CitSci India
Citizen Science for Biodiversity

CITSCI INDIA 2022 - 3RD ANNUAL NATIONAL CONFERENCE

Photo credits: Eco Vigyan Foundation

Virtual Conferenence | India | 2022

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ACKNOWLEDGEMENT

This document reports on the virtual CitSci India 2022 Conference organised under the umbrella of the Biodiversity Collaborative, and supported by our Conference partners, Centre for Technology Alternatives for Rural Areas, the echo network, Metastring Foundation, National Center for Biological Sciences - Tata Institute of Fundamental Research, Nature Conservation Foundation and the World Wide Fund for Nature-India.

All the technical support for the conference was provided by Amith Kumar and Tamizhan. Amith developed the website for the conference and set up the virtual conference using platforms like Zoom, YouTube and Discord. Tamizhan helped us stream all the live plenary and contributed sessions.

We would also like to thank Digangana Mukherjee, for helping us with the communications efforts for the conference and Priti Bangal, our volunteer who helped us in organising and managing the text-based conversations on our Discord server.

Finally, we would like to extend our warm gratitude to all our plenary speakers, contributors for their talks and posters and the 400+ participants who participated in this one-day event.

Photo credits: Digangana Mukherjee

Overview

The CitSci India Conference for Biodiversity is a virtual meeting of anyone involved in citizen science, including practitioners, researchers, educators, students, policy makers, and individual contributors, all of whom actively engage in citizen science.

The conference is organised under the umbrella of the Biodiversity Collaborative, a network of institutions and individuals whose shared vision is to promote biodiversity science in India and its application in conservation and sustainable development with a focus on enhancing human well-being.

Earlier editions of the conference were conducted as part of a preparatory phase of the National Mission on Biodiversity and Human Well-Being (NMBHWB).

The 3rd annual conference this year was held virtually on the conference Discord server. All registered participants joined the server where all communications and discussions were text-based, facilitating multiway interactions between speakers, contributors and attendees. Plenary sessions and contributed talks were live-streamed on the conference YouTube channel via Zoom, which was embedded on dedicated channels, and posters were uploaded as PDFs and short video clips on the channels.

400+ participants engaged through 28 presentations with 30+ experts and practitioners from 130 + organisations across 8+ countries with over 800+ views on YouTube.

Photo credits: Eco Vigyan Foundation

PARTICIPATION

After the conference, we collated feedback from our participants through an anonymous survey. Based on 47 responses, below are some charts and testimonials on their interests, experience and learnings from the conference.

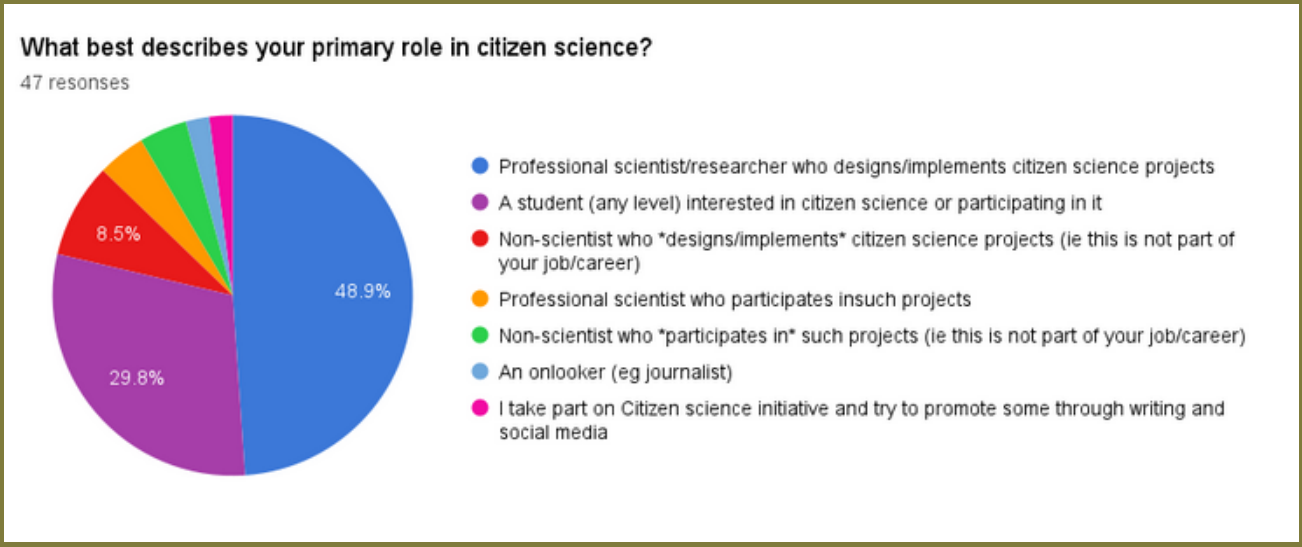
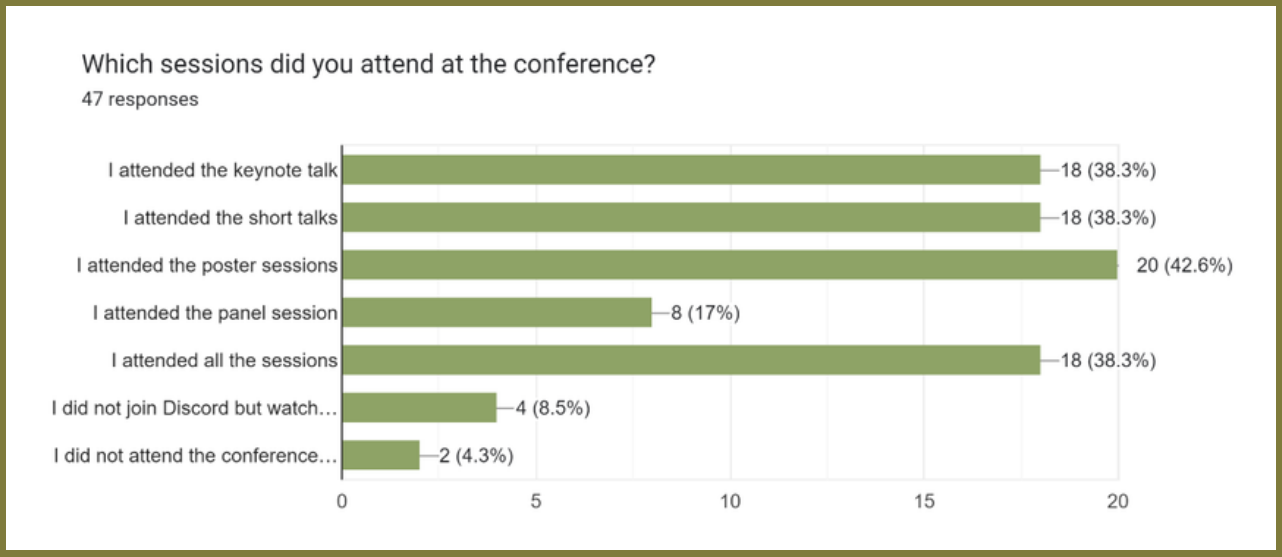
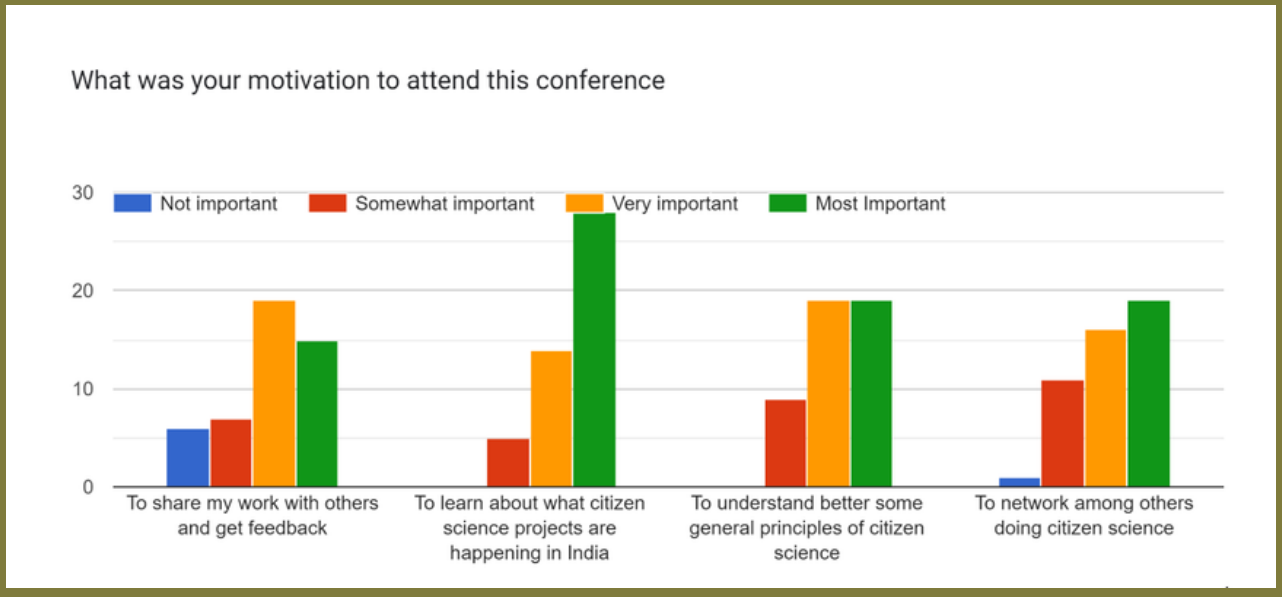


Photo credits: Eco Vigyan Foundation





FEEDBACK

On the key takeaways from the conference

The conferences helped me comprehend the nuances of citizen projects. The pros and limitations of using citizen science data.

It got me thinking about the participation of people of various societal strata in citizen science. How it can be less popular and more demanding among people with less economic resources, marginal communities etc. and what might me the ways to change it. Also, I am a newbie to this community and was very happy to see a huge number of active participants.

I know now there is help out there and i am more motivated than ever before to continue working on FireflyWatch.

I came to know about migration of Indian butterfly species, the nuances of transformative education from Yuvan's talk. Also about the importance of local language and folklores connecting people with nature.

For me some thought provoking takeaways were a) the idea of including citizen science (in whatever form) in the classroom, to make learners active rather than passive participants in learning, and b) some of the challenges of including and involving people in citizen science, and sustaining their involvement.

FEEDBACK

On the format of the individual sessions and overall conference

A small suggestion is that the timing for short talks could have been set better. May be allotting 5 mins before and after the presentation time could avoid any unforeseen clashes and give us enough gap to think about the individual presentations.

Yuvan's talk was inspiring, so was the panel discussion and the stories shared by Taukeer and Ramnarayanan about local folk tales. The contributed talks and posters were informative. I wish the conference was for at least 2 days.

I would have loved to see a separate interactive session including the presenters and the attendees where they can share the overall journey and process leading to the work that they are doing.

PROCEEDINGS

Yuvan Aves
Nature-educator, Writer, Environmental defender

Yuvan is a nature-educator, writer, environmental defender and founder of Palluyir Trust for Nature Education and Research. He is the author of 3 books and is writing one on coasts, biodiversity and climate change (Bloomsbury, 2023). He is the recipient of the M.Krishnan Nature Writing Award 2017, the Green Teacher Award 2021, Emerging Leader in Environmental Justice Award 2021, among others. He also co-ordinates the 'Farm, Environment and Society' Program at Abacus Montessori School. His expertise in creating Earth-centric and Child-centric curricula is sought after by educational institutions across India. He is currently thinking about and making a curriculum for Climate-education in Chennai/Tamil Nadu.

Keynote talk: Citizen science for education and advocacy

Citizen science is growing in its impact on school/college education, public literacy and participation. It facilitates the three things most important for meaningful learning – direct participation/experience, relevance and interconnectedness (I'll be giving examples of these from my own practice as well as others). It is reimagining/democratizing the processes of knowledge-making and sharing. It is also becoming a powerful tool for advocacy and conservation of wild spaces and species, in a bottom-up framework. **Click here** to watch the full talk.

PANEL DISCUSSION

CONVERSATIONS ON THE LANGUAGE OF CITIZEN SCIENCE

RAMNARAYAN K

ANITA VARGHESE

TAUKEER ALAM LODHA

The term ‘language’ in this context does not necessarily imply ‘identity’ but more as a metaphor for inclusivity in participation, diversity of cultures, and landscapes and places. The challenge with inclusivity is in sustaining the interests of the citizens and understanding the objectives of the project, whether it’s social, political or scientific. The panelists addressed these issues by sharing their own stories on the ground and experiences from their community engagement.

They also spoke about the ability of citizen science to connect people across geographies and expertise and how citizens can be empowered to become climate change and environmental opinion leaders in their community. Catch all of this and more in the video here:

PANELLISTS

Photo credits: Eco Vigyan Foundation

Anita Varghese: Anita is Director; Biodiversity at Keystone Foundation. Her PhD from the University of Hawaii on the impact of resin harvesting on the ecology of Canarium strictum, an endemic tree, also explored the traditional ecological knowledge of forest-dependent indigenous communities of the Nilgiris Biosphere Reserve. A region that has been her home for three decades. Her interest is in community-based ecological monitoring, and field ecology coupled with knowledge and sensitivity of indigenous people's practices, and lifestyles. She is a founding member of the Nilgiri Natural History Society and Western Ghats Plant Specialist Group of the IUCN SSC.

Ramnarayan K: For the last 28 years, Ramnarayan Kalyanaraman (Ram), has lived and worked in the remote Greater Himalayan Gori River valley region located in Pithoragarh district in the state of Uttarakhand. He is the founder of a nascent Community science initiative for conservation and education in Biodiversity, Climate Change and Natural History under the aegis India's Nature" His principal role is that of a community mobilizer, natural history and climate change educator along with being an advocate of community rights and environmental justice.

Taukeer Alam Lodha: Taukeer is a nature guide in Uttarakhand and together with the Nature Science Initiative (NSI), he conducts research on wildlife and awareness campaigns in rural and urban schools. He belongs to the forest-dwelling nomadic community of Van Gujjars of Rajaji National Park. Taukeer always felt close to nature but emphasises that he genuinely understood it due to the education he received after he and his family were relocated outside the park. His main interest lies in bird-watching, field ecology, and in raising awareness about nature conservation among rural youth. He has made his way to fifth place in the state with 463 bird sightings and his journey has made him one of the most sought-after birders in Uttarakhand.

Photo credits: Abhishek Tomer

A TRIP BACK IN TIME

Invited talks from our former presenters

Sabiya Sheikh

Hashtag Science: Citizen scientists and social media enable conservation monitoring of carnivores across India

The Wild Canids–India Project (WCIP) endeavours to map, track, and monitor wild canids and striped hyenas of India. When the project was launched in 2018, over 2500 sighting records were received directly from citizens and ~2500 more records collated from social media posts, web- portals and online blogs– also sourced through citizens. This information was used to generate the most updated and reliable distribution maps for dholes, jackals, wolves, foxes and hyenas in the country. This talk will explore how the project continues to directly engage with the contributors and support network with project outputs and updates.

Shaunak Modi

Marine Life of Mumbai – Five years and five hundred species later

Marine Life of Mumbai started with a bunch of people turning up on one of Mumbai's busiest shores to see what they might find there. A few hundred shorewalks later, the known diversity of Mumbai shores has gone up from species found few and far between to over 500. In this talk I discuss the evolution of Marine Life of Mumbai and working in the ever changing coastline of Mumbai.

Sreeparna Dutta

Mobile application aiding in tracking the Freshwater Turtles and Tortoises of India

Tortoises and freshwater turtles (TFT) are highly threatened vertebrates, with 29 species native to India. However, there is a knowledge gap on distribution, population, and threats to TFTs, along with a lack of sensitization on their ecological role. So how can we acquire data on species-wise distribution, threats, and population dynamics of TFTs throughout a huge country like India, along with improving their awareness among the masses? Addressing this, "KURMA Tracking Indian Turtles", was developed as a mobile application to engage citizens in conservation by identifying, classifying, and reporting their TFT sightings, and consequently creating a national turtle database. This data has yielded useful insights into turtle distribution, critical turtle habitats, and threats. The talk explores how this initiative has evolved and how it continues to grow by directly engaging with citizens, researchers, and enforcement agencies.

Sneha Dharwadkar

Freshwater Turtles and Tortoises of India: A walk down the memory lane

Freshwater Turtles and Tortoises of India started as an initiative to document our poorly understood freshwater turtles. We started this citizen science initiative to map the presence of the freshwater turtles and tortoises and understand their distribution. 7 years after its initiation, we take a look at how things have been and what has changed for us and the freshwater turtles and tortoises.

Rhea George

Divers for Diversity : marine citizen science in India

Reeflog is a citizen science program run by Dakshin Foundation aimed at the SCUBA diving community in India. The goal of Reeflog is to use citizen science as a tool to increase ocean literacy among the dive community and encourage responsible tourist behaviour. The talk explores how the project engages our target audience in various stages of implementation.

Click here to listen to all the past talks

OUR WORKING GROUP

The working group on Citizen Science Data convened in April 2021 to compile a toolkit for citizen science practitioners on various aspects of data. Last year at the conference they presented a draft to the larger community through an open-house session in order to incorporate inputs to the final document.

All conference participants were invited to read the draft available on the conference website before the session and come up with questions and feedback which would help the working group in strengthening this document.

You can watch the full discussion here:

In April 2022, the Biodiversity Informatics journal published a paper based on this toolkit "Best Practices for Data Management in Citizen Science".

Click on the image to read the paper

This year, the working group on Citizen Science Data released the toolkit that has identified major aspects related to data on which project proponents should ideally have clear procedures and policies. The working group has surveyed existing global practices and standards and described various options that projects could adopt, with some guidance about benefits and costs to each option. The resultant document is a toolkit for citizen science practitioners who seek to take informed decisions on various aspects of data.

click on the image to access the toolkit

Members of the working group are Balasubramanian Dhandapani (French Institute of Pondicherry), Thomas Vattakaven (Strand Life Sciences & India Biodiversity Portal), Priya Singh (Wild Canids – India Project), Suneha Jagannathan (ReefLog), Geetha Ramaswami (Nature Conservation Foundation) and Vijay Barve (Florida Museum of Natural History & DiversityIndia)

APPENDIX

Fri, 25th Nov		
Session	Time	
Pre-conference day	16:00 - 17:00	Meet & greet + Acclimatizing to Discord
Sat, 26th Nov		
Session	Time	Speaker
Welcome	9:50 - 10:00	Introduction to the Conference + Discord serverby Organising Committee
Keynote	10:00 - 10:50	Citizen science for education and advocacyby Yuvan Aves
Short Talks	11:00 - 11:10	Hashtag Science: Citizen scientists and social media enable conservation monitoring of carnivores across Indiaby Sabiya Sheikh
	11:10 - 11:20	Marine Life of Mumbai - Five years and five hundred species later.by Shaunak Modi
	11:20 - 11:30	Mobile application aiding in tracking the Freshwater Turtles and Tortoises of Indiaby Sreeparna Dutta
	11:30 - 11:40	Freshwater Turtles and Tortoises of India: A walk down the memory laneby Sneha Dharwadkar
	11:40 - 11:50	Divers for Diversity : marine citizen science in Indiaby Rhea George
Toolkit Release	11:50 - 12:00	Data and Citizen Science in India: A practitioner's toolkit
Poster	12:00 - 12:45	Indhu Ayyannar - Citizen science and nature conservation - Bees and butterfliesSayee Gidhari - Celebrating the seasons with trees - Learnings from SeasonWatch tree festivalMaitreyi Hegde - Hornbill Watch: A citizen science initiative to conserve hornbills in IndiaGaurav Barhadiya - Snakes in the city: a Spatial and temporal assessment of snakes encounters using citizen scienceNikhil P V - Public attitude on human-wildlife interactions and conservation in Peechi Vazhani WLS of W.GhatsSwapnali Gole - Dugong Monitoring Program: Citizen Science in dugong research from the Andaman and Nicobar IslandsReshnu Raj R S - MIAP - A pilot citizen science atlas of invasive plantsNaveen Prasad Alex - Determining the pattern of migration of Danainae butterflies in India using citizen scienceAdithi Rao - Impacts of a COVID-19 Lockdown on Citizen Science – A Case Study in Karnataka, India
	12:45 - 14:15	BREAK
Poster	14:15 - 15:00	Shri Ranjni T. S. - Citizen science for firefly conservationNishand Venugopal Venugopal - Connecting Words and Well-being with Citizen ScienceMadhura Prasanna - Detecting anomalous checklists using machine learningSuhirtha Muhil Maheswaran - Climate change education through Citizen Science - a surveyShyam Phartyal - Impact of the citizen science course of Nalanda University on mapping the Biodiversity of NalandaSagarmoy Phukan - A scoping review of the current scenario of ecological and environmental citizen science in IndiaShrey Gupta - Citizen Science through FungiSreeja Rachaveelpula - Citizen Science - A Source to Develop State Level Action Plan for Bird Conservation in TelanganaDivyanshu Pawar - A community web of Varun Mitra practicing citizen science through rain gaugingNiharika M - A study to identify conservation areas for the terrestrial birds of the Central Indian LandscapeSwati Udayraj - Building a Database using Unconventional Sources: Squirrels of IndiaPaul Pop - "Citizen science", manual surveys or automated data collection - which is better for ecology?
Panel Discussion	15:00 - 16:00	Conversations on the language of citizen science - Anita Varghese, Ramnarayan K., Taukeer Alam
Closing session	16:00 - 16:15	Vote of thanks by Organising Committee

People behind the conference

Organising committee members

Farida Tampal – World Wide Fund for Nature, India
Pankaj Sekhsaria – Indian Institute of Technology, Bombay
R Prabhakar – Strand Life Sciences
Shannon Olsson – National Center for Biological Sciences – TIFR
Suhel Quader – Nature Conservation Foundation
Conference Coordinator

Akshata Pradhan - the echo network

Technical support

Amith Kumar Chowdappa – IoraStudios

Tamizhan
Communications support

Digangana Mukherjee - the echo network

Volunteer

Priti Bangal - Nature Conservation Foundation