BENGALURU
SUSTAINABILITY
FORUM

Progress Report | 2020 - 2022

Partners


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Content

Introduction 4

Outreach

Who feeds Bengaluru 7
Climate conversations 8
Reading for Change 9
The Search 10
Ooru 11
Jacaranda Tales 12

Small grants programme

Overview 15
List of projects 16
Urban Biodiversity 17
Urban Climate Change 28
Urban Water 33
Urban Waste management 46

Research Facilitation 51

Testing prevalence of SARS CoV-2 in municipal wastewater treatment plants

Steering Committee 53

Introduction

The Bengaluru Sustainability Forum reflects on sustainability questions in and around Bengaluru, across skills, professions and interests.

Before the pandemic, we primarily did this through in-person **Retreats** where the objective was to ignite conversations across a broad range of stakeholders and to encourage and establish interdisciplinary collaboration towards making Bengaluru a more sustainable city. But the last 2 years were unlike any most of us have lived through. They forced us to stop and try out new ways of being and doing. Most importantly, they put a spotlight on the fractures in society and the urgent need to reframe priorities at all levels of society and administration.

So let us go through the last 2 years that whizzed past for some, felt like a neverending monotony to others, and put most citizens in Bengaluru, India and across the world through ongoing, unprecedented and unexpected hardships.

Reading for Change is a series where we read and discuss books aligned to the UN sustainable development goals (SDGs). It opened up our horizons through the magic of books, stories and narratives, and will continue to do so in the years to come.

Our **Climate Conversations** in partnership with Bangalore International Centre was on understanding and unpacking climate justice, what cities can and need to do, how preservation of ecological areas is relevant and necessary, not just for climate change, but also to decrease the risk of future pandemics.

The Search for the connection between everyday lifestyle choices and air pollution was a hybrid (online/offline) scavenger hunt. The clues and information were developed in collaboration with Science Gallery Bengaluru, and was part of the Church Street First initiative by Directorate of Urban Land Transport (DULT).

Who feeds Bengaluru? was a workshop with Edible Issues and Science Gallery Bengaluru, supported by BSF. We haven't even come close to the answer but we got a lot of food for thought. You can revisit the conversations on the BSF Youtube channel.

Our podcast **Ooru** in which we mull over food, work, urban planning, public spaces and the future of namma ooru Bengaluru released in September. Get a taste by listening to the trailer, available on Apple podcast, Spotify and wherever else you like to draw your podcasts from.

A **collaboration between NCBS, BIOME and BWSSB**, supported by BSF, tested the concept of wastewater screening as a tool for disease surveillance in the city; looking at the prevalence of SARS CoV-2 in municipal wastewater treatment plants as an indicator of infection levels in the city.

And in a first, we collaborated with Bangalore Film Society, Karnataka Gandhi Smaraka Nidhi, Gamana Women's Collective, Gram Seva Sangh, G Foundation for Art and Culture, and Kriti Film Club on **Jacaranda Tales**, a film festival which highlighted the multiple facets of women's relationships with nature.

Read on for more details, especially on the outcomes of the **Small Grants Programme**, one of our flagship programmes aimed at on ground change through research and practice.

Outreach

< Back to Content page

Who feeds Bengaluru?

Food: Systems. Cultures. Futures

In collaboration with

SCIENCE GALLERY

Tales from a seedkeeper
Dr Prabhakar Rao,
Hariyalee Seeds

The olericulture that influenced restaurant culture
Nameet M, *Sakura Fresh*

A city of plant-based identities
Spurti Ravi, *Goodmylk*

How to get your hands dirty (virtually)
Gitanjali Rajamani,
Farmizen

Urban Forgaing 101
Tansha Vohra
Permaculturist

Agro-ecologies that shape the food system
Sheetal Patil, *Azim Premji University*

Farming in the city: Urban agriculture and well-being
Chandni Singh, *IIHS*

Learning from doing: Experiences of urban agriculture, Bangalore
Prathigna P, *IIHS*

Where does our food come from?

Who feeds whom?

Are plant based diets the future?

What did we eat, what will we eat?

Who feeds Bengaluru was a 2 day online workshop exploring the different forces that shape how the city of Bengaluru eats.

This participatory reseach project was conceptualized by Edible issues as part of Science Gallery Bengaluru's Exhibition PHYTOPIA with the support of the Bengaluru Sustainability Forum.

Recordings of the talks can be accessed on the BSF Youtube channel.

< Back to Content page

Climate Conversations

Panel discussions on climate change

In collaboration with

BANGALORE INTERNATIONAL CENTRE

These conversations were conceptualized with Jenny Pinto and Raj Shailesh and connected the dots between what we perceive and don't perceive, the contributing factors, and the possible and necessary ways forward.

Climate smart cities: Building resilience

Anu Jogesh, *Climate Change Policy and Governance*

Ankit Bhardwaj, *Energy and Climate Change in cities*

Prem Chandavarkar, *Architecture and Urban planning*

Ashwin Mahesh, *Climate Science and Urbanism*

Rajeev Gowda, *Public Policy and Politics*

Missing the forest: Pandemics, biodiversity and the circle of life

Uma Ramakrishnan, *Molecular ecology and conservation*

Harini Nagendra, *Urban Ecological Sustainability*

Mahesh Sankaran, *Ecology*

There is no Planet-B: Lessons from the pandemic for climate justice

Navroz K Dubash, *Climate, Energy and Environmental policy*

Tejal Kanitkar, *Energy and Climate Policy*

Chandra Bhushan, *Climate Change research and policy*

The recordings can be accessed on our website.

Climate smart cities panel explored urban intricacies in the context of climate and climate preparedness.

Missing the Forest brought out the hidden connections between climate change, consumerism and the ongoing pandemic. While many of us may be privileged enough to be able to escape the immediate consequences of the already changing climate, what about the rest? Can we look at climate change through the lens of climate justice? Are we willing to stand up for it?

There Is No Planet B looked out for necessary action to ensure a safe and sustainable environment for everyone.

< Back to Content page

Reading for change

The Sustainable Development Goals in the everyday

In collaboration with

Reading for change used books as anchors to discuss SDGs and their relevance to Bengaluru and India, exploring the connection between our day to day lives and the success of SDGs.

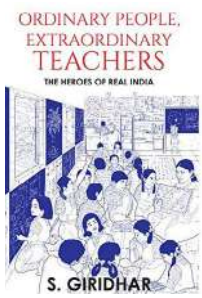
Watch the discussions on the BSF Youtube channel.

Scavengers, *Darren Simpson*

Seema Mundoli, *Azim Premji University*

Lakshmi Karunakaran, *Educator*

Ordinary People, Extraordinary Teachers, *S. Giridhar*



S. Giridhar, *Azim Premji University*

Uma Mahadevan *IAS, Govt. of Karnataka*

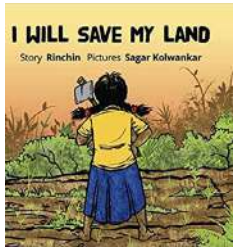
Inferior, *Angela Saini*

Vidita Vaidya, *Professor, TIFR*

Angela Saini, *Science journalist*

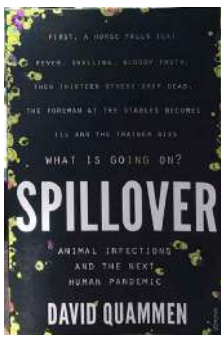
I will save my land, *Rinchin*

Rinchin, *Writer and activist*



Shripad Dharmadhikary, *Activist, Researcher*

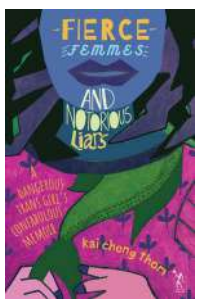
Spillover, *David Quammen*



David Quammen, *Science writer*

Anil Ananthaswamy, *Journalist*

Fierce Femmes and Notorious Liars, *Kai Cheng Thom*



Kai Cheng Thom, *Writer, performer*

Nadika Nadja, *Writer, researcher*

< Back to Content page

The Search

Interactive game on air quality

In collaboration with

An intiative by the Department of Urban Land and Transport (DULT), the Search was a free interactive mobile game which invited players to search 10 real-world locations on Church Street, scan the QR codes and unlock the clues to getting clean air and blue skies.

Clues were given by experts and residents of the city, testing everyday knowledge and putting one's lifestyle into perspective through fun quizzes and exercises.

The Search was designed together with Science Gallery Bengaluru, Media Cannibal and Xarpie Labs.

Visit our website to explore.

< Back to Content page

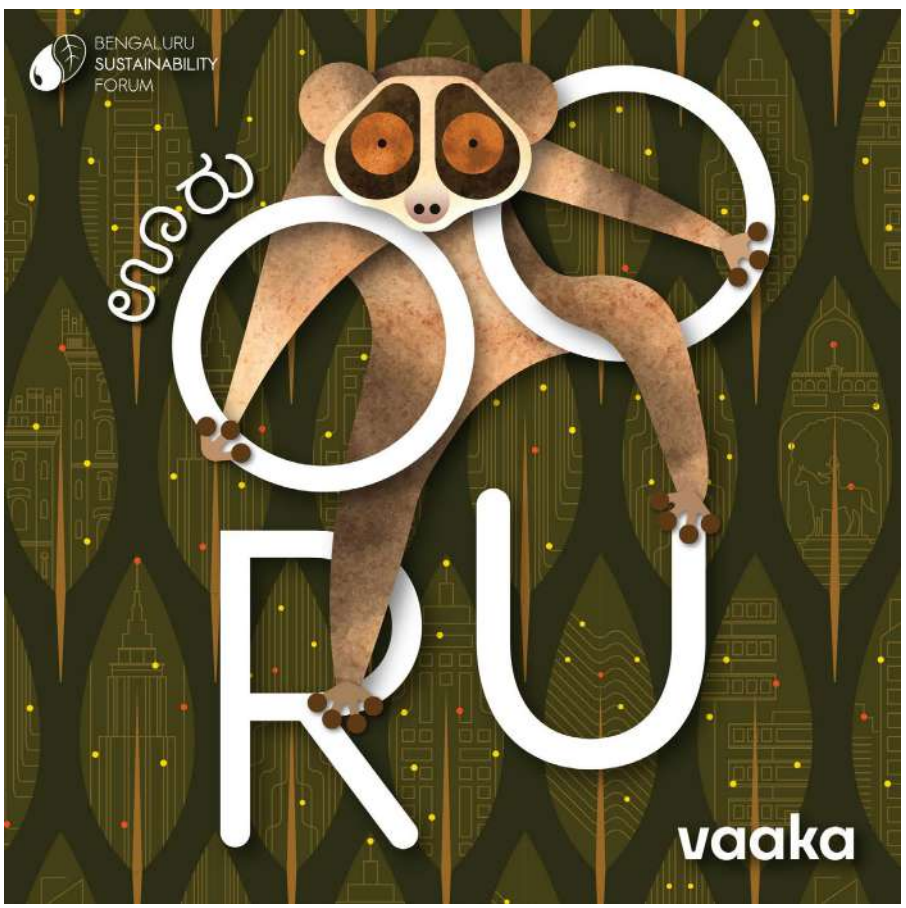
Ooru

Bengaluru's sustainability podcast

Out Now on all your favourite podcast apps!

In collaboration with

vaaka



What should the city look like?

What does Bengaluru eat?

Is Bengaluru a good place to work?

What is our relationship with the outdoors?

Can Bengaluru sustain itself?

What does Bengaluru's future look like?

When the circumstances made it difficult to meet up and discuss sustainability, we partnered with Vaaka media to bring different voices from the city to your home, through the podcast Ooru.

Ooru explores questions on the city's planning, infrastructure, food and lifestyle through conversations with diverse stakeholders - communities, projects, institutions and people working on the ground to help Bengaluru move towards a more sustainable future. The 5 episode series is being released over the 5 weeks of September.

Listen to all the episodes of the series here and subscribe to us on your podcast apps!

< Back to Content page

Jacaranda Tales

Film festival on women and nature

Gandhi Bhavan Auditorium, Bangalore: 23 - 26 March 2022
Online screening: 09 - 18 April 2022

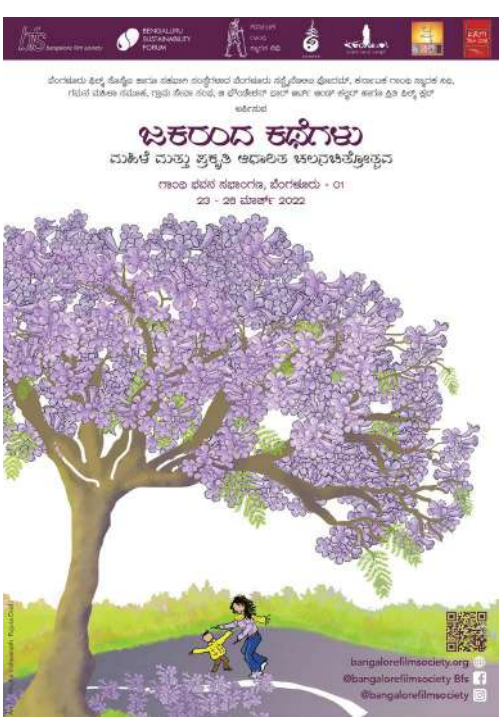
In collaboration with

The Jacaranda Tales film festival was a celebration of women's symbiotic relationship with nature, recognising their often overlooked contributions to the nurturing of the environment.

The films and accompanying panel discussions by researchers, educators, environmental and community activists in addition to filmmakers, offered insights into the complex ways in which women engage with nature, the impact of development on both women and nature, and hopes for the future.

The festival reached out to about 650 people over 4 days at Gandhi Bhavan auditorium and the online version saw more than 10000 viewers to the festival page.

Listen to the panel discussions on the BSF youtube channel.

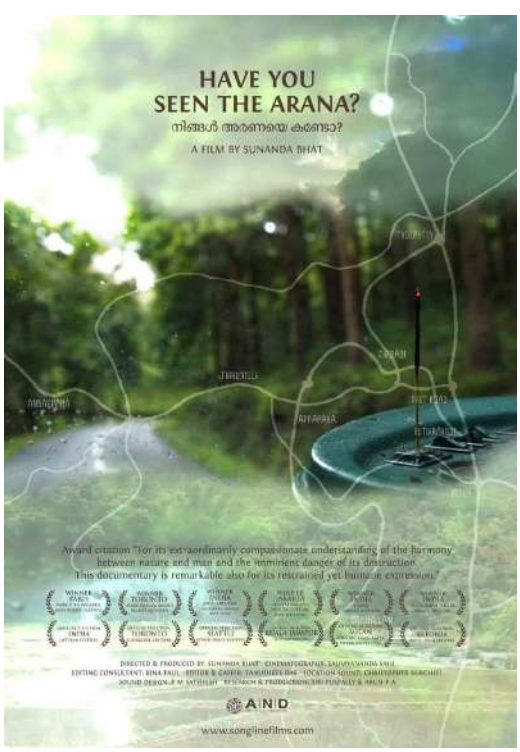


< Back to Content page

"Nangal aranaye kando? (Have you seen the Arana?) was recently screened at the Jacaranda Tales. It was a truly special experience. The audience, both young students and senior citizens were completely engaged with the film which was followed by an invigorating discussion. Many congratulations to the curators and organisers for putting together this interesting package of films on a much needed topic." - *Sunanda Bhat (Director, Have you seen the Arana?)*

"In 15 years of my education, this is the first time I learnt about these new topics. During the film festival, we saw the patience, anger, courage and kindness of women and nature. We also learnt a lot about different cultures, languages, communities, agriculture, and rivers. Learning about these topics was like exploring a new world. 'Jacaranda Tales' should be taken to many more students and people." - *Student audience member*

"Highly recommend to watch these short films..very informative, touching with a lot of hard work put in ..very very inspiring stories of each woman working with nature."- *Audience review after watching Online version of Jacaranda Tales*



Small Grants Programme

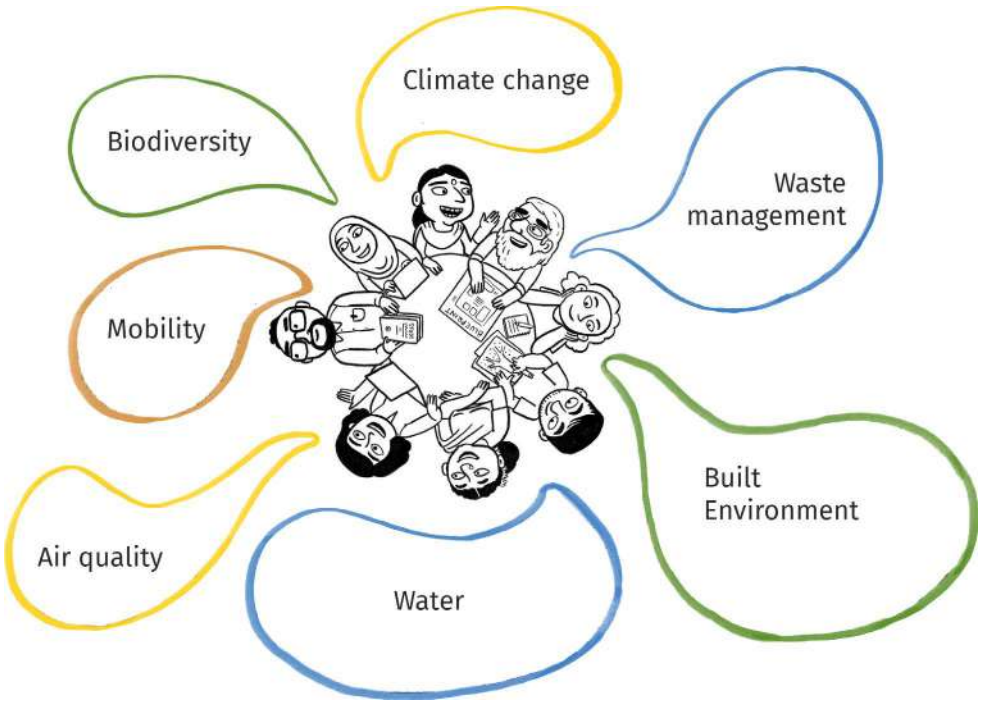
< Back to Content page

Overview

In 2019, BSF established the Small Grants Programme which aims to support local collaborative initiatives towards a more resilient Bengaluru within the realm of sustainability. We have just announced the 5th edition, looking forward to inspiring and exciting projects coming from the heart of the city's community.

Many facets of knowledge and community spirit have emerged in these years. Almost forgotten greens, gourds and legumes have been reintroduced, citizen science activities evolved around water and biodiversity around lakes, and guides or templates which citizens can use to monitor the quality of water in the lakes around them are almost ready. A guide on common avenue trees in Kannada has been printed, a mud mural can be admired in Cubbon Park Metro station, and data on human elephant relations in the outskirts of Bengaluru has come together. Articles trying to understand different facets of Bengaluru's biodiversity have been collated.

Learning through the process we encourage more active work on the ground as well as research driven projects to bring out the best of Bengaluru and its knowledge rich citizens.



< Back to Content page

Urban Biodiversity

1. Elephants on the Zebracrossing 18
2. Sarjapura Curries 19
3. Pocket guide on common avenue trees in Kannada 20
4. Suttha Muttha 21
5. Know Your Urban Wildlife 22
6. The Why and how of Bengaluru's Biodiveristy 23
7. Flash cards on common spiders and insects 24
8. Ocean On A Plate 25
9. Bird Board Game 26
10. The Bee Garden Project 27

Urban Climate Change

11. Climate Change stories from Bengaluru 29
12. Demystifying Climate Change 30
13. Air Quality Monitor 31
14. Grounds For Change 32

Urban Water

15. STRAINs 34
16. Namma Ooru, Namma Neeru 35
17. Understanding Wetland Instrumentality and Dead zone at Jakkur lake 36
18. Nature's Gurukul 37
19. Jakkur Community gardens 38
20. Jakkur Citizen Science Project 39
21. Project Hanigalu - Participatory Planning for Water Security 40
22. Integrated Urban Water management at the ward level 41
23. Lake Health Index 42
24. Developing relevant Water relevant criteria 43
25. Sowl Kere: Sustainable Treated Water Feed Project 44
26. Efficient management and value addition from water hyacinth in Jakkur Lake 45

Urban Waste Management

27. Zero Waste Wards 47
28. Civic Crowdsoursing through Technology 48
29. As The Drain Goes 49

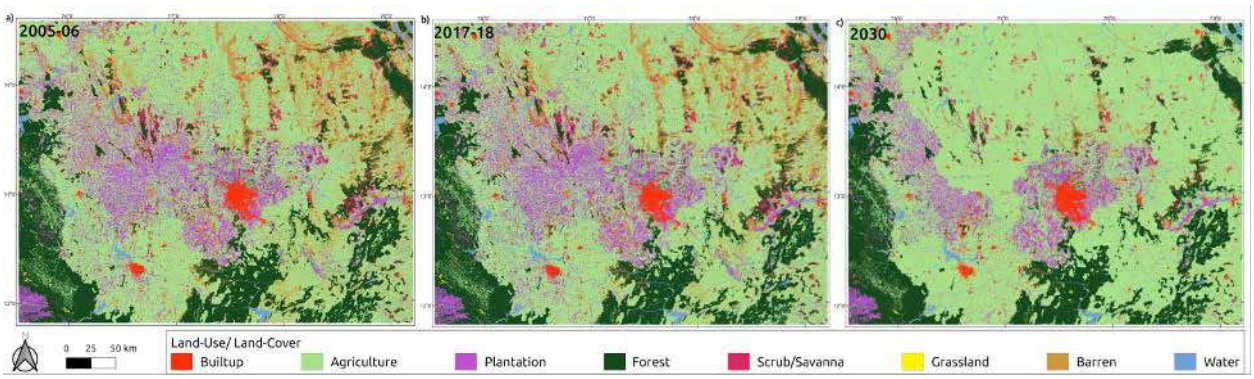
Urban Biodiversity

Urban Biodiversity

Elephant on the Zebra crossing

Project runtime: *Jun 2019- Aug 2020*

Contact: Nishant Srinivasaiah, *FEP (msnishant@gmail.com)*
Srinivas Vaidyanathan, FERAL *(srinivasv@feralindia.org)*



Sample of the modeled and projected landuse change in the study region of Cauvery and MM Hills Wildlife Sanctuaries

One of the mature adult bulls in the study region

Photo credit: Nishant Srinivasaiah

Elephant on the Zebra Crossing works on understanding elephant behavior, their movement patterns and family composition in peri urban areas of Bengaluru by analyzing data collected over the last 15 years. Based on the findings they have developed a prediction model that can help urban planners and policy makers to minimize human-elephant conflict in the future.

This project aimed at identifying human and elephant conflict hotspots in the vicinity of Bengaluru taking elephant movement and land use change into account. The data and model suggest that male elephants modified their behaviour to select water bodies as refuge sites when they are in low contiguity areas with little available natural forest, more than expected based on its availability. In contrast, when in high contiguity areas, elephants use forests more than expected based on availability, and adjoining crop fields and scrublands as per availability. Based on their results, the team is looking forward to developing policy guidelines for land use planning that can make the elephant use of these areas more compatible with that of human use.

Visit the BSF Youtube channel to hear Nishant Srinivasaiah, Srinivas Vaidyanathan and Anisha Jayadevan chat with Prof. Uma Ramakrishnan about their project and findings.

Foundation for Ecological Research, Advocacy and Learning (FERAL)

@feral.india
@frontierelephants

Urban Biodiversity

Sarjapura Curries

Project runtime: *Jun 2019- Ongoing*
Contact: Suresh Kumar, *FEP (redsurya@gmail.com)*
9880282402












Photo credit: Suresh Kumar

Sarjapura Curries is a community and inclusion based art/video project that brings mostly forgotten vegetables and greens back to the urban menu. It has transformed into a knowledge group and a functioning farm with initiator Suresh Kumar.

Sarjapura Curries evolved from a barren community space into a thriving garden of edible greens and vegetables like the clove bean that were lost to memory. This initiative prompted schools and colleges to start growing their own supplies. Women in the village got inspired to set up beds to grow their own greens. Sarjapura Curries has now expanded and setup at an adopted farm land to revive amaranthus and local heirloom varieties of snake gourds and bottle gourds. Suresh envisions spaces for birds and insects to come and stay along with basic infrastructure to provide space for dying handicrafts such as pottery and basket weaving.

Get in touch with Suresh to get seeds, produce or to test your knowlegde on growing wild greens and edible plants. How many of the vegetables above can you identify?

Join the Whatsapp group for gaining and sharing and trading knowledge on heirloom vegetables and greens.

Samuha suresh
Sarjapura Curries

< Back to list of projects

Urban Biodiversity

Pocket guide on common avenue trees in Kannada

Project runtime: *Jun 2019 - Jun 2020*
Contact: T.S Srinivasa *(srinivasa@ecoedu.in)*

Photo credits: S. Karthikeyan

Books being distributed at the bird festival by Dr. Subramanya

Visit our Youtube channel and get a run down on Bengaluru's tree history and some of the species covered in the book by authors Karthikeyan S and Srinivasa T.S.

Naturalists Kartikeyan S. and Srinivasa T.S. teamed up to design a pocket field guide for common avenue trees found in Bengaluru and other Indian cities. Since information such as names of flowering trees, flowering patterns, age, height and growth is not easily available to non-English speakers, the book was made in Kannda. The objective is to enable easy and practical field identification of 50 common species of avenue trees and can create awareness as well as prompt the users to develop a keen sense of observation. The guide includes information on flowering patterns, leaves and origin of the species and more. We hope that this well researched and educational guide will make knowledge on our immediate surroundings more accessible.

Copies of the guide have been distributed to students in several parts of Karnataka and to *Green Hagaribommanahalli* volunteers. There was a presentation on Common Avenue Trees and a tree walk in Government College, Channapatna and to government school teachers associated with Azim Premji Foundation.

Get your own copy at www.ecoedu.in.

< Back to list of projects

Urban Biodiversity

Suttha Muttha

Project runtime: *May 2020- Ongoing*
Contact: Roshni Ravi, *NCF (roshniravi@ncf-india.org)*
Jane Sahi, NCF *(janehelensahi@ncf-india.org)*



Photo credits: Roshni Ravi/Jane Sahi

The Suttha Muttha project is taking experiences and stories of local ecology and biodiversity back to school. They have been working on creating locally relevant nature learning content for the school communities in and around Silvepura. Their focus is on three broad themes: Plants and trees, animals in the peri-urban landscape and interdependence between different ecological systems.

While schools were closed during the pandemic, the team provided nature driven offline education nurturing knowledge on their immediate environment with physically distanced, outdoor sessions at Tarabanahalli government school on colours and patterns in nature in early 2021. Similar activities were conducted in Kasaghattapura through the small community library there.

The project was featured on Edex Live and an interview between Thejaswi Shivanand (Wipro Foundation) and Jane carried a discussion on the impact of Covid-19 on children's learning. They spoke particularly about government schools where there has been minimal support for children. The interview appeared in Wipro Foundation's newsletter.

School visit

The worksheets developed for the project are free to use by everyone and are downloadable from the BSF website.

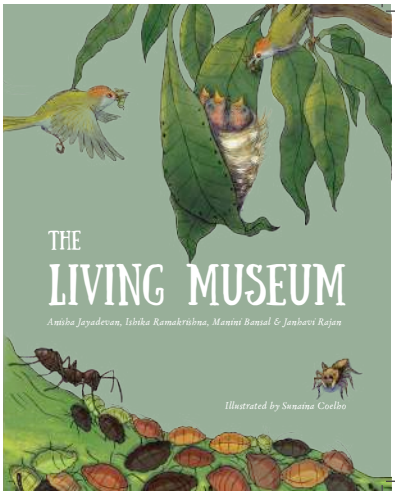
@NatrClassrooms
@natureclassrooms

Urban Biodiversity

Know your urban wildlife

Project runtime: *May 2020- Ongoing*
Contact: Anisha Jayadevan *(anisha.jayadevan@gmail.com)*
Manini Bansal *(maninibansal107701@gmail.com)*

Spider walk; Photo credit: Cafe Oikos



Cover of the illustrated book

Sneak peek of the stories inside

Sneak peek of the stories inside

To know your urban wildlife it is best to venture out, however the ongoing Covid-19 pandemic cancelled plans of guided urban nature walks. Instead information and pointers towards urban wildlife will be delivered directly into your home with the incredibly well illustrated upcoming book.

When was the last time that you took a guided museum tour? In this upcoming book on species in our immediate environment, the jumping spider will take a magnifying glass and show you what critters and lives in our backyards, our living room, the compost and the pavement. An exciting resource for children and adults alike, made by a team of young women with rich knowledge on urban ecology, paired with fascinating illustrations by Sunaina Coelho.

At the end of the tour, the book covers different ways in which people can engage with the Living Museum— by observing it, understanding the great changes it is going through, and contributing data to national and global citizen science initiatives. The book gives a short glimpse into the professional work of a few people, that intersects with urban biodiversity.

Stay tuned to the BSF social media channels to find out more about the book's release.

@cafeoikos

Urban Biodiversity

The Why and How of Bengaluru's Biodiversity

Project runtime: *Apr 2020- Mar 2021*
Contact: Ekta Sawant, Citizen Matters *(ekta@oorvani.in)*
Sandhya Sekar, Mongabay-India *(sandhya@mongabay.com)*

Photo credit: Citizen Matters/Labonie Roy


Photo credit: Mohit M Rao


Photo credit: Arati Kumar Rao

The project was started with the intent to explore multiple aspects of Bengaluru's biodiversity and this was done through publishing a series of stories on the topic for the general public, workshop for journalists, resource kits and events to engage a younger audience. They published a series of stories covering the solitary lives of bees, tree loss impact on the Slender Loris, Bengaluru's lost crop varieties and many more. As part of the project, a guide on Bengaluru lakes, capturing the complex layers with beautiful illustrations was released. The year long project culminated with an event titled *Bengaluru Biodiversity Charche* and included a keynote address by environmental activist Bittu Sehgal. A reporter's workshop was organized as part of the event which catered to environmental journalists and urban reporters about the necessity of biodiversity discourse in the media. Two urban biodiversity manuals were released at the session.

This project not only improved awareness about urban biodiversity of Bengaluru, but has also become a resource for policy, action groups, activists and researchers. The future plan of the project is to take this educative intiative to schools and colleges and also make the Biodiversity Charche an annual event.

A recent petition organized by Jhatkaa to save the Hessarghatta grasslands cited an article written as part of this project.


Photo credit: Angad Achappa/ Urban Slender Loris Project

Visit the BSF website for links to all the articles in the series and the recordings of Bengaluru Biodiversity Charche.

@citizenmatters
@MongabayIndia
@citizenmatters

Urban Biodiversity

Flashcards on common spiders and insects

Project runtime: *Apr 2020- ongoing*

Contact: Vena Kapoor, NCF *(vena@ncf-india.org)*
Priya Venkatesh, Eco Edu *(priya.images@gmail.com)*

Photo credit: Vena Kapoor/Priya Venkatesh

The project imagines around 50 flash cards featuring 20 commonly found insects and spider groups. The content will have natural history information, behaviour and easy visual markers to aid in identification in fun and exciting forms. These flashcards on common spiders and insects around us are aimed at children and adults and can also be used by nature educators on guided walks.

The design is such that all the flashcards will be in a roller binder so that it is easy to carry around as a unit but also removable as separate cards so that they can be placed anywhere and used as teaching aids and educational games. This flash card pack can be used in nature groups in schools by educators to promote learning and initiate conversations.The set can also be used as group games during gatherings with family and like-minded friends in residential complexes. The design and content will be open source so that others may use the information to create/ modify it to suit their context or requirement for educational purposes.

Stay tuned to the BSF social media channels to find out more about the release.

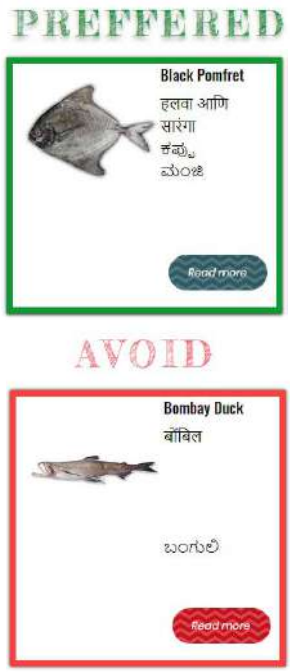
EcoEdu
@ncf.india

Urban Biodiversity

Ocean on a plate

Project runtime: *Aug 2021- Ongoing*
Contact: Mayuresh Gangal *(msgangal@gmail.com)*
Chetana Purushotham *(chetana@spidersandthesea.com)*

Photo credit: knowyourfish.org.in



Know Your Fish is a project that aims to expand the reach of responsible seafood culture by nurturing awareness and appreciation for marine life. It works towards helping seafood consumers from the west coast of India to make seafood choices that are least damaging to ocean ecosystems. With their partners Spiders and the Sea, they undertook several ocean awareness and sensitization programmes for children and adults. They are creating publicly accessible outreach material and as part of this intiative, they have launched a citizen science portal and a frequently asked questions page on their website.

Another objective is to understand the seafood markets in Bengaluru with a focus on where seafood is sourced and to assess the feasibility of a Bengaluru-focused seafood calendar. Currently the feature allows users to download a custom seafood calendar that has been launched. This will also be made available in 4 regional languages.

@knowyourfish
@spidersatsea
@knowyourfish

Urban Biodiversity

Bird board game

Project runtime: *Aug 2021- Ongoing*
Contact: Prasad Sandbhor *(sandbhorprasad@gmail.com)*
Priti Bangal *(pritibangal@gmail.com)*

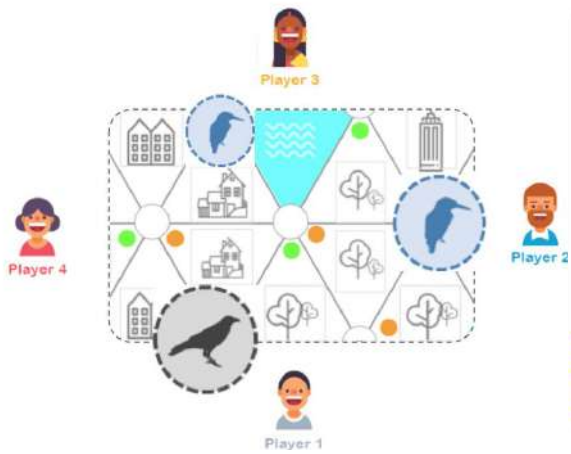
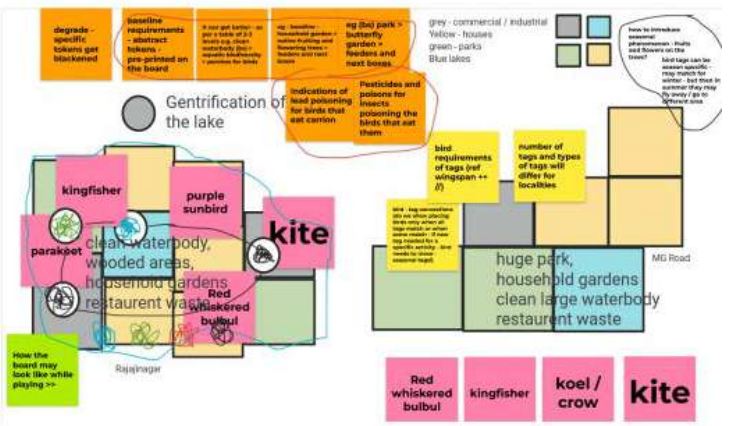


Photo credit: Prasad Sandbhor



Screenshot from the game ideation session

With a cross-disciplinary duo comprising of an ecologist and a game designer, the project looks at a game specific to the life of city-birds of Bengaluru. The game will integrate static as well as dynamic elements of the city and their effects on bird-life in its gameplay. The broader aim is to bring about awareness that will also propagate as enhanced curiosity and interest in the overall biodiversity in our surroundings. Such resources will help develop a deeper understanding of not only identification and documentation of the bird-life of Bengaluru but also help create awareness about the changing cityscape that affects the life-history of birds.

The audience in mind is mainly young adults, but the game will still be accessible to all residents of Bengaluru. In this game, players will perform a range of activities as urban birds, starting from everyday actions of flying, feeding, roosting to seasonal and energy intensive tasks like building nests, hatching eggs and feeding the fledglings. The game will operate on a representative map-board of a dynamic cityscape inspired by diverse habitats and landmarks of urban and peri-urban regions of Bangalore.

Illustration credit: Soundarya Raman

Visit their website to follow their progress and blog posts.

Urban Biodiversity

The Bee Garden project

Project runtime: *Dec 2021- Ongoing*
Contact: Chethana Casiker *(chethanacasiker@atree.org)*
Maria Antony, ATREE *(maria.antony@atree.org)*

Photo credit: ATREE

A model of a bee hotel

The Bee Garden project aims to establish bee hotels in Bengaluru city as a pilot effort by generating spatial data on cavity nesting bees in the urban environment. By doing so, they intend to create a database that can be used as a basis for planning pollinator-integrated edible gardens in green spaces in the city and for designing pollinator-inclusive urban landscapes.

The team has come up with a bee hotel that has three parts, each of which cater to different bee nesting requirements. The uppermost compartment has hollowed out twigs and cavities pre-made in wood. The middle compartment consists of bamboo segments. The lower compartment is designed to be filled up with soil to provide space for the several soil-nesting bee species. There has been work on developing a phone app alongside the hotels. This would be critical for encouraging participation and ensuring ease of recording observations. It will also have a simple guide for identifying common bees that one might expect to see in the city. The team also conducted a webinar to draw attention to solitary bees and introduce the idea of bee hotels and edible gardening.

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Urban Climate Change

< Back to list of projects

Urban Climate Change

Climate change stories from Bengaluru

Project runtime: *Jan 2020- Jan 2022*

Contact: Babitha George, Quicksand *(babitha@quicksand.co.in)*
Bharat Mirle *(bharat.mirle@gmail.com)*

Photo credit: Quicksand/Bharat Mirle

Climate change is noticeable now more than ever. Quicksand came together with independent filmmaker Bharat Mirle to tell the stories of resilience of communities who are learning to adapt to the changing weather patterns and environmental degradation in and around Bengaluru. This project ventured out to connect with all kinds of people through the two years, disrupted severely by the pandemic.

The project has collected five stories. The first story explores the evidence of the green past of Sarjapura, which in the last two decades or so has seen rapid urbanization with the built up area rising rapidly. The second story, from a hamlet near the Bannerghatta national park describes the efforts of the Buffalo Back Collective, which is seeking to engage the local population in sustainable ventures that are community owned. The third story is from around the Byramangala lake on the outskirts of Bangalore, where the heavily polluted lake has long stopped sustaining local fishing or even large-scale farming. The fourth story, from Veerammanahalli in Chikkaballapur district documents the efforts of Narasimha Reddy, a legendary organic farmer in the region. The last story focuses on the plight and resilience of nomadic pastoralist communities. As their way of life becomes harder, their resilience still serves as an inspiration for us all to make our own lives more sustainable.

Find the Stories of Resilience here.

Reach out to them if you any leads on a story or an idea.

@helloQS, @bharatmirle
@quicksandstudio @bharatmirle

Urban Climate Change

Demystifying Climate Change

Project runtime: *Aug 2021- Ongoing*

Contact: Subhankar Chakraborty, *(bgvskarnataka@gmail.com)*
Krishnapriya Tamma, APU *(priya.tamma@apu.edu.in)*

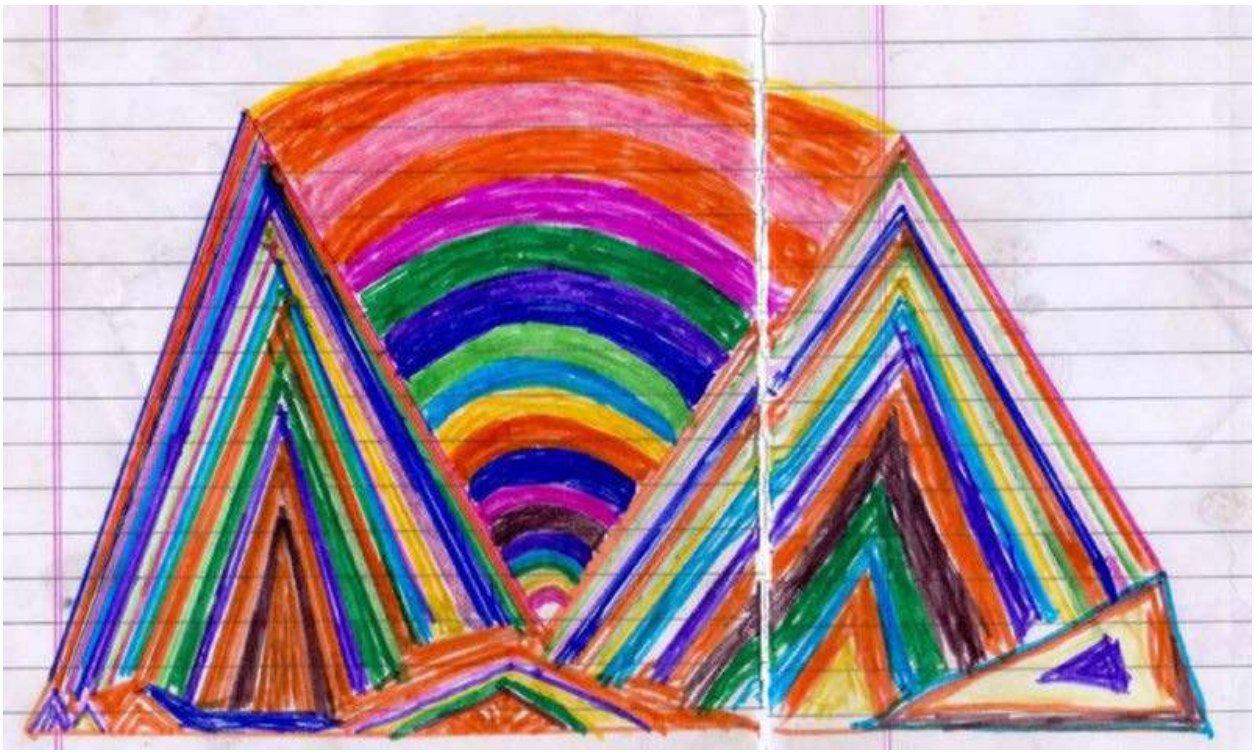


Illustration credit: A page from a student's notebook. Kiran DK. Kannamangala Government Higher Primary School, Shidlaghatta taluk, Chikballapur

This project will develop original literature on climate change in Kannada and English since there is a scarcity of age-appropriate prose and literature on climate change, particularly ones that demystify science and the historical policy interventions. It is important to curate a dialogue around this with students so that they can relate to the context of the ecological, cultural and linguistic landscapes they grew up in.

The project also includes organizing workshops/public lectures for students with discussions on climate change and climate justice. The books would be designed for the young readers of the 10-16 years age group.

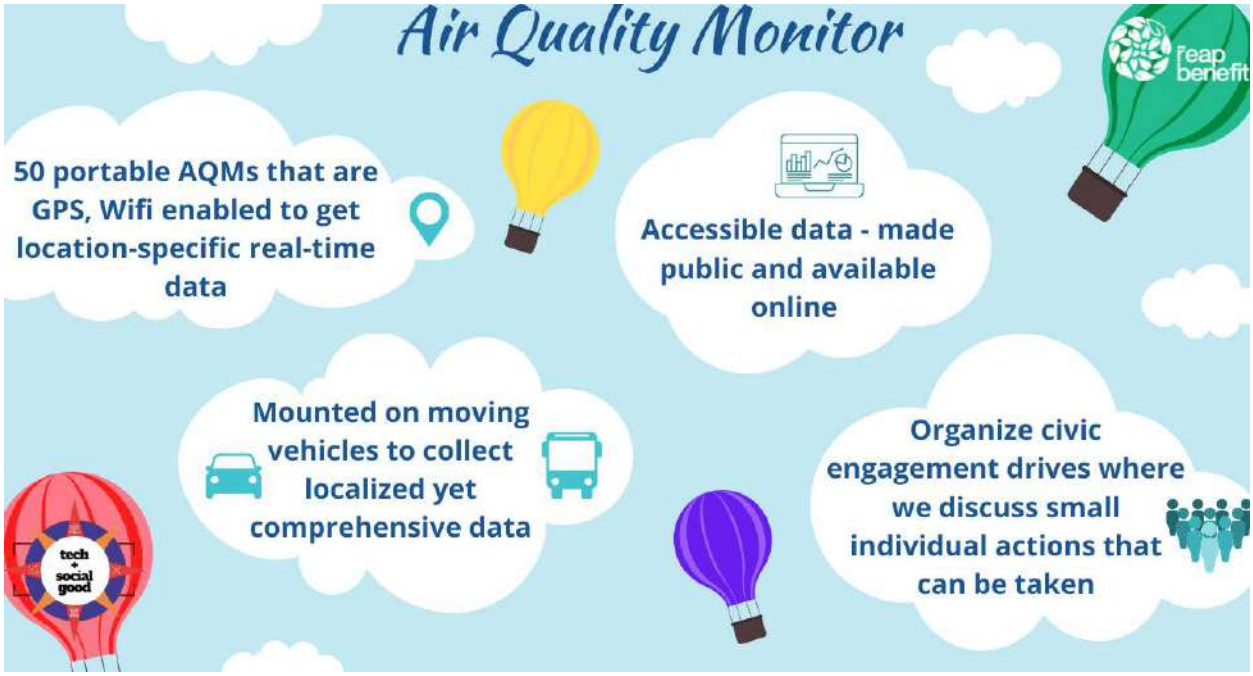
All the lectures would be made freely available for the archives in both Kannada and English, so that students can access this across Karnataka through the digital library initiative.

< Back to list of projects

Urban Climate Change

Air Quality Monitor

Project runtime: *Dec 2021- Ongoing*
Contact: Gautam, Reap Benefit *(gautamp@reapbenefit.org)*
Tech+Social Good, PES University *(techshiftpesu@gmail.com*



With air pollution having an insidious impact on the environment and well-being of the population, air quality is a necessary metric to measure. This project aims to deploy portable air quality monitors that will be mounted on public and private vehicles and select locations, enabling collection of localized yet comprehensive air quality data. Data will be available online, and open source, updating live. When air pollution is quantified, it is easier to make communities realize the direct harm to them, and therefore act on improving air quality. The project will host civic engagement drives, to create a dialogue with citizens and encourage integration of sustainable practices into their everyday lives. There will be collaboration with government authorities and local civic bodies as well.

Photo credit: Reap Benefit

After testing multiple ways to encourage youth to build AQMs themselves, the team has started working on the display and consumption of this information. Another team in parallel is working on the portable version, which can be mounted inside a vehicle.

@reapbenefit
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< Back to list of projects

Urban Climate Change

Grounds for change

Project runtime: *Aug 2021- Ongoing*
Contact: Arshiya Urveeja Bose *(arshiyabose@gmail.com)*
Babitha George, Quicksand *(babitha@quicksand.co.in)*

How does one place value on people and nature through a cup of coffee? This is what the project aims to do, by reimagining traceability and producer-consumer connectedness for a cup of coffee. The primary objective of this project is to redirect narratives around sustainability and traceability in coffee towards components of ecosystems where coffee is grown, biodiversity that these ecosystems support and smallholder producers who grow much of the country's production. This will be done through an immersive web experience for coffee drinkers that proactively highlights otherwise overlooked components of ecological sustainability and farmer livelihoods.

Another way is by facilitating dialogue and interactions between producers and consumers around sustainability in coffee value chains through pop-up events across Bangalore. Over the past few months, the team has begun the fieldwork with coffee growers in BR Hills. The fieldwork involved holding workshops at a hamlet level with coffee growers about traceability, coffee consumption and how they might want to engage with coffee drinkers. The next step is to extend this to the Nilgiris district.

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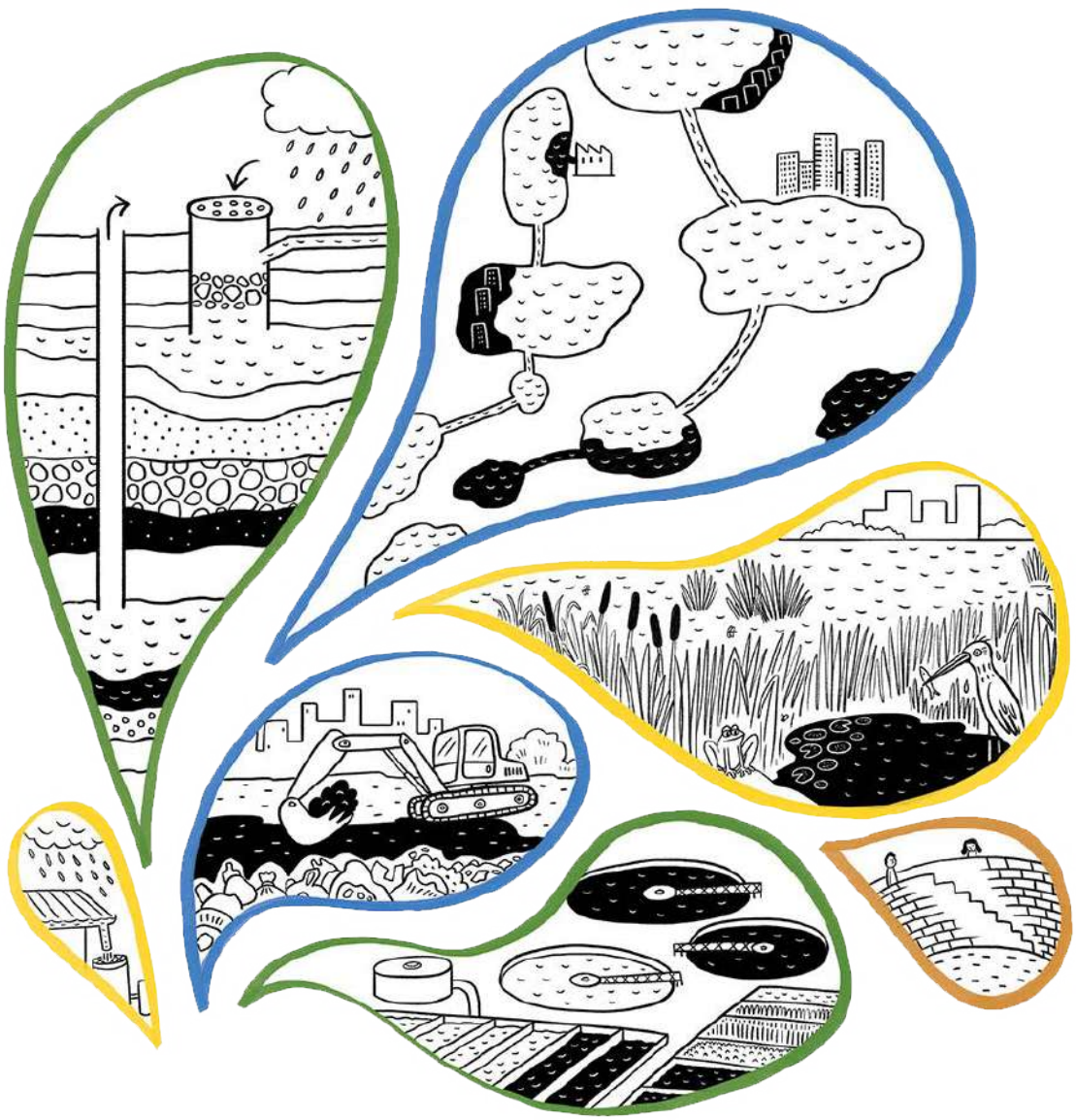
@quicksandstudio
@blackbazacoffee

Urban Water



Urban Waters

STRAINs

Project runtime: *Jun 2019 - Jun 2020*
Contact: Priyanka Jamwal, ATREE *(priyanka.jamwal@atree.org)*
Shubha Ramachandran, BIOME *(shubha@biome-solutions.com)*

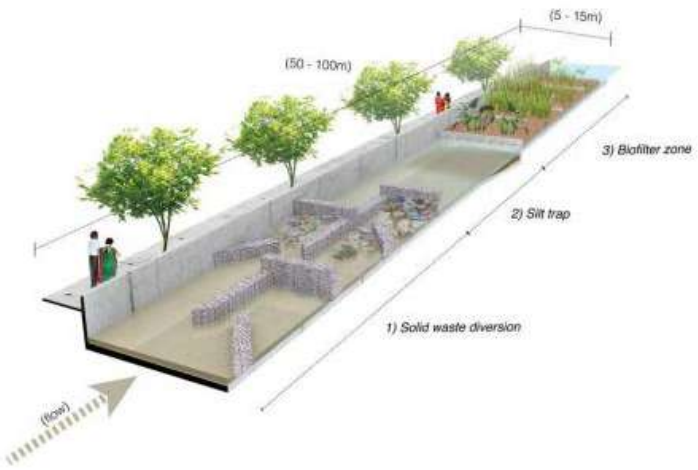


Photo credits: Daniel Phillips

STRAINs stands for strategic in-stream systems. STRAINS evaluated the impact of a low cost, low maintenance solution for grey water treatment in stormwater drains in Bengaluru. The semi-controlled field experiment is located near the inlet of a small urban lake in Bangalore's southeast periphery (Sowl kere).

STRAINs after planting

Bengaluru is a mega city without a major perennial river intersecting the city. Instead it relies on a system of lakes, tanks and stormwater drains to supplement the city's water needs. Stormwater drains are meant to carry runoff water, but increasingly receive grey water from surrounding apartment and office complexes. STRAINS tested terracotta and gravel in combination with plants as intervention before the grey water reaches the city's lakes. It turns out that the system works to decrease 80% of biological oxygen demand, 96% of chemical oxygen demand and 97% of total suspended solids due to the combination of Canna lily and the respective filter materials. This significantly reduces the strain on the receiving water bodies.

Read the full report on our website.

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Urban Waters

Namma Ooru, Namma Neeru

Project runtime: *Apr 2019 - Sep 2022*
Contact: Shubha Ramachandran, BIOME *(shubha@biome-solutions.com)*
Arzu Mistry, Art in Transit *(arzu@srishti.ac.in)*

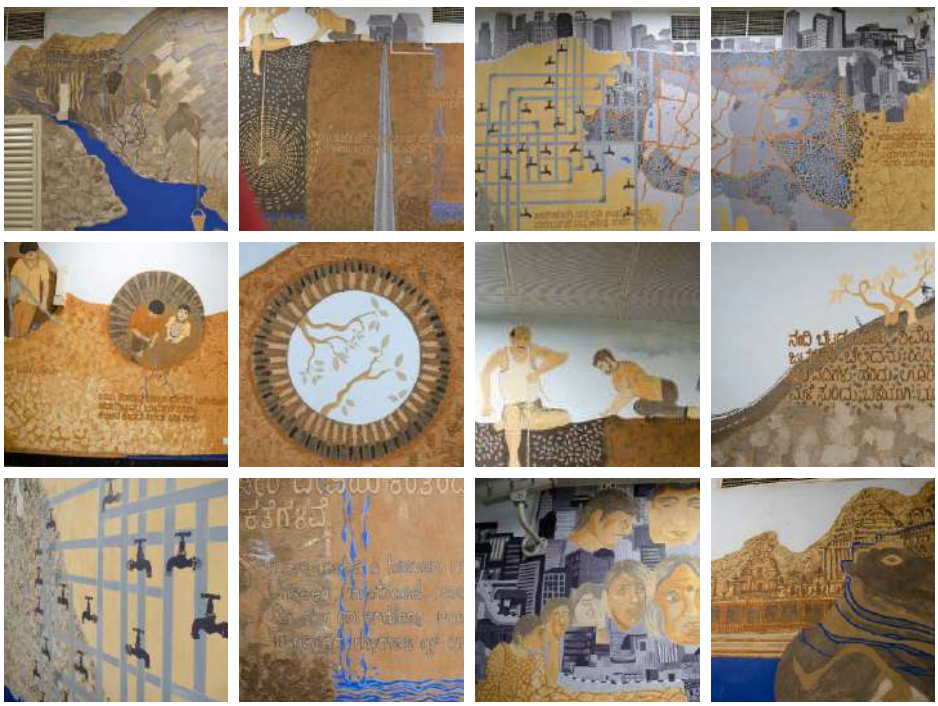

Photo credits: Art in Transit

Cubbon park metro station has transformed into a visual showcase of Bengaluru's water history, painted with colours of Bengaluru's soil in this project bringing together art, water and people. Look out for it on your next metro ride.

The project is a holistic and inclusive approach on Bengaluru's water history. Workshops and masterclasses around poetry, recharge wells, earthen paints, documentation of place, water and the surrounding bird life were held for well diggers and students alike. The actual mural was made by the students of Srishti from the mud extracted during the process of digging the recharge wells at Cubbon Park Metro Station. Through a visit to the Bovi Community in Sarjapura and a community poetry workshop at Cubbon Park Metro Station, Mamtha Sagar and the Kavya Sanje Poetry Collective developed poems that have been expressed on the walls as part of the mural. Art in Transit worked with Srishti Films to put together a short film of the process and along with BIOME and Kavya Sanje they hosted an online event to showcase the mural with performance of poetry on Bengaluru's water stories.

Visit the project page on the BSF website to read more.

@ArtinTransit_b
@@biome_trust

@artintransit_bangalore
@biometrust

< Back to list of projects

Urban Waters

Understanding Wetland Instrumentality and Dead Zone, Jakkur Lake

Project runtime: *Apr 2019 - May 2020*

Contact: Shubha Ramachandran, BIOME *(shubha@biome-solutions.com)*
Annapurna Kamath *(jalaposhan@gmail.com)*

Photo credits: Suma Rao

Testing the Solar Aerator in the Kalyani

Jakkur Lake has been seen as a model of the preservation of a lake using integrated urban water management principles. Here, treated wastewater is the main source of water for the lake. This treated wastewater and some amount of untreated wastewater is also remediated by a wetland before it enters the main water body. The management of the wetland is happening informally. The project was to try and develop a formal management system for the wetland such that it becomes a protocol for other lakes in the city and in general.

YSI Pro20 DO handheld meter

This project resulted in identification of low dissolved oxygen regions (also called dead zones) in Jakkur lake. Efforts to revive the dead zones with solar powered aerators gave good learnings for the way ahead.

Jakkur lake is one of the best maintained lakes in Bengaluru. It has wetlands surrounding it and a kalyani. Despite this, dissolved oxygen levels were fluctuating, which was likely to be a function of unpredictable and highly variable influx of pollutant water volumes. This also made it hard to assess the instrumentality of the wetlands, pointing towards the need for better understanding of the fluxes prior to the wetland.

The final report can be read on the BSF wesite.

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< Back to list of projects

Urban Waters

Nature's Gurukul

Project runtime: *Jun 2019 - May 2022*
Contact: Jalaposhan Trust *(jalaposhan@gmail.com)*

Photo credits: Nature's Gurukul

Climate change competition for kids

Bee day event anchored by GKVK

@JalaPoshan
@jalaposhan

Nature's Gurukul is a participatory space at the Jakkur lake that invites citizens to come for expert guided outdoor experiences. The aim was to initiate a citizen science programme where various lake/nature related projects would be implemented with active citizen engagement.

Since the project began, they have had various activities that revolve around improving the lake ecosystem. Some activities are held every month like environmental days, volunteering activities and workshops. Over the period of nine months, a tree census was conducted, orientation of permaculture, an event for Bee, bird, soil and world rivers day and a climate change competition. Lake water testing was introduced as part of one program and various clean up drives have been held.

There was a Jakkur Kere Utsav organized, where the Bhumtai Balaga team sang about the importance of the lake. It was beautifully captured in the folk genre.

They continue to have birding sessions every 4th Sunday with a small group of 15 members from all age groups. Follow Jalaposhan on social media to get information on upcoming activities of Nature's Gurukul.

Urban Waters

Jakkur Community Gardens

Project runtime: *Apr 2019 - Dec 2020*
Contact: Jalaposhan Trust *(jalaposhan@gmail.com)*
Kiri Meili, Ananas *(kiri@ananas.design)*







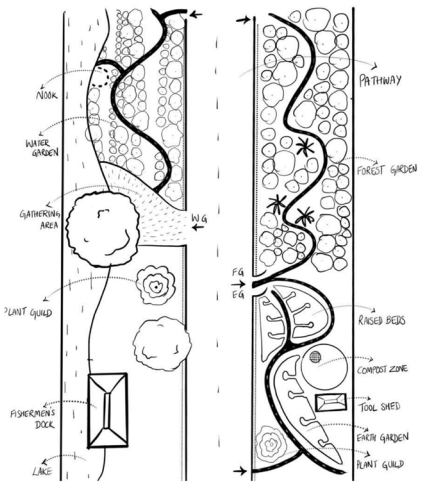

Photo credits: Ananas Permaculture

The banks of the Jakkur Lake were chosen for implementation of the Community Gardens. The project used community gardens to contribute to livelihoods as well as biodiversity around Jakkur lake.

For a garden to grow herbs, excess biomass from the lake, water hyacinth & dry reeds were used to build soil in the raised beds. A vegetable garden was laid out and local stakeholders like fishermen, residents and local users of the lake were trained to maintain it in return for the produce.The forest garden will eventually take care of itself and increase the living space for all the birds and critters around. The trees, shrubs and vegetables have all done well in the forest garden, earth garden and water garden including the guild near the fisherman's house. There is now a gathering area and two benches for talks and relaxation.

There was emphasis on using trees and dense shrubs provide perches and nesting sites, as well as to plant species such as Mulberry, Singapore Cherry, Barbados Cherry, that are eaten by birds.

While the project has concluded, the volunteer days continue. You can reach out to the grantees to get details.

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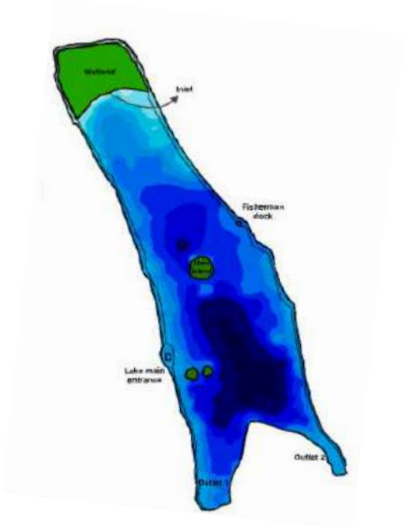
< Back to list of projects

Urban Waters

Jakkur Citizen Science Project

Project runtime: *Apr 2019 - Apr 2020*
Contact: Jalaposhan Trust *(jalaposhan@gmail.com)*
Seema Sukhani *(seema@iisc.ac.in)*

Photo credit: Seema Sukhani



Study of floor bed of Jakkur lake

The project has concluded and the final report is available on the BSF website.

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Jakkur Citizen Science project engaged with college students to evaluate water quality, flora and fauna around Jakkur lake and build a long-term relationship and sense of responsibility between the students and the lake. The project used experiential learning approach to develop educational, research and interpretation learning opportunity for students, teachers, resident citizens, volunteers, students (future custodians) and bird watchers at Puttenahalli and Jakkur Lakes.

Students from several graduate colleges from Bangalore were trained in various water quality assessment procedures. While managing long term participation of students as citizen scientists to help monitor the variation in water quality in different seasons of the year was not successful, a few became a part of this project and helped in mapping the lake as well. Citizens were engaged in successfully monitoring the water quality in the lake. Data retrieved from fortnightly measurements that provide clear insight on the characteristics of the water in relation to surrounding land cover. Drivers of change in the catchment of the water body and their relationship with water quality were mapped and bird surveys have been conducted by Jalaposhan.

Urban Waters

Project Hanigalu

Project runtime: *Jan 2020- Oct 2020*

Contact: Sruthi Krishnan, Fields of view *(sruthi@fieldsofview.in)*
Manu Mathai, APU *(manu.mathai@apu.edu.in)*

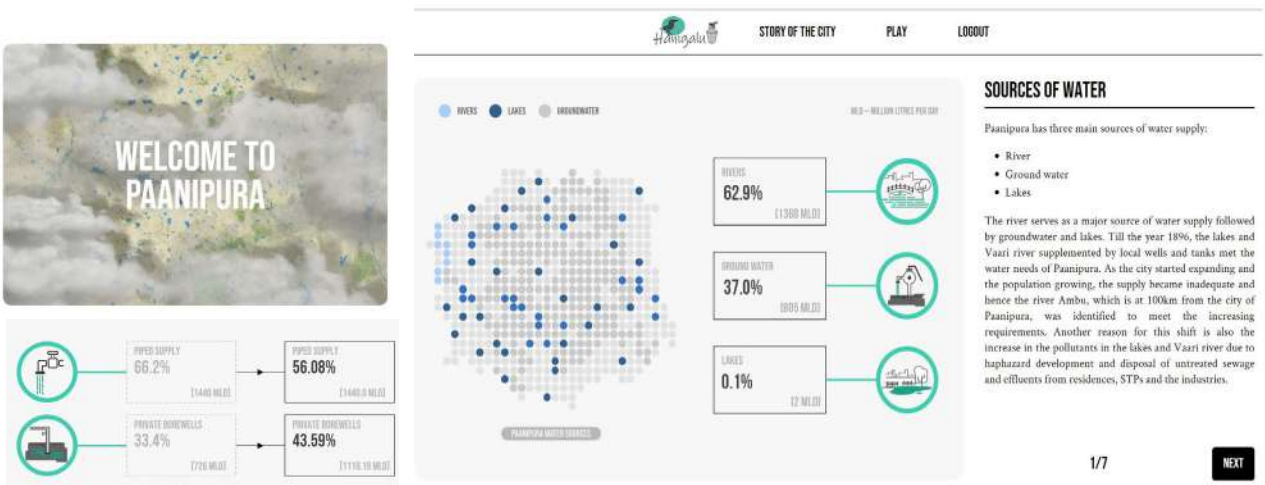
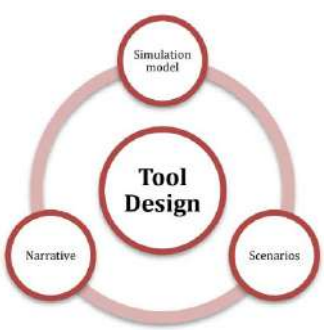


Photo credit: Fields of view



Aspects to tool design

The drinking water crisis in many parts of Bangalore during the summer of 2019, was just one reminder about the intersection of urban governance and management of a natural resource against the background of climate change. Project Hanigalu seeked to develop an interactive tool for improving understanding of and capacity building in water management in citizens.

Constitutional provisions exist to involve citizens in the governance of a city, but we know that the utilization of these spaces has remained stunted. Similarly, methods and tools for citizen participation have remained largely underdeveloped. It is against this background that the project planned to pilot a training tool to engage and train young adults in understanding the aspects related to water security planning.

Learn more here and reach out to Fields of View to book a session.

The context of the narrative was to be set in a small city. *Paanipura* emerged as the city setting the context for the tool, and it was conceived as a scaled-down version of Bangalore.

Hanigalu is a simulation tool developed to build capacity among young adults in water security planning by exploring different scenarios and trade-offs related to water security and improving it at the local level.

@fovlabs
@fieldsofview.in

Urban Waters

Integrated urban water management

Sensing Local

Project runtime: *Apr 2020- Apr 2021*

Contact: Ankit Bhargava, Sensing Local *(ankit@sensinglocal.in)*
Manoj Kumar Tiwari, IIT K *(mktiwari@swr.iitkgp.ac.in)*

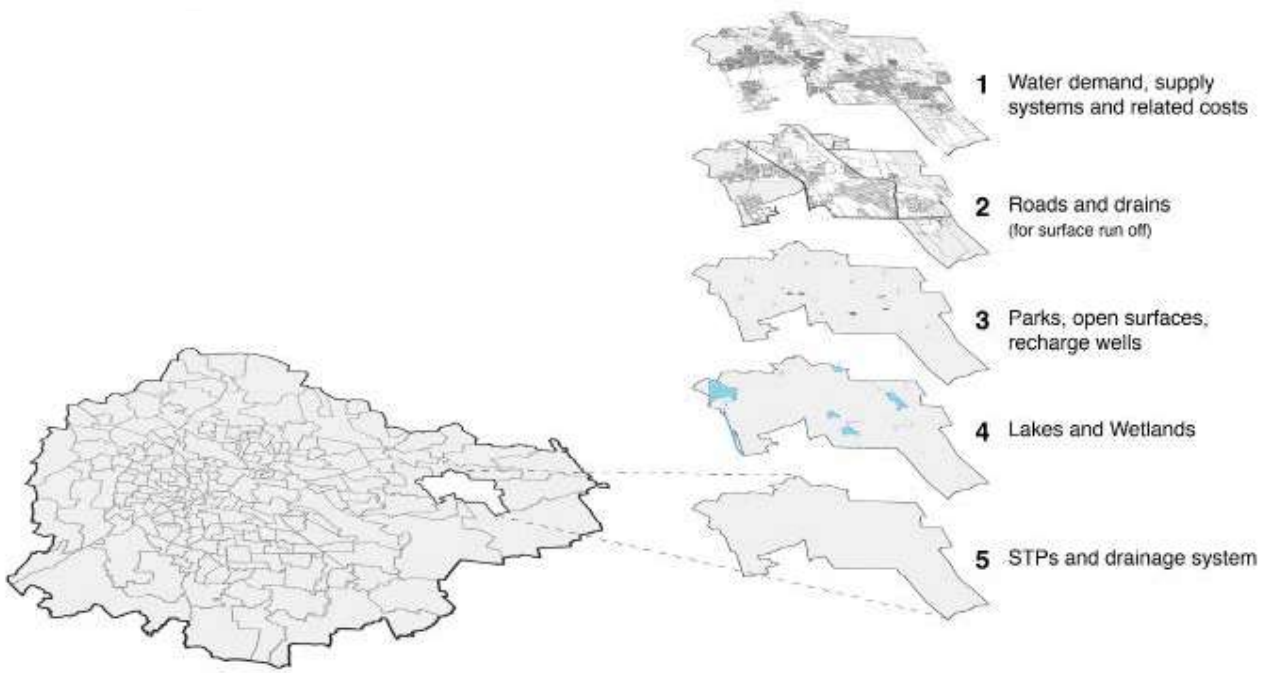


Image: Sensing Local

The goal of this project was to design a framework for Integrated Urban Water Management (IUWM) at the ward level in Bengaluru using two wards (CV Raman Nagar and Doddanekundi) as test beds.

The ward committees in Bengaluru offer a paradigm shift in urban governance by onboarding citizens as decision makers in the governance of the ward. They have been given the power of planning, budgeting and ensuring supply of municipal services for their wards. Their mandate related to water includes the following facets:
(1) Ensuring water supply maintenance in the ward
(2) Finalise location of new water taps and public wells
(3) Implementation of rainwater harvesting schemes

This project was a part of a larger *State of the Ward* framework that is being developed to assess Bengaluru's wards on 19 features of liveability and simplify the process of planning.

The final report on the two wards is available on the BSF website.

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< Back to list of projects

Urban Waters

Lake Health Index

Project runtime: *Jun 2020 - Ongoing*
Contact: Ramprasad V *(friendsoflakes@gmail.com)*

Photo credits: Friends of lakes

Basic questionnaires for primary user group

Wouldn't it be wonderful to have access to a resource telling you about the health of lakes around you? The objective of LHI is to make it easy for citizens and the stakeholders to be more aware and active about the water bodies around them. LHI will provide a data driven tool required to make observations (pH, TDS, P, N etc.) which anyone can use to assess their lake's health.

The indicative parameters in form of simple questions and the definitions of the parameters need to be formulated with focus on simple language and understanding. The index is important to ascertain the sustainability of the asset and to take remedial actions to preserve and protect the asset from degradation in short time thus increasing its life.

The project will collect pre monsoon, monsoon and post monsoon data to provide a fairly accurate health index of a lake. Data collection started in March 2021, from three lakes - Doddabammasandra, Ulsoor and Shivapura through 60 student volunteers from different colleges in Bangalore. Currently they are analyzing the data collected from the 3 lakes and developing an app which will help citizens determine their lake's health.

< Back to list of projects

Urban Waters

Developing Citizen-relevant Water Quality Criteria For Urban Lakes in Bengaluru

Project runtime: *Jun 2020- Ongoing*

Contact: Annapurna Kamath *(jalaposhan@gmail.com)*
Sumita Bhattacharyya, ATREE *(sumita.bhattacharyya@atree.org)*

Photo credits: Praveen

This project focuses on the development of biomonitoring tools and assessment schemes to enhance citizen ownership of lake management through more effective monitoring of these water bodies for community use and urban biodiversity.

Field trips were carried out for collecting lake water samples for a comparative study of the chemical quality between lakes in industrial areas (Nelakadirenahalli Lake and Narasappanahalli Lake) and urban areas (Kaikondrananhalli Lake and Jakkur Lake). Data compilation and analysis is ongoing. Along with this, regular monitoring of water quality at Jakkur Lake has also been carried out over the past year as and when possible. Furthermore they investigated possible causes of sudden excessive growth of water hyacinth in Jakkur Lake.

The team also finalized questionnaires for an online survey about different lake users' perception about a number of local lakes within Bengaluru city. This is to collect basic information on lake management from lake groups and local custodians of these lakes.

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< Back to list of projects

Urban Waters

Sowl Kere: Sustainable treated water feed project

Project runtime: *Dec 2021- Jul 2022*
Contact: MAPSAS Trust *(mapsas.blr@gmail.com)*
Biome Environmental Trust *(shubha@biome-solutions.com)*

Photo credits: Mapsas

Manhole after cleaning

Inlet unclogged

The final report is available on the BSF website.

@mapsasblr
@mapsasblr

This project evaluated the current 100 KLD non-conventional, non-energy consuming STP set up at Sowl Kere to determine its effectiveness and efficiency levels. Stormwater is the source of water for this lake. The lake holds very little water and is largely dry for most of the year. An attempt was made to increase the inflow to the lake all through the year by directing wastewater from the diversion drain into the lake after passing through the STP.

Mapsas in partnership with Biome prefers to use natural, ecologically sustainable means to release good quality water, capable of supporting life in the food web around the lake. The STP was cleaned and the inlet/outlet piping was revamped in Feb 2022. Output water quality and flow were tested to assess the STP's effectiveness as well. The outcome of the maintenance activity has resulted in satisfactorily clean water with an increased flow rate.

Urban Waters

Efficient management and value addition from water hyacinth in Jakkur Lake

Project runtime: *Aug 2021 - Aug 2022*

Contact: Annapurna Kamath *(jalaposhan@gmail.com)*
Tellus Habitat Pvt. Ltd. *(himanshukk@iisc.ac.in)*

Biodigester installed

Feeding the biodigester

This project demonstrated a small-scale biomethanation plant for the conversion of harvested water hyacinth biomass into biogas and the subsequent application of residue/digestate as suitable plant manure and conditioner.

Water hyacinth (Eichhornia crassipes) is one of the prominent invading macrophytes growing in the Jakkur lake. It is amongst the fastest growing, invasive free-floating weed which is capable of deriving nutrients directly from the water. The faster growth rates of water hyacinth result in the rapid development of thick mats on lakes and water bodies causing detrimental effects on the aquatic life and ecology of the lakes.

The aim was to demonstrate the bio-methanation of water hyacinth in a novel, anaerobic digester . The bio-methanation process generates biogas (i.e. methane and carbon dioxide) that could be used for cooking and heating, whereas the nutrient rich residues could be directly administered as manure.

The objectives of this project also included conducting training on the use of biodigestor and its output.

Feeding and pushing into shredder
Photo credits: Project team

The final project report is available on the BSF website.

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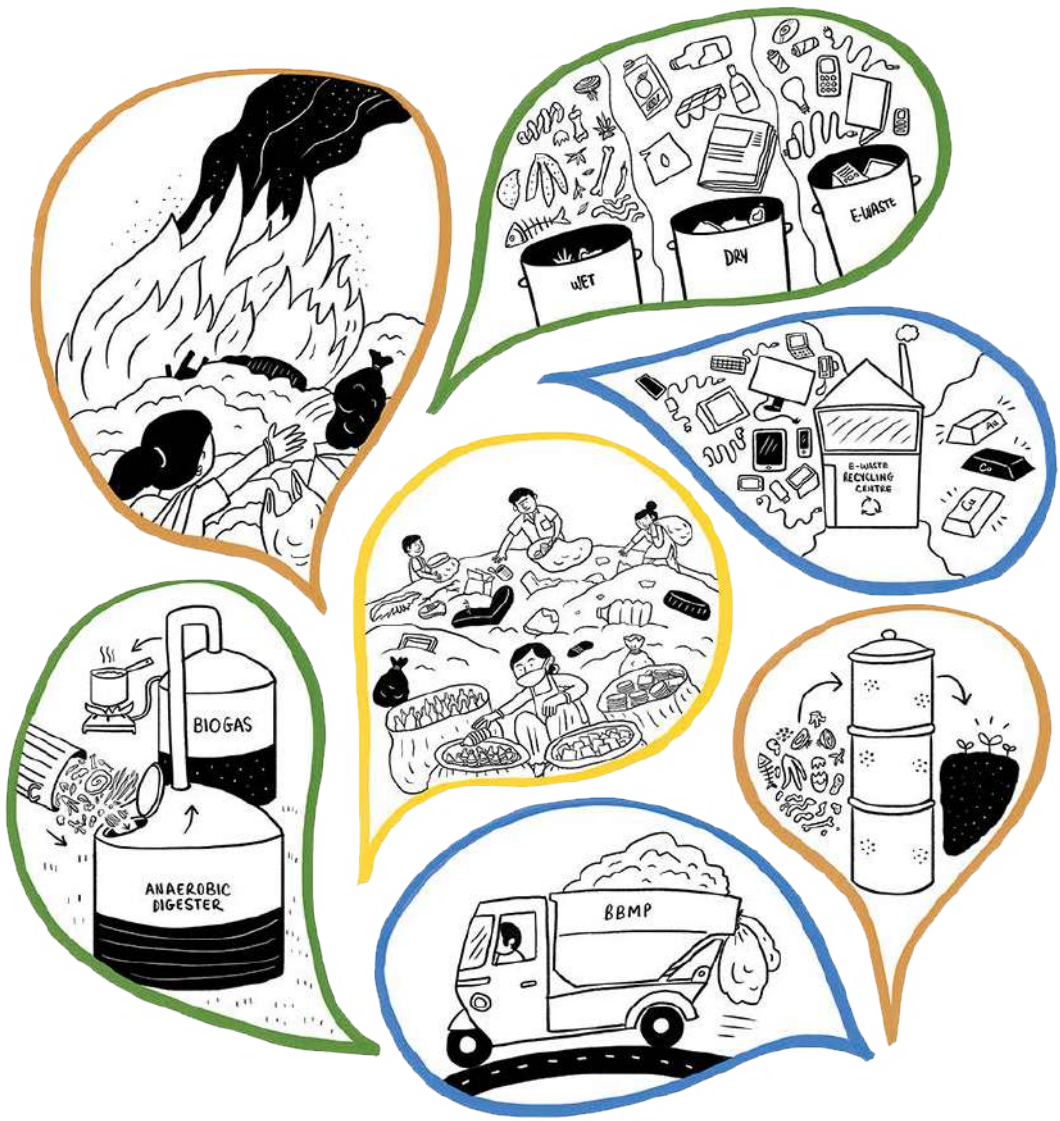
Urban Waste Management



Urban Waste Management

Zero-Waste wards

Project runtime: *Apr 2020 - Jan 2021*
Contact: Sobia Rafiq *(sobia@sensinglocal.in)*

Sensing Local

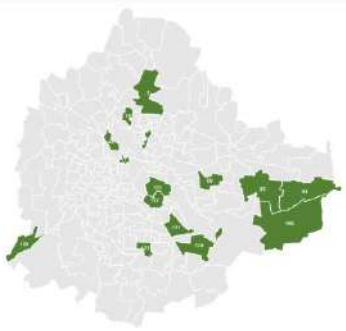


Image credits: Sensing Local

As individuals we all aspire towards a zero waste life. This project explored how one can plan to become *zero waste* at the scale of the ward. Though the initial approach was to develop the plan through on-ground engagement processes, due to COVID this was becoming very difficult and hence they had to re-evaluate their approach. They therefore began to bring together stakeholders at the ward and city level, to understand waste management challenges during COVID. Through these discussions, it was realized that there is a gap in the documentation of good practices at this level in the city and its formal communication to a larger set of citizen volunteers who are eager to drive change in their ward, related to Waste Management.

The proposed approach had two main outputs: Building an excel based infrastructure planning tool and a decision making tool for selection of technologies. This was done after waste generator mapping and multiple awareness webinars.

The final project report is available on the BSF website.

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Urban Waste Management

Civic crowdsourcing through Technology

Project runtime: *Aug 2021- Ongoing*
Contact: Reap Benefit *(gautamp@reapbenefit.org)*
Puja Kalivarapu *(pkalivarapu@gmail.com)*

The project is developing a chatbot where citizens can report problems and drive public engagement and government accountability for solving them. Decisions made for public good are often taken by representatives, government, scholars or policy makers. The Reap Benefit Chatbot aims to leverage civic engagement for this purpose. Citizens will be able to report any civic issues using the Chatbot ranging from lack of maintenance in public toilets, garbage spots, potholes, flooding etc. This choice enables to draw two parallels between the resolution of issues - while the authorities will be contacted for the fixing of public toilets, the community can take matters into their hands by organizing clean up drives and spot-fixing. The end goal of this project is to create an open source forum and and provide a platform for facilitation that acts as a medium between the public and the authorities.

To increase the volume and ease of crowdsourcing civic information, there has been focus on improving collection of locations, behavioral nudges, using an IoT device to experiment other ways of collecting information.

< Back to list of projects

Urban Waste Management

As the drain goes

Project runtime: *Aug 2021 - Ongoing*
Contact: Pinky Chandran *(pinky.chandran@gmail.com)*
Nalini Shekar*, Hasiru Dala (nalinipalyam1@gmail.com)*

Image credits: Project team

Stormwater drains are crucial to cities health. Unfortunately, unplanned urbanisation, indiscriminate disposal of garbage and sewage, encroachments, industrial discharges, further complicate and add to the stress and create distress. As the drain goes, proposes to map the Koramangala Valley pathway in Bengaluru (from Majestic to Belandur lake) and look at the communities residing along the line, with a special focus on water and sanitation interplay and urban flooding vulnerability, by creating a space for a dialogue.

The photomapping of the locations have been completed along with the secondary research. Majority of the informal interviews with the residents around the drains are also complete. Key stakeholder interviews with BBMP, KSPCB, BDA, citizen activists etc., are in progress.

Photo essays are published on Waste Frames and Citizen Matters documenting the progress of the project. A Photo Exhibition and Town Hall meeting will be scheduled in the coming months to look at the trash-drain nexus in the larger interplay of climate change and urban water and sanitation, for conversations and dialogues around the issues.

Visit the project blog Waste frames.

Visit our website to read more about the project.

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Research facilitation

< Back to Content page

Testing prevalence of SARS CoV-2 in municipal wastewater treatment plants in Bangalore

As an indicator of infection levels in the city.

In collaboration with

Project runtime: *Mar 2021 - Jul 2021*

Fig 1: Sampling locations

Wastewater epidemiology is a fast-developing science with tremendous potential to understand the dynamics of emerging pathogens and monitor the population's health. It takes advantage of the fact that specific pathogens enter the wastewater system through the faeces of infected patients, thereby allowing to estimate the spread of the given pathogen in a specific catchment area. Following this idea, BSF supported researchers from NCBS Bangalore and Biome to initiate wastewater surveillance in collaboration with BWSSB, for SARS-CoV-2, in Bangalore City. The initial focus of the surveillance was at Jakkur and Yelahanka-Phase-1 STPs (Fig 1). Researchers systematically collected non-treated (inflow) and treated (outflow) every two weeks for three months and tested for the presence of SARS-CoV-2 RNAs.

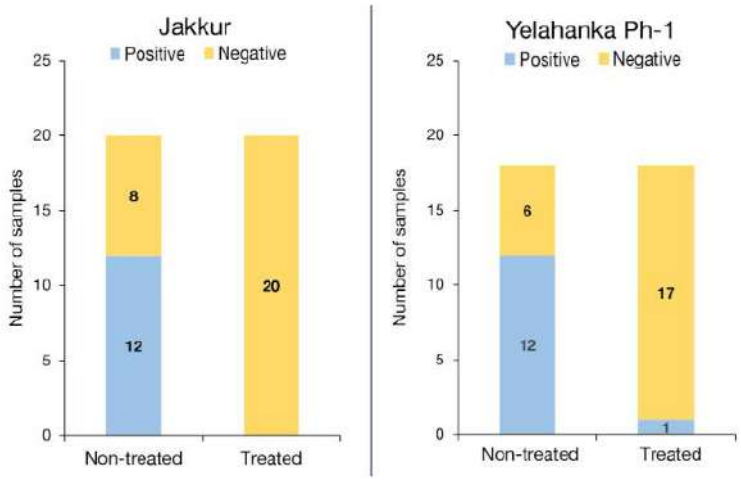


Fig 2: Summary of sample testing. All the treated (outflow) samples, except one, tested negative for SARS-CoV-2 RNA.

During the sampling period (31st March- 12th July), 88 samples (treated and non-treated) were collected, and 76 of them were tested for SARS-CoV-2. SARS-CoV-2 RNAs were detected in samples collected between 31st March and 31st May. The majority of the samples that tested positive were non treated wastewater samples. All the treated samples except one collected during this period were negative (Fig 2). 60% of non-treated samples were positive for SARS-CoV-2 RNA.

These results became a proof of concept for using wastewater screening as a tool for disease surveillance in the city. The same approach is replicable not just for SARS-CoV-2 but also to monitor the dynamics of several other potential pathogens and population health. The multi-institutional nature of this project became the first step towards building strong collaborations across sectors and stakeholders. The project is in its second phase, managed by researchers from NCBS and TIGS using financial support from the Rockefeller Foundation. They are actively screening hundreds of samples from multiple STPs across the city and trying to sequence genomes for detecting SARS-CoV-2 variants. The project continues to engage with BWSSB and Biome, hoping to strengthen the collaboration and knowledge transfer for evidence-based wastewater management in the city.

Read the full report on the BSF website.

< Back to Content page

Steering Committee

As we moved on from these tumultuous times, we parted ways with a few of our beloved steering committee members. We would like to thank Prof. Harini Nagendra, Dr. Veena Srinivasan and Dr. Nitin Pandit for their time and contribution to BSF and are sure that even as our paths diverge, we will continue to be fellow travelers on the road to a sustainable world. We would also like to welcome Seema Mundoli to the BSF steering committee. Seema is a faculty at Azim Premji University and is interested in questions of sustainability and equity in the urban context.

Jahnavi Phalkey
Science Gallery, Bengaluru

Jahnavi Phalkey is a filmmaker and historian of science and technology by training. Jahnavi is also the Founding Director of Science Gallery Bengaluru. Jahnavi has authored Atomic State: Big Science in Twentieth Century India and is director of the documentary film Cyclotron.

Mahesh Sankaran
NCBS, Bengaluru

Mahesh Sankaran is an ecologist whose research interests lie in understanding the impacts of global climatic changes on the structure, functioning and stability of ecosystems. He was the coordinating lead author on the IPBES Land Degradation & Restoration Assessment and a review-editor for the IPCC special report on land.

P.S Narayan
Wipro Ltd., Bengaluru

P.S. Narayan is the Head of Sustainability at Wipro Ltd, and the Managing Trustee & Head of Wipro Foundation, the CSR arm of Wipro Ltd. A graduate in Electrical Engineering with a post - graduation in management, Narayan has more than twenty five years of cross- functional experience. He has led Wipro's Sustainability initiatives since its inception in 2008. Narayan is Visiting Faculty at Azim Premji University and Xavier University, Bhubaneswar where he teaches post-graduate classes in ecology and sustainable development.

Satyajit Mayor
NCBS, Bengaluru

Prof. Satyajit Mayor is an Indian cell biologist. He is currently the Director of the National Centre for Biological Sciences (NCBS), TIFR, Bangalore. Prof. Mayor is an M.Sc. in Chemistry from IIT Bombay, and obtained his Ph.D. in Life Sciences from Rockefeller University, New York. He has worked in the Department of Pathology at Columbia University before returning to India in 1995 to join the NCBS in Bangalore.

Seema Mundoli
APU, Bengaluru

Seema Mundoli is a faculty at Azim Premji University. Her research focuses on the role of nature in Indian cities in addressing the challenges of environmental sustainability and social justice. Her recent co-authored books (with Harini Nagendra) include, “Cities and Canopies: Trees in Indian Cities” (Penguin India) and “So many leaves” (Pratham Books)

S. Vishwanath
Biome Environmental Trust, Bengaluru

S. Vishwanath is a Civil Engineer and an Urban Planner. He is a Trustee with the Biome Environmental Trust. He has 32 years of experience in the water, waste-water and sanitation sector helping design rainwater harvesting, aquifer recharge, wastewater recycling and ecosan systems. He is an Adjunct Professor and teaches a course on Water at the Azim Premji University, Bengaluru, India. He writes a weekly column called Waterwise for the last 11 years and more in a national newspaper-The Hindu.

Tejal Kanitkar
NIAS, Bengaluru

Tejal Kanitkar is an Associate Professor in the School of Natural Sciences and Engineering at the National Institute of Advanced Studies, Bengaluru. She has worked in the area of Energy and Climate Change for the last 15 years. She has a B.Tech in Mechanical Engineering from Mumbai University, A Master’s in Mechanical Engineering from the University of Massachusetts, Amherst, and a Ph.D. from the Department of Energy Science and Engineering, IIT-Bombay. Her work covers the broad areas of energy and emissions modelling, climate policy, and energy policy.

Uma Ramakrishnan
NCBS, Bengaluru

Uma Ramakrishnan is an associate professor at NCBS interested in molecular ecology and conservation genetics. Her work involves using genetic and genomic data to make inferences about populations of endangered species, and suggest measures to avoid extinction. She also investigates the ecological and evolutionary contexts of emerging infectious disease. She is passionate about science communication and science capacity building.

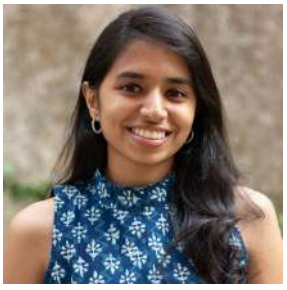
Wipro Anchor

Dinni Lingaraj
Wipro Pvt. Ltd., Bengaluru

Dinni has been anchoring various sustainability programs for Wipro over the last 11 years. He was closely involved in the design and implementation of sustainability disclosures, climate risk assessments, campus biodiversity and programs with human resources and procurement . A program that he was involved with since the beginning - Wipro earthian, a national sustainability education program - has reached out to hundreds of schools and colleges over the past few years. He is also involved in community projects and is currently also anchoring the urban ecology program. He represents Wipro in key industry forums related to climate change, net zero transition and sustainability.

Coordinators

Manasi Pingle



Namrata Narendra

We would also like to thank our past coordinators, Lena Robra and Ameya Neelam for their contribution to the BSF activities over the last two years.

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