functioning sewage treatment plant is handed over to building society.



Participants of the retreat on Urban waters in April 2018:

From back to front row:

Amogh Arakali, Lingaraj Dinni, Vishwanath, Rohini Nilekani, Satyajit Mayor - Sasanka V, Ganapathy, Vishal Mehta, PK Das, Srinivas V - Sharad Lele, Jacob John, Shishir Rao, Priya R., Ram Prasad, Sridhar P, Vishal Narain, Veena S. - PS Naryan, AR Shivkumar, Mahesh Sankaran, Jahnvi Phalkey, Uma Ramakrishnan - Jayaraj Sundaresan, Eshwarappa, Mrinalini BS, Isher Ahluwalia, Apoorva R.

Retreat - Urban biodiversity (September 2018)

The objective of the retreat on 'Urban biodiversity' was to assess the status quo of knowledge and understanding of biodiversity in the urban context by various stakeholders as well as collating ideas to improve this status quo. The following key points emerged from the discussions:

- Data and access to existing data on flora and fauna in the urban context is missing. This lack of data leads to the inability to assess change.
- The larger part of the citizens (including urban planners, policy makers, decision makers and schools) are unaware of the aspects biodiversity contributes to urban life and its eco cycle. This leads to less attention given towards protection of biodiversity during urban planning or citizen engagement activities.

These points need to be addressed by creating awareness across stakeholders and by generating a centralized repository of data, studies and information done in the area of biodiversity.



Discussion at the retreat on Urban Biodiversity

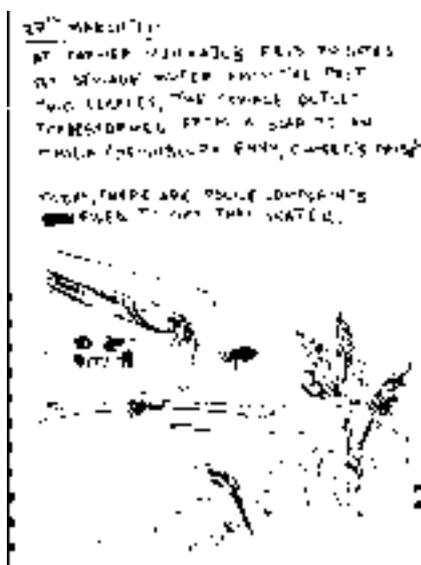
Retreat - Urban Climate Change (March 2019)

39 participants attended this retreat, the gender ratio was 40:60 female to male. 75% of the participants hailed from Bengaluru. Keynote talks in this retreat spoke about the strategies and challenges of climate change modelling, brought up climate change in the context of different socio-economic strata and discussed changes in rainfall patterns in and around Bengaluru.

During breakout sessions participants discussed the current knowledge on Urban climate change, action towards climate change mitigation and strategies for climate change adaptation. Discussions highly benefited from the diverse professions and background of participants which included artists, game developers, climate scientists, social scientists, journalists, graduate students and educators.

Conclusive points were:

- More data on ground needs to be collected (e.g. emissions on the ward level) and made freely accessible to every citizen.
- Need for rigorous publication of (city specific) work on climate change in mainstream media.
- Scientists need to leave their silos and make their studies accessible for citizens. This could be aided by theatre art and high quality science journalism.
- Jobs in the area of climate change should be generated and funded, to create an incentive for young people to move into the area of sustainability early on.



Impression from the retreat on Urban Climate Change. Illustrations by Smita Kaushik

Small grants programme

The small grants programme provides seed funding for projects and ideas conceived at the retreats, with a focus on collaboration and Bengaluru and the specific theme of the retreat. 2018/2019 saw three rounds of the small grants programme, connected to the themes 'Urban waters', 'Urban Biodiversity' and 'Urban climate change'.

We were extremely delighted to have received 16 proposals in total out for round 1 and 2 out of which 4 proposals from the theme 'Urban Biodiversity' and 5 proposals from the theme 'Urban waters' were selected. 4 of the latter projects were combined into a large collaborative proposal

around Jakkur lake. Successful applications included a guide for local avenue trees in Kannada, a community driven plan to bring edible weeds back onto the meal plan, an art project at metro transit station to inform about Bengaluru's water heritage, a project to assess human-elephant conflict potential in periurban Bengaluru and small scale easily deployable water treatment system for storm water drainages. The projects will commence in May. We will update the progress and outcome of the proposals on our website (www.bengalurusustainabilityforum.org) and social media handles (@sustainBLR).

Urban waters

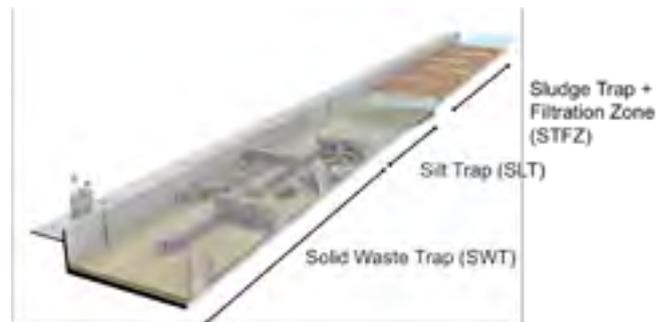
Namma Ooru, Namma Neeru

By Arzu Mistry, Art in Transit and Shubha Ramachandran, Biome Environmental Trust

Arzu and Shubha will foster citizen engagement with Bengaluru's water heritage through events, murals, performances and workshops, using metro transit stations as platforms/labs. Themes will be the local heritage and contemporary water practices. This project also very much includes the people who carry the knowledge of Bengaluru's water heritage. Keep your eyes open for a developing mural painted from colors that are made from mud excavations from the well digger. Engage with the project through multiple interaction events throughout the year. We will keep you posted on our social media channels.



'Namma Ooru, Namma Neeru' workshop with well diggers at Cubbon Park Metro station



Outline of STRAIN, Image credit ATREE and BIOME

Strategic in-stream systems: A Decentralised anticipatory approach to wastewater contamination in Bangalore

By Dr. Priyanka Jamwal, ATREE and Shubha Ramachandran, BIOME Environmental Trust

Strategic in-stream systems (STRAINS) are a decentralized approach to waste-water treatment to address the huge gap in waste-water treatment in Bengaluru. These are small-scale, low-tech, in-stream decontamination strategies to be deployed and monitored over the course of 1 year. The aim is to prevent the contamination and eutrophication of urban lakes. The design and building of the prototype at Saul kere lake Sarjapur is completed. Now it is time to check on its effect and teach residents how to monitor the system. The data will be available to the public through the [citizen dashboard](#), developed by ATREE.

Jakkur lake Project

The Jakkur lake project combines four projects. Eventually all these projects will contribute to increased living space for birds and other animals around the lake and to create and tighten the relationship between citizens and nature, lakes and wetlands. These projects will also provide valuable data points which can be used in the future to measure change in biodiversity and other lake parameters.



Jakkur Lake, Image credit: Biome Environmental Trust

Jakkur Lake -be a Citizen Scientist for Day

By Seema Sukhani, IISc CST and Dr. Annapurna Kamath, Jala Poshan Trust

Seema is planning to engage with college students and local stakeholders like fishermen to evaluate water quality, flora and fauna around Jakkur lake and build a longterm relationship and sense of responsibility between the students and the lake. Her approach is to go beyond 1 day volunteer events but encourage a regular engagement with the lake and elaborate on the value of close monitoring and data collection. You can engage with her and her team on Sundays between 9.00 and 11.00 at Jakkur lake.



Jakkur Lake Community garden, Image credit: Ananas

Jakkur Community Gardens

By Kiri Meili, Ananas and Dr. Annapurna Kamath, Jala Poshan Trust

Kiri and her team from Ananas are trained permaculturists and aim to contribute to livelihoods as well as biodiversity around Jakkur lake through different types of gardens. A vegetable garden maintained by local stakeholders like fishermen, residents and local users of the lake is already in full swing. The forest garden will eventually take care of itself and increase the living space for all the birds and critters around. Look out for the community gardens volunteer days on our social media.

Understanding wetland instrumentality and deadzones

By Shubha Ramachandran, Biome Environmental Trust, Ganapathy PG, CDD and Dr. Annapurna Kamath, Jala Poshan Trust

In Lakes and Wetlands there are certain areas which have stagnant water. These could be called Dead Zones. Water in these areas can be Anoxic or Anaerobic, depleted of Dissolved Oxygen. It has been observed that fish kills reported are first seen in these areas and around the shoreline. Usually fishes closer to the centre/islands are not affected.

This project aims to identify these Dead Zones and rejuvenate one of them using Vortex or other suitable system and understand the role of Dissolved oxygen in a lake by monitoring the water quality in the dead zone for a period of 10 months. The project will also focus on understanding the instrumentality of the wetland by analysing different samples like Alligator weed, Water Hyacinth, Sediment, Fish for heavy metals/N/P and others parameters.

'Nature's Gurukul' – An outdoor learning centre at Jakkur Lake

By Dr. Annapurna Kamath, Jala Poshan Trust and Suma Rao, BIOME Environmental Trust

This will be an expert guided citizen science project, located at Jakkur lake, with permission and support of BBMP. The Gurukul will entail an activity center with a laboratory for activities like water testing and in house material like binoculars and field guides for interested citizen to borrow and use. The resource center will be a library with reading material around lakes for every citizen, from toddler to adult. The aim is to ignite interest and curiosity in the visitors and include them in cataloging and exploring flora and fauna. The target audience includes school children, researchers on various levels of their career, as well as budding naturalists and interested citizens. Lastly the Gurukul will have an information centre dedicated to the history of Jakkur lake and outdoor space that can be used for community meals, public presentations and workshops.

Urban biodiversity

Sarjapura Curries

By Suresh Kumar and Janani Abhivridhi Swasahaya Sangha

The women connected to Janani Abhivridhi Swasahaya Sangha know which are the edible weeds around you and Suresh will bring this knowledge onto your plate. Sarjapura curries is a community and inclusion based art/video project that aims to include edible weeds in the menu and document recipes of the same. It extends to conserving knowledge on those weeds and reviving their popularity in vegetable markets, popularising them also for urban/terrace gardening and lastly promoting their seeds. Sarjapura curries wants to set up a community garden in V Kalahalli to grow these weeds and have community meals to exchange knowledge (e.g. on traditional foraging). Sarjapura curries not only makes your meal plan more sustainable but also installs a sense of togetherness within society.



Delonix regia, common name: Golmohur, Image credit Karthikeyan S



Sarjapura Curries, Image credit Suresh Kumar

Field guides in Kannada for Common Avenue trees

By Karthikeyan and EcoEdu

Bengaluru, the garden city, full of flowering trees. What are the names of those trees, when do they flower, how old are they, how big will they grow? This information is not easily available for the non english speaking part of our community. Well versed with the local avenue trees, Karthikeyan will develop a printed pocket field guide in Kannada to enhance quality of information and education for people who have limited access to internet. This project will be complimented with the design skills of EcoEdu.

Elephant on the zebra crossing: Predicting human-elephant conflict to inform urban development in and around Bengaluru city

By Nishant Srinivasaiah, FERAL and Srinivas Vaidyanthan FEP

Why is there an elephant on the zebra-crossing? Did Bengaluru city move into its way or did the elephant come to Bengaluru? This project will help to understand elephant behavior, movement patterns and family composition in periurban areas by analyzing data collected over 15 years. Based on the findings Nishant and Srinivas will make a prediction model that helps urban planners and policy makers to avoid human-elephant conflict in the future.

We wholeheartedly thank everyone who has lend us their time, expertise and energy during the past year. Thank you for participation in the retreats, for your questions, your comments, your curiosity and your grant proposals. We would love to hear about your current endeavours in the area of sustainability. Do stay in touch.

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