S.S.RESEARCH FOUNDATION

ACTIVITY REPORT 2023-2024

KALLIDAIKURICHI - 627416
TIRUNELVELI DISTRICT
TAMIL NADU

Message from the Director

Dear Team

S.S.Research Foundation enters its seventh year with remarkable confidence. With the turn of this year, I am delighted to share some significant updates and achievements from the S.S. Research Foundation during 2023-2024. The S.S. Research Foundation actively participates as one of the foreign collaborating institutions in the Brazilian Biodiversity Observatory. This collaboration is part of the INCT Program. Additionally, our esteemed scientists, Dr. Sundar and Dr. Gunasekaran, had the opportunity to visit Brazil as part of this international collaboration. A field visit and discussion were held with villagers and stakeholders regarding the restoration of the Kovilpalayam wetlands in Sathyamangalam, Erode District, Tamil Nadu.

On World Environment Day, the Vaanam Foundation and the S.S. Research Foundation jointly launched “Project Trees for Birds” at the RVS Institutions Group in Sulur, Coimbatore. This initiative aims to enhance biodiversity and provide habitats for local bird species.

We have secured National Working Plan projects in the Dindigul Forest Division. These projects are financially supported by the, Tamil Nadu Forest Department, Coimbatore Division, under the National Working Plan Code - 2014.

S.S. Research Foundation, along with our esteemed project partners, conducted a significant mass cleanup at Palamalai Hills, which is part of the Western Ghats. This initiative underscores our commitment to preserving the natural beauty and biodiversity of this region. We are proud to announce the successful collaboration between Universidade Federal de Mato Grosso do Sul (BR) and the S.S. Research Foundation (India). The UFMS team visited our foundation in Kallidaikurichi, marking a significant milestone in our international partnerships.

Thank you for your continued dedication and hard work. Together, we can achieve great things and make a positive impact on our environment and communities.

Best regards,

Chitra P

AREAS OF ACTIVITIES

PROGRAMME 1

ECOLOGY AND ENVIRONMENTAL SCIENCES & PLANT SCIENCES

1.1 Wetland Restoration Initiative:

On April 30, 2023, a field visit and discussion were held with villagers and stakeholders regarding the restoration of the Kavilipalayam wetlands in Sathyamangalam, Erode District, Tamil Nadu. The program was organized by the S.S. Research Foundation and the Vaanam Foundation, Coimbatore, with financial support provided for the meeting.


The event aimed to engage local communities and stakeholders in the restoration efforts, emphasizing the importance of their involvement and cooperation. Discussions focused on the ecological significance of the wetlands, the challenges faced in restoration, and the potential benefits for biodiversity and local livelihoods. Participants shared their insights and concerns, contributing valuable local knowledge to the planning process. The collaborative approach fostered a sense of ownership and commitment among the villagers, which is crucial for the long-term success of the restoration project.

1.2 Wetland Education and Awareness

02/05/2023, during the vacation, Dr. Gunasekaran took the local boys, including his son, to the Perur Sottaiandikuttai wetland in Coimbatore to educate them about the significance of wetlands. During the visit, the wetland was almost dry, and fishermen had spread their fishing nets. They saw an open-bill stork caught in one of the nets, entered the wetland, removed the fishing net from the bird, and set it free. Other school students also joined us in the operation. It was a happy moment for both the bird and us.

1.3 Feasibility Study at an ACC Quarry Site:

In May 2023, feasibility studies were conducted to explore the restoration of the limestone quarry site at Madukkarai in Coimbatore District.

This study aimed to assess the potential for ecological restoration and sustainable land use at the quarry site. The current environmental conditions, identifying native plant species suitable for reintroduction, and understanding the socio-economic benefits for the local

community were evaluated. Experts from various fields, including ecology, geology, and environmental science, collaborated to develop a comprehensive restoration plan. The goal was to transform the degraded quarry into a thriving ecosystem that supports biodiversity, enhances soil quality, and provides recreational and educational opportunities for the surrounding population.

1.4 Trees for Birds: A Green Initiative for World Environment Day:

On June 5, 2023, World Environment Day, the Vaanam Foundation and the S.S. Research Foundation jointly launched “Project Trees for Birds” at the RVS Institutions Group in Sulur, Coimbatore District. The program was inaugurated by Dr. K.V. Kuppusamy, Chairman of the RVS Groups of Institutions. This event is registered with the United Nations Environment Program (UNEP).

The project aims to enhance local biodiversity by planting native trees that provide habitat and food for various bird species. By involving students and the local community, the initiative also seeks to raise awareness about the importance of tree and bird conservation. The launch event included educational sessions, tree-planting activities, and discussions on the ecological benefits of urban green spaces. The collaboration between the foundations and the educational institution highlights the importance of community involvement in environmental conservation efforts.

World Environment Day

Theme of this year "2023" is "Beat Plastic Pollution"

Vaanam Foundation in Association with
S.S.Research Foundaton

Very glad to invite you all for
"United Nation Environment Program Registered Event"
for
"PROJECT TREES FOR BIRDS"
Inauguration by
Dr.K.V.Kupusamy avl,Chairman
RVS Groups Institutions
on 5th June Monday 2023, 4.00 pm
"Welcome All"
@
RVS Groups Institutions. Sulur

Let us all join hands to present Trees a Living, Breathing Gift to our Generations to come.

Vaanam Foundation
(Little Dedication For Next Gen)
www.vaanamlive.com

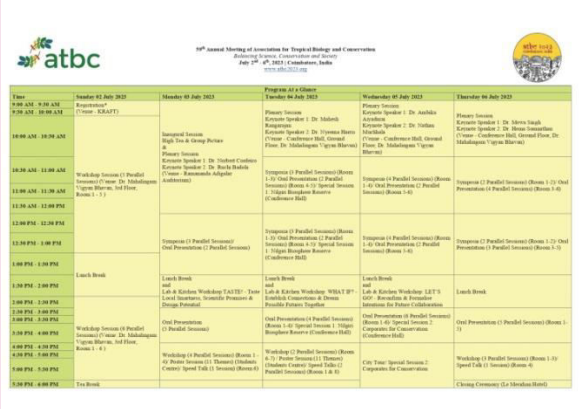
S.S.Research Foundaton
(Dedicated to Research)
www.ssresearch.org

1.5 Annual Meeting of the Association for Tropical Biology and Conservation (ATBC) and Highlights:

The 59th Annual Meeting of the Association for Tropical Biology and Conservation (ATBC) was held in Coimbatore, India, from July 2nd to 6th, 2023. This prestigious event brought together leading scientists, conservationists, and policymakers from around the world to discuss and address critical issues related to tropical biodiversity and conservation. Dr. M. Gunasekaran represented our organization at this significant gathering.

The conference centered around the theme "Balancing Science, Conservation, and Society," emphasizing the need for integrated approaches that consider scientific research, societal needs, and conservation goals. Prominent keynote speakers, including Dr. Ruchi Badola, Wildlife Institute of India and Dr. Nathan Muchhala, University of Missouri—St. Louis, highlighted innovative research and conservation strategies. Various symposia and

workshops focused on topics such as eDNA metabarcoding, climate change impacts on tropical ecosystems, and community-driven conservation initiatives, providing valuable insights and fostering collaborative discussions. The event also offered numerous opportunities for networking and collaboration, with participants engaging in discussions on potential research partnerships, funding opportunities, and collaborative projects aimed at conserving tropical biodiversity. Additionally, attendees explored the rich biodiversity of the Western Ghats through organized field trips, which highlighted the unique species and ecosystems of the region and underscored the importance of local conservation efforts.


atbc

59th Annual Meeting

Dr. M. Gunasekaran's Contributions

He actively participated in the event, presenting our organization's latest research on Biodiversity Conservation. His presentation was well-received and sparked interest among fellow researchers and conservationists. Dr. Gunasekaran also engaged in several panel discussions, sharing insights on Rare, Endemic and Threatened (RET) species of plant biodiversity conservation and exploring potential collaborations with other institutions.

Conclusion

The 59th Annual Meeting of the ATBC in Coimbatore was a resounding success, fostering meaningful dialogue and collaboration among the global conservation community. Dr. M. Gunasekaran's participation not only showcased our organization's contributions to tropical biodiversity research but also opened doors for future partnerships and projects.

1.6. National Working Plan projects in Dindigul Forest Division

Overview

The projects were sanctioned and assigned to Dr. M. Gunasekaran (Principal Investigator) from S.S. Research Foundation, with Dr. S. Sundar as the Co-Principal Investigator. The field surveys involved collaboration with scientific experts from The Madura College, Madurai, including Dr. C. Selvakumar and Dr. P. Sivakumar, both Assistant Professors, along with research scholars. These projects were financially supported by the Working Plan Division, Tamil Nadu Forest Department, Coimbatore Division, under the National Working Plan Code – 2014.

Projects and Objectives

1. **Biodiversity Assessment Studies (Ref.No.192/2023D)**
    - **Objective**: To evaluate the biodiversity within various ranges of the Dindigul Forest Division.
    - **Scope**: This study aimed to document the variety of species present, their population status, and the overall health of the ecosystem. It involved extensive field surveys and data collection to create a comprehensive biodiversity inventory.
2. **Assessment of Regeneration Status (Ref.No.194/2023D)**
    - **Objective**: To understand the regeneration status of different species in the forest.
    - **Scope**: This project focused on assessing the natural regeneration processes of flora within the forest. It involved studying seedling survival rates, growth patterns, and factors affecting regeneration to inform conservation strategies.

3. **Assessment Studies in RET Species (Ref.No.198/2023D)**
    - **Objective**: To assess the status of Rare, Endangered, and Threatened (RET) species.
    - **Scope**: This study concentrated on identifying and monitoring RETS species within the forest division. It aimed to provide data on their population trends, habitat conditions, and threats, which are crucial for developing conservation plans.
4. **Water Yield Study (C.No.194/2019D)**
    - **Objective**: To investigate the water yield in different areas of the forest division.
    - **Scope**: This project aimed to measure and analyzes the water yield from various watersheds within the forest. It involved hydrological studies to understand water availability, distribution, and the impact of forest management practices on water resources.

Study Areas

The studies were conducted across different ranges of the Dindigul Forest Division, including:

- **Kannivadi**
- **Palni Hills**
- **Alagharkovil**
- **Ayyalur**
- **Natham Sirumalai**
- **Batlagundu**
- **Ottanchatram**

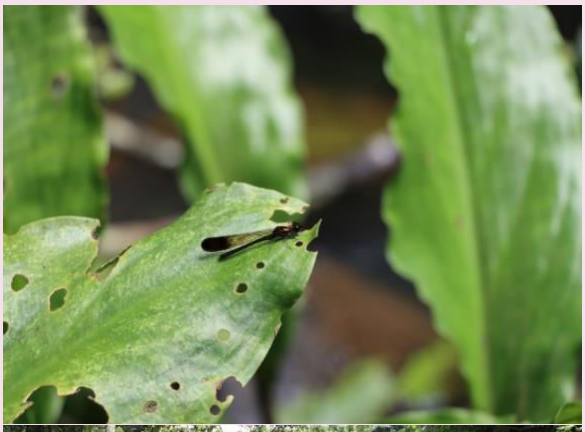
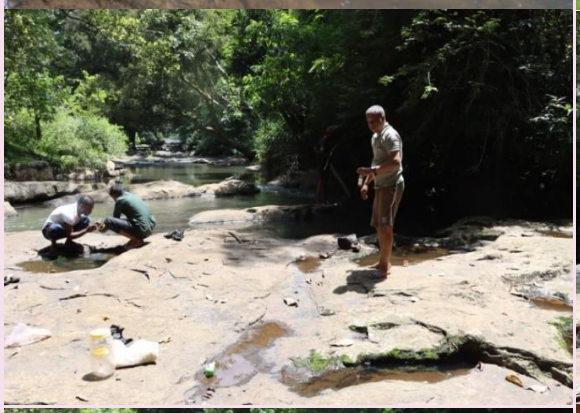
Outcomes

The final reports of these projects were submitted to the Working Plan Division, Coimbatore Forest Division, Tamil Nadu. These reports provide valuable insights and data that can aid in the sustainable management and conservation of the Dindigul Forest Division.

Collaboration

The collaboration with experts from The Madura College, Madurai, brought in additional expertise and resources, enhancing the quality and scope of the research. This multidisciplinary approach ensured comprehensive data collection and analysis, contributing to the success of the projects.



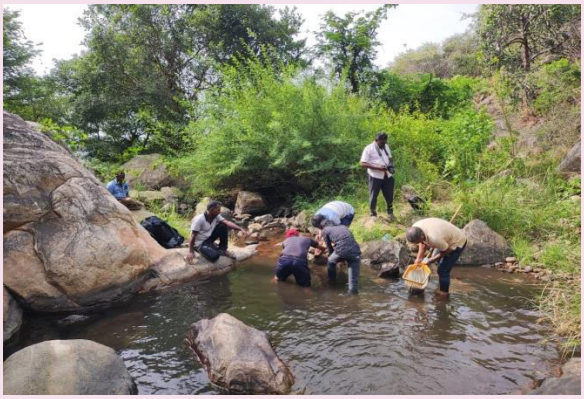





Photographs taken during the field surveys at Kannivadi range in the month of July, 2023

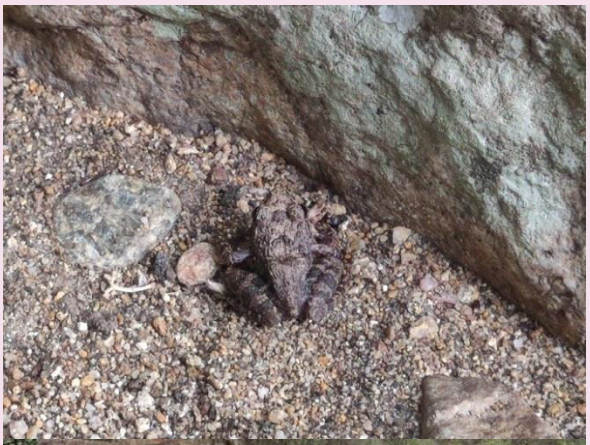
Preservation process of fish for molecular studies

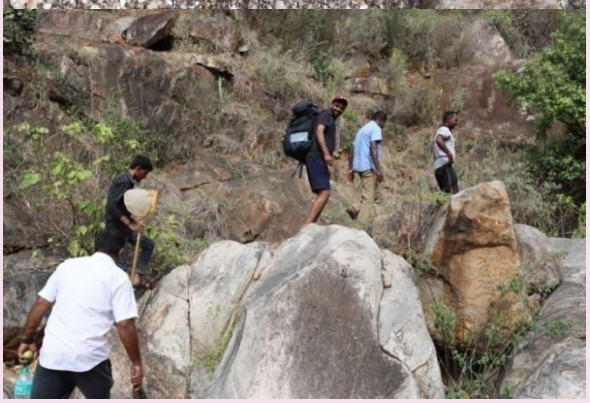
Discussion among team members:

Field Visits in Palni Hills

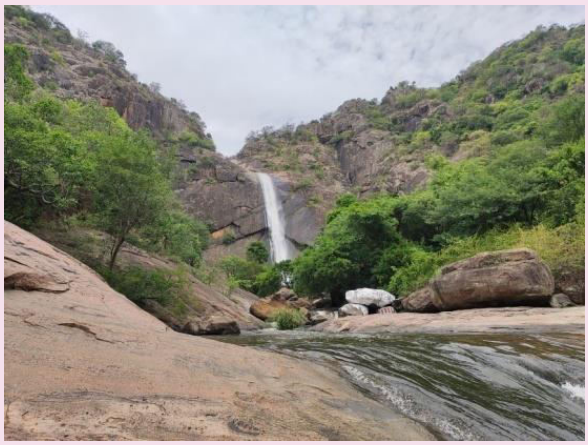








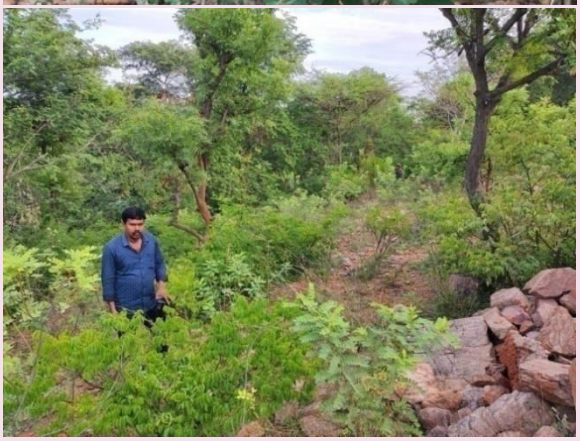



Photographs taken during the field surveys at Palni Hills

Field Surveys at Ayyalur range in Dindigul Forest Division


During our working plan project survey at Ayyalur range in the Dindigul Forest Division, which focused on biodiversity assessment, regeneration status, and Rare, Endangered, and Threatened (RET) species, we were fortunate to spot elusive primates the slender lorises. The Ayyalur range known as a global biodiversity hotspot is particularly notable for slender loris population which underscored the ecological importance of the region.




Observing the slender loris in their natural habitat provided valuable insights into their behavior and habitat requirements, contributing to our overall understanding of the biodiversity within the Dindigul Forest Division.

1.7 Ecological Restoration Efforts at ACC Quarry Site, Madukkarai

The follow-up study conducted on July 24, 2023, likely focused on assessing the current state of the site and implementing the recommendations from the initial feasibility studies conducted in May 2023. These studies are essential for understanding the site's potential for supporting new vegetation and wildlife, improving soil quality, and ensuring sustainable water management.



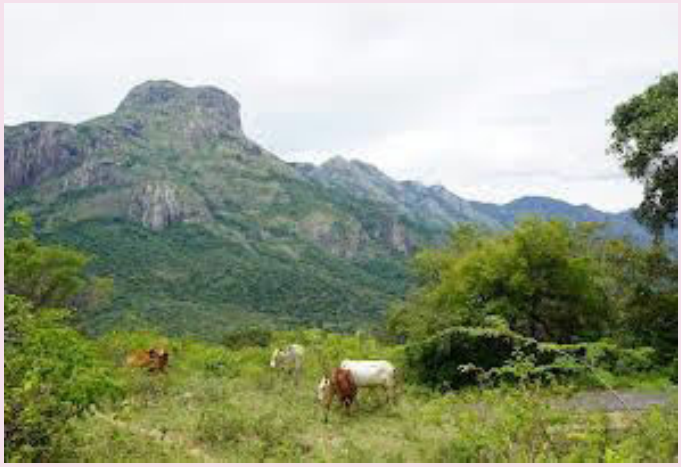

At the ACC quarry restoration site in Madukkarai, several specific restoration activities are being carried out to rehabilitate the area and promote ecological balance. These activities include soil stabilization and improvement through the addition of organic matter and nutrients, planting native plant species to restore natural vegetation cover, and implementing effective water management measures such as creating water retention structures and improving drainage systems. Erosion control techniques like terracing, mulching, and the use of erosion control mats are employed to prevent soil erosion and protect the newly planted vegetation. Additionally, efforts are made to create habitats that support local wildlife by providing nesting sites, food sources, and shelter. Regular monitoring and maintenance,

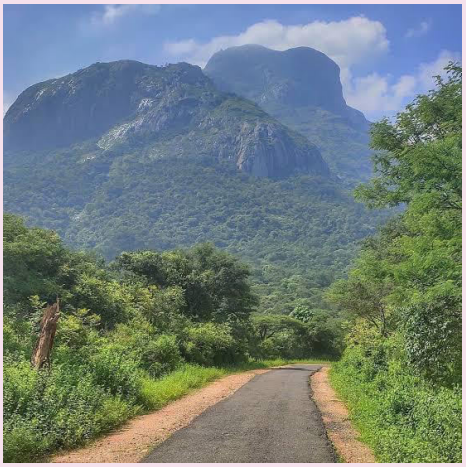
including weeding, watering, and protecting young plants from pests, are conducted to ensure the success of the restoration efforts. These activities aim to restore the ecological balance of the quarry site, enhance biodiversity, and create a sustainable environment for both flora and fauna.

1.8 Clean Western Ghats Initiative

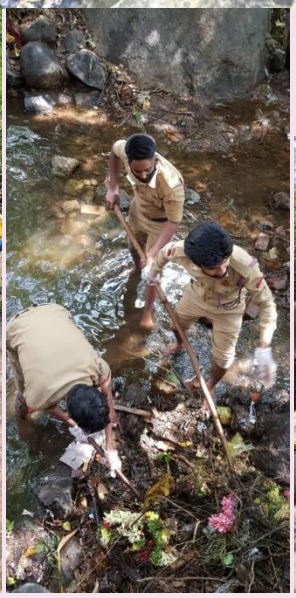
On July 30, 2023, **Vaanam and S.S. Research Foundation**, along with our esteemed project partners, conducted a significant mass cleanup at Palamalai Hills, around the Palamalai Aranganathar Temple campus, which is part of the Western Ghats. Our respected partners included:

- Palamalai Aranganathar Temple Management
- RAK India Foundation
- Nesam Iyarkaiodu Trust
- Chinmaya Vidyalaya (Chinmaya Mission) Coimbatore
- Ponnuthu Amman Thirupani Kulu
- Aanandam Foundation
- Indhuaalya Ulavara Pani Amaippu
- Annai Karangal
- Aaram Thinai
- Aaral & Thirulkovil Bhaktar Peravai








This collaborative effort aimed to preserve the natural beauty and ecological balance of the Western Ghats, a UNESCO World Heritage site known for its rich biodiversity. The cleanup initiative not only helped in maintaining the cleanliness of the area but also raised awareness about the importance of environmental conservation among the local community and visitors. Our collective action underscores the power of community involvement in protecting and sustaining our natural heritage for future generations.

1.9 Botanic Gardens Networking Meeting:

The meeting, held from October 10-12, 2023, at Auroville Botanic Gardens, was attended by 35 representatives from 19 organizations, including Lalbagh Botanical Gardens and the French Institute of Pondicherry. Our representative, Dr. M. Gunasekaran, also participated. The primary aim was to establish a network of botanical gardens in India.

Organisations part of the Botanical Gardens Networking Meeting				
Sl.No	Organisations	State	Contact person	Description
1	Greens Biodiversity Sanctuary	Tamilnadu	Alexander	GREENS is a conservation and education project, passionate about creating a world-class Biodiversity Sanctuary in Trichy of Tamil Nadu, Where they aim to inform, inspire and influence.
2	MSSRF - Wayanad	Kerala	Dr. Shakeela	Community Agrobiodiversity Centre (CAbC) was established in 1997 at Wayanad district of Kerala, as one of the regional centres of M.S. Swaminathan Research Foundation (MSSRF), Chennai, India. They state their mission as to achieve social prosperity through conservation, enhancement and sustainable & equitable use of bio diversity
3	Malabar Botanical gardens	Kerala	Dr. N. S. Pradeep	Malabar Botanical Garden & Institute for Plant Sciences (KSCSTE-MBGIPS) is an institution of the Government of Kerala, dedicated to the conservation and research on aquatic plant diversity, lower group plants, endangered plants of the erstwhile Malabar Region, as well as disseminating knowledge on various facets of plant sciences. It is located in Kozhikode district of Kerala
4	SS research foundation	Tamilnadu	Dr. Gunasekaran	S.S.Research Foundation is a non-profit organisation which focuses on research activities and education to engage and influence strategy and practice in the conservation and management of natural resources, sustainable development in a social manner. It iss located in Tirunelveli district of Tamilnadu
5	Green Ahalia	Kerala	Sabik	Green Ahalia is located in Palakad of Kerala who aim at establishing a world class ethnobotanic garden for education, research, conservation and sustainable use

Botanical Gardens Networking meeting		
Day 1		
Morning Session		
Introduction and welcome	9:00 - 9:30	
Getting to know the participants	9:30 - 11:30	5 minute introductions from each of the participants
Guest speaker	11:45 til 1pm	Prosperity and decline since antiquity - An ecological overview of life in the Auroville region Deepika Kundaji
Lunch	1:15 til 2:00 pm	
Afternoon session		
Working session 1 - 10 mins intro then break out in to working groups	2 til 3:30	RET species and other species worthy of conservation in - how to define our goals.
Summary session and discussion	3:45 til 4:30	
Evening walk	4:45 til 6:00	Botanical Gardens
Day 2		
Morning Session		
Intro and setting the themes	9:00 - 9:30	Introduction to BGCI and its role at the global level
Working session 2 - 10 mins intro then break out in to working groups	9:30 - 11:30	Ecological vegetation maps - what value do they have and how can we develop them - differing approaches – what are the boundaries, can we work from key species, what are the past
Guest speaker	11:45 til 1pm	Restoration of Urban environments at Scale - Joss Brooks
Lunch	1:15 til 2:00 pm	
Afternoon session		
Working session 3 - 10 mins intro then break out in to working groups	2 til 3:30	Approaches to conservation – In-situ and Ex-situ; identifying the key players with respect to: resources, land and
Summary session and discussion	3:45 til 4:30	
Evening walk	4:45 til 6:00	Pitchandikulam Forest
Day 3		
Morning Session		
Intro and setting the themes	9:00 - 9:30	Initial thoughts around creating a
Working session 4 - 10 mins intro then break out in to working groups	9:30 - 11:30	Communicating the need – differing threads of the narrative – scientific papers, government briefings, social media, books, documentaries
Guest speaker	11:45 til 1pm	The Global Biodiversity Standard - a collective effort to monitor plantation prgrams - Paul Blanchflower
Lunch	1:15 til 2:00 pm	








Participants discussed actions such as listing and mapping all Indian botanical gardens, updating BGCI's databases, and enhancing collaboration through sharing resources and developing staff skills. Members were encouraged to join BGCI's membership and accreditation schemes to integrate into the global botanic garden community. Future opportunities include developing accredited courses, joint publications, staff exchanges, and influencing policy through shared knowledge.

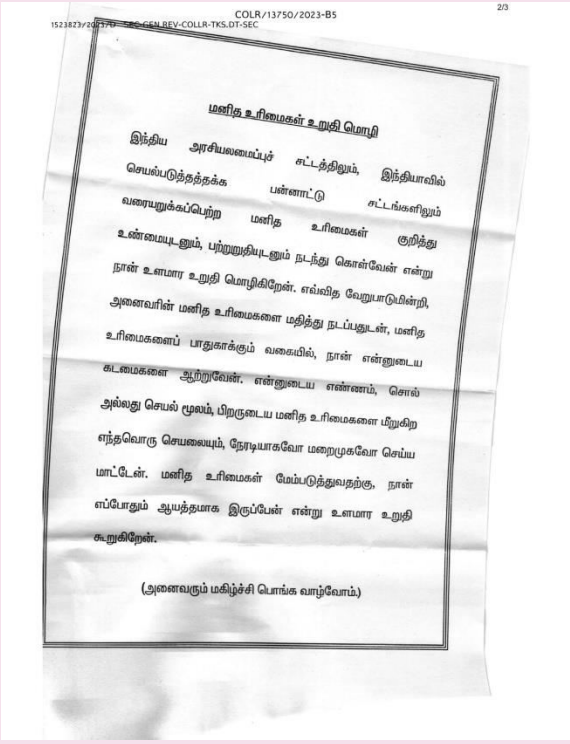
The network will initially be based at Auroville Botanical Gardens, marking a significant step towards collaborative conservation of India's plant diversity.

PROGRAMME 2 HEALTH SCIENCES

2.1. Observation of International Human Rights Day

On December 10th, 2023, observed International Human Rights Day at the Branch Library in Kallidaikurichi, Tirunelveli District. Participants took a Human Rights Day Oath, reaffirming their commitment to uphold and defend human rights.

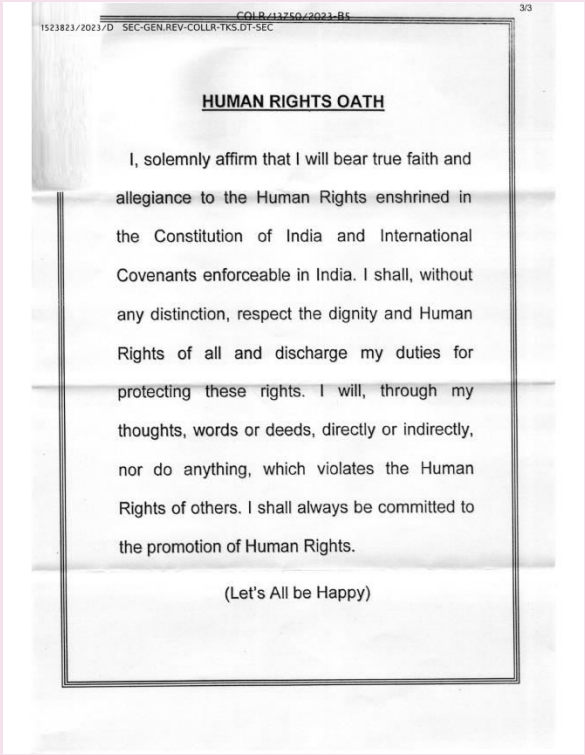
Mrs. Chitra, our Managing Director, actively participated in this significant event, highlighting the importance of freedom, equality, and justice for all.



மனித உரிமைகள் உறுதி மொழி

இந்திய அரசியலமைப்புச் சட்டத்திலும், இந்தியாவில் செயல்படுத்தத்தக்க பன்னாட்டு சட்டங்களிலும் வரையறுக்கப்பெற்ற மனித உரிமைகள் குறித்து உண்மையுடனும், பற்றுறுதியுடனும் நடந்து கொள்வேன் என்று நான் உளமார உறுதி மொழிகிறேன். எவ்வித வேறுபாடுமின்றி, அனைவரின் மனித உரிமைகளை மதித்து நடப்பதுடன், மனித உரிமைகளைப் பாதுகாக்கும் வகையில், நான் என்னுடைய கடமைகளை ஆற்றுவேன். என்னுடைய எண்ணம், சொல் அல்லது செயல் மூலம், பிறருடைய மனித உரிமைகளை மீறுகிற எந்தவொரு செயலையும், நேரடியாகவோ மறைமுகவோ செய்ய மாட்டேன். மனித உரிமைகள் மேம்படுத்துவதற்கு, நான் எப்போதும் ஆயத்தமாக இருப்பேன் என்று உளமார உறுதி கூறுகிறேன்.

(அனைவரும் மகிழ்ச்சி பொங்க வாழ்வோம்)



HUMAN RIGHTS OATH

I, solemnly affirm that I will bear true faith and allegiance to the Human Rights enshrined in the Constitution of India and International Covenants enforceable in India. I shall, without any distinction, respect the dignity and Human Rights of all and discharge my duties for protecting these rights. I will, through my thoughts, words or deeds, directly or indirectly, nor do anything, which violates the Human Rights of others. I shall always be committed to the promotion of Human Rights.

(Let's All be Happy)

2.2. Survey and Community Assessment

Overview: A comprehensive survey and community assessment of adults were conducted by SS Research Foundation over a one-week period from February 18-25, 2024, at the S.S. Research Foundation Campus, Kallidaikurichi. The assessment included the following activities:

1. **Physical Assessments** including:
    - Height Measurement
    - Weight Measurement
    - Blood Pressure Monitoring
    - Head-to-Foot Assessment
    - Screening tests for Diabetes and Hypertension
2. **Health Education:**
    - Sessions on various health topics

A total of 105 adults from Kallidaikurichi participated in this survey and assessment. Additionally, three foreign scientists from UFMS Brazil participated in this program on February 20th. The head-to-foot assessment included height, weight, cardiac assessment,

blood pressure measurement, and screening for diabetes via urine test. Out of 105 participants, 46 were female and 54 were male. Among them, 35 females and 26 males were reported to have diabetes, while 24 females and 28 males had hypertension. Overweight, underweight, and obese individuals were identified and provided with diet plans to follow regularly.

A health exhibition was held for the public from February 18-25, 2024, between 10 am and 5 pm at our centre. The exhibition aimed to educate the public on various topics such as hand washing techniques, height and weight measurement, MAC, BMI calculation, growth charts, growth and development for children at appropriate ages, balanced diet, diarrhea management, environmental pollution, and steps to prevent pollution, as well as diet charts for diabetic and hypertensive patients.

This survey was helpful in gathering data on the physical health status of the community and educating participants on maintaining and improving their health. The participants responded positively to the health education sessions, showing a keen interest in learning about health maintenance and improvement.


SIS RESEARCH FOUNDATION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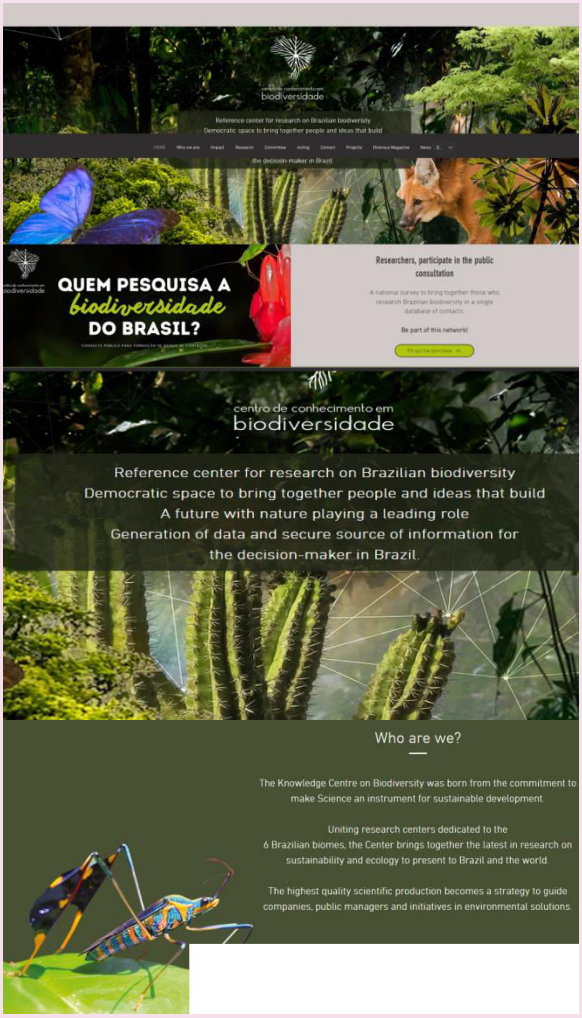
BMI FORMULA

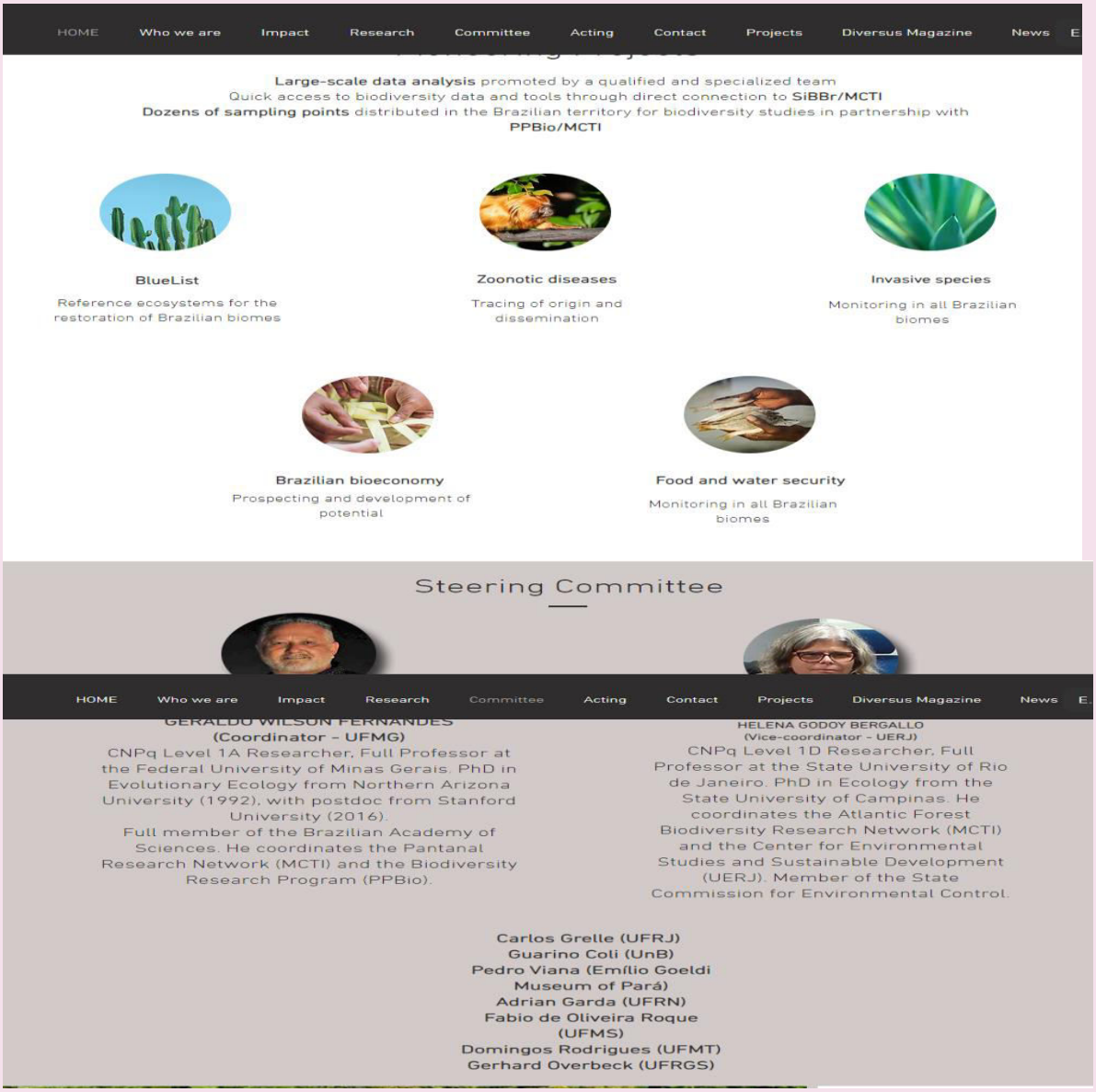
ACHIEVEMENTS:

1. INTERNATIONAL COLLABORATION-INCT Programme

Centro de Conhecimento em Biodiversidade | produção científica sobre biomas

S.S. Research Foundation actively participates as one of the foreign collaborating institutions in the **Brazilian Biodiversity Observatory**. This collaboration is part of the **INCT Program**, which receives financial support from the **National Council for Scientific and Technological Development**. The program aims to enhance research and understanding of biodiversity in Brazil, a country known for its rich and diverse ecosystems.





The Brazilian Biodiversity Observatory serves as a comprehensive resource, gathering valuable data and insights related to national biodiversity. By partnering with Brazilian institutions, including the Federal University of Mato Grosso do Sul (UFMS) and the Federal University of Rondonópolis (UFR), our organisation contributes to this vital initiative. The collaboration facilitates knowledge exchange, joint research efforts, and the development of innovative solutions for biodiversity conservation and management.

International Operations

ISO Biodiversity
CBD BBI-Bio Bridge Initiative (Brazil-Namibia)
Global Freshwater Observatory (Freshwater BON)
Amazon Summit/PPbio-MCTI
Indicators for The Kunming-Montreal Global Biodiversity Framework (United Nations)
Instituto de Investigación en Recursos Biológicas Alexander von Humboldt (Colombia)

Foreign collaborating institutions:
S. S. Research Foundation-SSRF, India
King's College London, England
Florida State University, United States
University of East Anglia, England
Universidad Politécnica de Madrid, Spain
Universidad Nacional del Litoral, Argentina
University of Nottingham, England
Université d'Angers, France
Universidad Nacional de Córdoba, Argentina
Universidad de la Republica Uruguay, Uruguay
Consejo Nacional de Investigaciones Científicas y Técnicas, Argentina

Additionally, the foundation's scientists, Dr. Gunasekaran and Dr. Sundar, had the opportunity to visit Brazil as part of this international collaboration. Their visit included interactions with Brazilian counterparts and exploration of various ecosystems, including wetlands. Such partnerships play a crucial role in advancing ecological research, fostering cross-cultural understanding, and addressing global environmental challenges.

2. Collaboration between Universidade Federal de Mato Grosso do Sul (BR) and S.S. Research Foundation (India)

Aim:

- Strengthen research networks in the context of BRICS.
- Enhance ongoing research involving UFMS and S.S.Research Foundation.
- Sign a Protocol of Intentions (MoU) between S.S. Research Foundation (India) and UFMS (Brazil).
- Continue collaborative work between professors of the Graduate Program in Ecology and Conservation and researchers from the S.S. Research Foundation within the scope of the Print Program-CAPES.

Brazilian Team:

- Dr. Luiz Eduardo R. Tavares (PPGEC, UFMS)
- Dr. Fabio de Oliveira Roque (PPGEC, UFMS)
- Dr. Rudi Laps (PPEGC, UFMS)

Indian Team:

- Dr. M. Gunasekaran (Principal Scientist of S.S. Research Foundation)
- Dr. S. Sundar (Senior Scientist of S.S. Research Foundation)
- Mrs. P. Chitra (Managing Director of S.S. Research Foundation)

Schedule and Activities:

- **Travel from Brazil to India:** February 19th
- **In India:** February 19th to 23rd

In Sri Lanka: February 24th to 26th (along with Brazilian Team)

- Trip continued by Indian Team until 29th February
- Reached India on March 1st, 2024.

This collaboration aims to foster stronger research networks within the BRICS framework, focusing on ecological and conservation studies. The teams from both countries will work together to enhance ongoing research projects, sign a formal collaboration agreement, and continue their joint efforts under the Print Program-CAPES. The Brazilian team, consisting of Dr. Luiz Eduardo R. Tavares, Dr. Fabio de Oliveira Roque, and Dr. Rudi Laps, will join forces with the Indian team, led by Dr. M. Gunasekaran and Dr. S. Sundar, to achieve these goals. The schedule includes travel, collaborative activities, and continued research efforts, culminating in a return to Brazil on March 1st, 2024. The trustees of S.S.Research Foundation and the UFMS shared the financially support for local travel, food and accommodation in Tamil Nadu and Sri Lanka to the entire team.

This detailed itinerary not only facilitated academic and research collaborations but also provided cultural insights, fostering a deeper understanding and stronger bonds between the Brazilian and Indian teams.

February 19, 2024: Professors from UFMS, along with researchers from the S.S. Research Foundation (SSRF), visited the Department of Zoology at The Madura College in Madurai. They met with Dr. C. Selvakumar and Dr. P. Sivakumar, both Assistant Professors, as well as research scholars from the department. This visit opened up opportunities for new collaborative initiatives.

February 20, 2024: The UFMS team visited the S.S. Research Foundation in Kallidaikurichi. Discussions focused on potential collaborations, mobility programs, and the signing of an agreement/MoU between the institutions. They also explored new proposals, joint publications, umbrella projects, and the organization of symposia and workshops. These discussions were highly productive and ended on a positive note.

February 21, 2024: The team visited Pitchai Toopanvalasai Manal Thittu, a coral reef islet and community-based eco-tourism site located in Ramnad District, part of the Gulf of Mannar Biosphere Reserve. This visit highlighted the importance of community involvement in conservation efforts.

Pavakalakottai Temple

Muthupet Mangrove

Vedaranyam Temple

Pointcalimer Wildlife Santuary and its Museum

February 22, 2024: The group toured several locations in Pattukottai District. They started with a visit to the Muthupet Mangroves and concluded the day at the Point Calimere Wildlife Sanctuary. To provide the UFMS team with a cultural experience, they visited the Pavakalakottai Temple, known for its large banyan tree (sthalavriksha), followed by a visit to the Vedaranyam Temple.

February 23, 2024: On their final day in India, the team visited the Thanjavur (Tanjore) Temple, a UNESCO World Heritage site renowned for its architectural significance. This visit was en route to Tiruchirappalli Airport, from where they departed for Sri Lanka as planned.

February 23, 2024: Travel to Sri Lanka

After visiting the Thanjavur Temple, a UNESCO World Heritage site known for its stunning architecture, we proceeded to Tiruchirappalli Airport. From there, we took a flight to

Colombo Airport in Sri Lanka. Upon arrival in the evening, we traveled to Pinnawala, where we stayed for the night.

This journey marked the transition from our enriching experiences in India to the next phase of our collaborative efforts in Sri Lanka. Pinnawala, known for its elephant orphanage, provided a serene and unique setting for the continuation of our research and cultural exchange.

February 24, 2024: Visit to Pinnawala and Travel to Weligama

On the morning of February 24, 2024, we visited the Pinnawala Elephant Orphanage. This renowned sanctuary is home to a large herd of elephants, including many orphaned and injured ones. We had the opportunity to observe the elephants up close, visit the zoo, and witness the elephants bathing in the river, which was a truly memorable experience.

Later that day, we traveled to Weligama, a picturesque coastal town known for its beautiful beaches and vibrant marine life. This journey marked the continuation of our exploration and collaborative efforts in Sri Lanka.

February 25, 2024: Whale Watching and Cultural Exploration

On February 25, 2024, we embarked on an exciting whale-watching expedition in Weligama, a location renowned for its whale-watching opportunities. We boarded a specialized ship designed for this purpose and were fortunate to witness these magnificent marine creatures in their natural habitat, an unforgettable experience.

In the evening, we visited the Ariyapala Traditional Masks Museum. This museum showcases a rich collection of traditional Sri Lankan masks, offering insights into the island's cultural heritage and the significance of mask-making in local rituals and performances.

This day combined the thrill of marine wildlife observation with a deep dive into Sri Lankan cultural traditions, making it a truly enriching experience.

February 26, 2024: Departure and Continued Journey

On the morning of February 26, 2024, we headed to Colombo Airport. There, we bid farewell to the Brazilian team, who were set to travel to Mumbai for their connecting flight to Brazil on February 27, 2024.

After seeing off our Brazilian colleagues, the Indian team continued their journey to Sigiriya, a historic site near the 53 Army Camp. This marked the next phase of our exploration and research activities in Sri Lanka.

This day was a blend of goodbyes and new beginnings, as we transitioned from collaborative efforts with our Brazilian partners to furthering our own research endeavors in the culturally rich and historically significant region of Sigiriya.

February 27, 2024: Exploration of Sigiriya and Dambulla

On February 27, 2024, the Indian team visited the Sigiriya rock art site. This iconic location, known for its steep rock formation, is home to several ancient, prehistoric, and historic constructions. The visit was incredibly impressive, offering a deep dive into the rich history and architectural marvels of the area.

After exploring Sigiriya, the team traveled to Dambulla. En route, they visited the Golden Buddha Temple, a significant cultural and religious site. This temple, renowned for its massive golden Buddha statue, provided a serene and reflective end to the day's journey.
The combination of Sigiriya's historical significance and the spiritual ambiance of the Golden Buddha Temple made this day a memorable and enriching experience for the team.

February 28-29, 2024: Botanical Gardens Visit and Conclusion of the Trip

February 28, 2024: We visited one of Asia's largest Botanical Gardens. During our visit, we met with the Assistant Director, who granted us permission to explore the extensive plant collections. This access was incredibly beneficial for our study purposes, allowing us to gather valuable information and insights.

February 29, 2024: The Indian team traveled to Colombo Airport, where they boarded a flight back to Tiruchirappalli, returning to our organization. Meanwhile, the Brazilian team successfully reached Brazil.

The entire trip concluded successfully, marked by fruitful collaborations, enriching experiences, and valuable research opportunities. This journey not only strengthened our research networks but also fostered deeper cultural and academic ties between our institutions.

LIST OF PROJECTS:

National

Title	Financial Support	Principal Investigator(s)
Biodiversity Assessment, Dindigul Forest Division	Working Plan, Coimbatore Forest Division, Tamil Nadu	Dr.M.Gunasekaran
Water Yield Study, Dindigul Forest Division	Working Plan, Coimbatore Forest Division, Tamil Nadu	Dr.M.Gunasekaran
Assessment Studies in RET Species, Dindigul Forest Division	Working Plan, Coimbatore Forest Division, Tamil Nadu	Dr.M.Gunasekaran
Assessment of Regeneration Status, Dindigul Forest Division	Working Plan, Coimbatore Forest Division, Tamil Nadu	Dr.M.Gunasekaran

International (Ongoing)

Title	Grant Support	Collaborators
Brazilian Biodiversity Observatory	National Institutes of Science and Technology—INCT Program Centro de Conhecimento em Biodiversidade | produção científica sobre biomas	Dr.S.Sundar Dr.M.Gunasekaran

LIST OF PROJECTS (Under evaluation in Govt. Schemes)

Title	Funding Agency	Principal Investigator
Impacts of invasive and Alien plant species on native biodiversity and its mitigation measures in selected Upper Nilgiri sholas at Nilgiri Biosphere Reserve, Tamil Nadu. (July 2023)	TBGPCCR- Indo- Japan Research Consortium	Dr.M.Gunasekaran
Restoration Ecology of invasive and Alien plant species infested or removed plot at Kothagiri region, Nilgiri Biosphere Reserve, Tamil Nadu.(July 2023)	TBGPCCR- Indo- Japan Research Consortium	Dr.M.Gunasekaran
Exploring the biodiversity and Ecology of Aquatic Insect in Chosen stream of Sathya mangalam Tiger Reserve, Eastern Ghats. (July 2023)	TBGPCCR- Indo- Japan Research Consortium	Dr. Sundar

LIST OF PUBLICATIONS:

Published

M. Gunasekaran and P. Balasubramanian 2023. Avifauna conservation in temple premises of Tamil Nadu, India. *Geophytology* 53(2): 1–11.

ISSN 0376-5156
Geophytology 53(2): 1–11
November 2023

Avifauna conservation in temple premises of Tamil Nadu, India

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[2]Division of Landscape Ecology, Salim Ali Centre for Ornithology and Natural History, Anaikatty, Coimbatore–641108, India. E-mail: balusacon@gmail.com
[*]Corresponding author

Manuscript received: 05 September 2022
Accepted for publication: 22 June 2023

ABSTRACT

Gunasekaran M. & Balasubramanian P. 2023. Avifauna conservation in temple premises of Tamil Nadu, India. Geophytology 53(2): 00 00.

Tamil Nadu is the land of temples. Amongst several traditional worship practices, found associated with these temples, an important one is known as Temple Trees (*Sthalavriksha*; sthala: locality, vriksha: tree). Most of the temples have their own *Sthalavrikshas, Nanthavanam* (flower garden) and several other plants. These plants form a feeding and foraging ground for various birds. During 2005–2010, a survey was conducted in 1165 temples of Tamil Nadu and Puducherry to document birds found in temple premises. Altogether, 112 *sthalavriksha* species and 90 bird species were recorded, including three threatened and one endemic species.

Keywords: Birds, *Nanthavanam*, *Navaghraha*, *Sthalavrikshas*, Temples, Theppakulam, Tamil Nadu, India.

INTRODUCTION

Tamil Nadu is well known for its ancient culture and temples. There are about 25,000 ancient temples occurring in different localities of Tamil Nadu. Most of these are under the administrative control of Hindu Religious and Charitable Endowment, Government of Tamil Nadu. Here, people follow several traditional practices with great religious beliefs. One such practice is known as *sthalavriksha* (sthala: locality, vriksha: tree). The temples have their own *Nanthavanam* (flower garden for deities) and several other trees in its premises. Most of these flower gardens were established by the kings during the construction of temples. Generous donations were made by ancient rulers and their subjects to institute flower gardens in temples. Flowers harvested from these gardens are used in the ornamentation of deities and their *Pooja* (worship). *Sthalavrikshas*, temple gardens and other plants form an ideal micro-habitat for number of bird communities.

Sthalavriksha is referred to a plant (mostly single tree) which is equally venerated from times immemorial by the devotees as holy as the presiding deity of a temple (Gunasekaran & Balasubramanian 2005). Most of the temple myth (*sthalapuranas*) and temple history (*sthalavaralaru*) state that the prime deity was first unearthed or found under the tree. After the construction of temples, these plants were treated as *sthalavriksha* or temple tree (sacred plant). There are only a few studies available on *sthalavrikshas* (Samy 1978, Aravanan 1984, Sobitharaj 1994, Thiruganam 1995, Amirthalingam 1998). Gunasekaran and Balasubramanian (2010, 2012, 2016) reported on

Manuscript under preparation

Potential impacts of climate change on aquatic flora in wetland ecosystems of Tamil Nadu, India.

Acknowledgement Number:196665500290724 **Date of filing : 29-Jul-2024**

INDIAN INCOME TAX RETURN ACKNOWLEDGEMENT

[Where the data of the Return of Income in Form ITR-1(SAHAJ), ITR-2, ITR-3, ITR-4(SUGAM), ITR-5, ITR-6, ITR-7 filed and verified]
(Please see Rule 12 of the Income-tax Rules, 1962)

Assessment Year 2024-25

PAN	AATTS9644M		
Name	S.S.RESEARCH FOUNDATION		
Address	130/123, VEERAPPAPURAM STREET, Therku Kallidaikurichi, TIRUNELVELI , Kallidaikurichi S.O , 29-Tamil Nadu, 91-INDIA, 627416		
Status	AOP/BOI	Form Number	ITR-5
Filed u/s	139(1)-On or before due date	e-Filing Acknowledgement Number	196665500290724

Taxable Income and Tax Details	Current Year business loss, if any	1	1,48,509
	Total Income	2	0
	Book Profit under MAT, where applicable	3	0
	Adjusted Total Income under AMT, where applicable	4	0
	Net tax payable	5	0
	Interest and Fee Payable	6	0
	Total tax, interest and Fee payable	7	0
	Taxes Paid	8	0
	(+) Tax Payable /(-) Refundable (7-8)	9	(+) 0
Accreted Income and Tax Detail	Accreted Income as per section 115TD	10	0
	Additional Tax payable u/s 115TD	11	0
	Interest payable u/s 115TE	12	0
	Additional Tax and interest payable	13	0
	Tax and interest paid	14	0
	(+) Tax Payable /(-) Refundable (13-14)	15	0

Income Tax Return electronically transmitted on 29-Jul-2024 20:51:46 from IP address 117.201.16.207 and verified by CHITRA PALSAMY having PAN BJOPP6048K on 29-Jul-2024 using paper ITR-Verification Form /Electronic Verification Code TU996SDRDI generated through Aadhaar OTP mode

System Generated Barcode/QR Code

AATTS9644M0519666550029072 4325a8f12776418f4180b652abffa944580fd36b2

DO NOT SEND THIS ACKNOWLEDGEMENT TO CPC, BENGALURU

S.S.RESEARCH FOUNDATION
130/123 VEERAPPAPURAM STREET,
THERKU KALLIDAIKURICHI
TIRUNELVELI
TAMILNADU-627416

Income and Expenditure Statement Account for the Period Ended 31-03-2024

EXPENDITURE	AMOUNT	INCOME	AMOUNT
Field work Salaries and Allowances	4,78,687	Project Fund	5,06,500
		Excess of expenditure over	
Project materials	6,766	income	*1,48,509*
Costs of Preparing Project Reports	8,500		
Publication charges	3,500		
Honorarium	5,000		
Participation in Training Programme	5,000		
Printing & Stationaries	3,267		
Bank Charges	1,448		
Rent	60,000		
Communication charges	21,722		
Electricity	2,057		
Water tax	1,320		
Postal charges	48		
Website Renewal	9,000		
Auditing charges	5,000		
Meetings & Other related expenses	2,550		
Miscellaneous	41,144		
Total	**6,55,009**	**Total**	**6,55,009**

Research Projects

National Working Plan code 2014- Dindigul Forest Division for the period 2023-24

INCOME	DATE	AMOUNT (Rs)
Biodiversity Assessment	20.04.23	2,04,500
Assessment Studies in RET Species	06.09.23	1,02,000
Water Yield Study	19.12.23	2,00,000
Total Income (Amount Rs)		5,06,500

R. RAGHUNATHAN & ASSOCIATES M. No: 024201 FRN. 029065S TIRUNELVELI CHARTERED ACCOUNTANTS

For R RAGHUNATHAN & ASSOCIATES

R. RAGHUNATHAN
Sole Proprietor

S.S.RESEARCH FOUNDATION		
EXPENDITURE STATEMENT FOR THE YEAR 2023-2024		
Description	Trust Supported Research Grants	
	Expenditure Amount (Rs)	Expenditure Amount (Rs)
RESEARCH EXPENDITURE		
Salaries and Allowances for field workers	32,366	4,46,321
Project materials		6,766
Costs of Preparing Project Reports		8,500
Publication charges		3,500
Honorarium		5,000
Participation in Training Programme	5,000	
ADMINISTRATIVE EXPENDITURE		
Bank Charges	1,448	
Stationaries	3,267	
Rental receipts	35,000	25,000
Communication charges	13,952	7,770
Electricity	1,800	257
Water tax	1,320	
Postal charges	48	
Website Renewal	9,000	
Auditing charges	5,000	
Meetings & Other related expenses	2,550	
Miscellaneous	41,144	
Total	1,51,895	5,03,114

RAGHUNATHAN & ASSOCIATES
M. No: 024201
FRN. 029065S
TIRUNELVELI
CHARTERED ACCOUNTANTS

RAGHUNATHAN & ASSOCIATES

R. RAGHUNATHAN
Sole Proprietor

S.S.RESEARCH FOUNDATION

130/123 VEERAPPAPURAM STREET,
THERKU KALLIDAIKURICHI
TIRUNELVELI
TAMILNADU-627416

Balance Sheet 31-03-2024

Liabilities			Assets		
Capital Account		**32,16,460**	**Fixed Assets**		**1,28,119**
Capital Fund	*1,25,000*		*Computer & Accessaries*	*39,700*	
		33,41,460	*Digital Thermometer*	*731*	
			Flied Kit	*3,000*	
			Furniture	*49,702*	
			Lab Instruments	*3,386*	
			Laptop	*31,600*	
			Current Assets		**43,003**
			Closing Stock		
			Deposits (Asset)	*32,500*	
			Sundry Debtors		
			Cash-in-Hand	*4,546*	
			Bank Accounts	*5,957*	
			Excess of expenditure over income		**31,70,338**
			Opening Balance	*30,21,829*	
			Current Period	*1,48,509*	
	Total	**33,41,460**		***Total***	**33,41,460**

R. RAGHUNATHAN & ASSOCIATES
M. No: 024201
FRN. 029065S
TIRUNELVELI
CHARTERED ACCOUNTANTS

R. RAGHUNATHAN & ASSOCIATES

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