



**KERALA STATE BIODIVERSITY BOARD**

# EKAA

**Environment. Kerala. Awareness. Action**  
Monthly - Newsletter of the Kerala State Biodiversity Board

**April 2022**  
**Volume - 2, Issue - 04**



Seed festivals

Biodiversity Study

World Earth Day

KSBB Activities

## Seed festival

### Thrissur

Seed fest in Thrissur as part of RKI project-Agrobiodiversity was held on 11<sup>th</sup> April 2022 at Regional Theatre, Kerala Sangeetha Nadaka Academy. The Programme, presided by P. Balachandran MLA was inaugurated by Minister for Welfare of Scheduled Castes, Scheduled Tribes & Backward Classes and Devaswom of Kerala K. Radhakrishnan. District Panchayath President P.K Davis honoured the custodian farmers. He inaugurated the 'Vithukayimatam' by delivering a basket of seeds to Dr. K Satheesh Kumar, Board member KSBB. The Board member K.V. Govindan attended the event. Agrobiodiversity seminar was inaugurated by MLA N.K Akbar. In the fest 12 stalls of Farm school farmers displaying wide varieties of seeds were set up. BMC members and students participated in the programme. Traditional farm songs were also presented. The seminars were conducted by Dr. C K Peethambaran and Dr. C K Shaju. CEO State Medicinal Board Dr. Hridheek T K, HOD Forestry College Thrissur, Dr. Santhosh Kumar A V, Manoj N, President of Valachira G P, Dr. Suresh T A, Research officer, Febin Francis district co-ordinator also took part in the programme



Inauguration of seed fest at Thrissur by Minister K. Radhakrishnan



Vilwadi Cow owned by a Custodian Farmer

implementation of the Seed Fest is a struggle to ensure that the uniqueness and significance of antiquity and tradition is not cost over a period. Twenty selected farm school farmers including an 80-year old farmer were honored with memento and ponnada at the function. Experience sharing sessions by farmers were organized. 18 farm school farmers, 3 BMC members and 2 custodian farmers set up stalls. Each stall had a variety of crops like paddy, sorghum, cauliflower, tubers, fruits, pulses, medicinal plants, pepper, winter vegetation, Marayoor sugarcane, jaggery and native cows were included in exhibition. The traditional tribal art forms of Kolkali and Urali Pattu added colour to the event. Board members KV Govindan, Dr. Sathishkumar and Dr. Chandramohanam attended seed fest. Subject matter experts Dr. CK Shaju and Dr. Peethambaran conducted seminars on theme of agrobiodiversity. Research Officer Dr. TA Suresh and district co-ordinator Aswathi spearheaded various activities during the seed fest.



20 selected farm school farmers of Idukki

## Ernakulam

In Ernakulam the Seed fest was conducted at EMS Town hall Perumbavoor, on 5th April 2022. Adv. Eldhose P Kunnappillil, Perumbavoor MLA inaugurated the function. He reminded the importance of sacred groves and native varieties of seeds for conserving our nature. “We should take up agriculture and spend some time on it instead of going for morning walk and eating vegetables laced with toxic chemicals” he added. Board Member K.V.Govindan inaugurated Seed exchange

programme by handing over seeds to a farm school farmer. Seeds, vegetables and value added products developed by the farmers were exhibited and were made available for sale at the fest. Subject expert Dr. C K Peethambaran emphasised the crucial role of custodian farmers in the preservation of native species. Dr K Satheesh Kumar Board Member attended the event. Dr. TA Suresh Research Officer and Sreeja KS district co-ordinator organised the programme.



20 selected farm school farmers of Ernakulam

## Idukki

The Seed Fest of Idukki was organized on 6<sup>th</sup> April 2022 at Thodupuzha Town Hall. Thodupuzha Municipal Corporation Chairman Saneesh George presided over the function. Idukki District Collector Sheeba George inaugurated the event. The District Collector said that the



Stalls displaying agricultural products at the fest

## Biodiversity Study

### Ponnakudam sacred groves - Ernakulam

KSBB conducted a detailed study, on the biodiversity rich men of 200 year old sacred groves “Ponnakudam Kavu” located at Thevakkal in Ernakulam district. It comprises four acres of land area with rare and endangered species of flora and fauna endemic to Western Ghats. About 400 plant species belonging to 86 families were identified, while majority of species belongs to the Poaceae family. 272 indigenous species and 49 endemic floral species were identified. 79 exotic plant species were located in the sacred groves.

Faunal diversity included from 63 species of birds and 23 species of butterflies. More extensive field



Biodiversity study team visiting Ponnakudam sacred groves works during different seasons is suggested to find out the faunal diversity in study area.

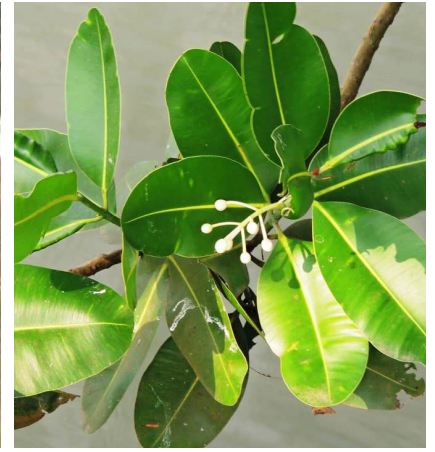
### Kallukadavu wetland areas - Kottayam

Biodiversity monitoring studies were conducted in Mudakali and Kallukadavu wetland areas of Kallara Grama Panchayath. A total number of 75 species of wetland plants, 55 species of birds including migratory birds and 14 local fish species were identified from the study area. The team was led by district coordinator Anju N A, Technical Support Group members Dr. Unnikrishnan N and Joy Kalpakasseri. Experts from the Non Governmental Organisation, Kottayam Nature Society, BMC convener and members, students, Kudumbasree members, local stakeholders of the area like paddy cultivators, dairy farmers and fishermen accompanied the biodiversity documentation activities.





Black tailed godwit

*Annona glabra*

## Earth day - Invest in our planet

### Thiruvananthapuram

Kerala State Biodiversity Board celebrated Earth day on April 22<sup>nd</sup> at Kerala State Biodiversity Museum, Vallakkadavu, Thiruvananthapuram. Board Chairman Dr. C George Thomas inaugurated the programme along with an awareness class based on the theme- Invest in our planet. About 50 students from Sri Chitra home were the guests who attended the programme. They enjoyed the interactive session based on data from Science on Sphere (SOS). Kerala biodiversity board also conducted a theme quiz competition for the students. Administrative officer Mini. V, Principal Scientific Officer Dr.Yamuna. S, and Superintendent of Sri Chitra Home, Bindu also took part in the event.



### Palakkad

On 22<sup>nd</sup> April, Earth day was celebrated in Vadekkencherry Grama Panchayath in Palakkad district. The Panchayath president, Lissy Suresh inaugurated the function by planting a yellow bamboo seedling in a property owned by Panchayath. The vice president of the Panchayath V.J. Hussainar, District Coordinator of KSBB Babu Bonaventure, Asst. Professor, IHRD College, Vadakkencherry T.S.Subi, and Resource person M.V. Appunni Nair participated in the function. Subsequently a seminar on the theme was conducted for the students of IHRD College in the panchayath conference hall by the subject expert Rajan.



### KSBB - AIR



Climate change and biodiversity loss are the most serious threats humanity faces in the 21<sup>st</sup> century. In the HARITHAVANI programme, AIR broadcasted (27.04.2022) a talk on the topic by KSBB Principal Scientific Officer Dr.Yamuna.S. You can listen to the Malayalam audio by clicking the link below. <https://youtu.be/6II3WaAXTDg>



Dr. Sereena J  
Technical Assistant, KSBB

## CONSERVATION OF SOIL BIODIVERSITY

A single teaspoon of garden soil contains millions of living creatures, thousands of species, as well as hundreds of meters of fungal networks. Most of these organisms are considered as soil ecosystem engineers. They also maintain various crucial processes that include nutrient cycling, capture and storage of carbon, aeration, nitrogen fixation, infiltration of water, and degradation of organic substances. The effects of these ecosystem services, in particular of soil microorganisms, have not yet been completely investigated.

Even though soil biota plays a key role in maintaining the functioning of ecosystems, the vast majority of existing studies focus on aboveground organisms. Many questions about the fate of belowground organisms remain open, so the combined effort of theorists and applied ecologists is needed in the ongoing development of soil extinction ecology.

The fact that extinctions do not happen instantaneously adds an additional layer of challenges to belowground extinction ecologists. Extinction debt refers to the substantial time delay for extinction of the species following habitat loss. The relaxation time of this process has been linked to habitat size. In soil, we expect this relaxation time to be extremely high due to large population sizes and asexual reproduction. This could mean that humanity has not yet witnessed the full consequences of soil habitat destruction even though the adverse effects of agriculture, erosion and desertification are known. If soil habitat could be restored, upcoming extinctions could be prevented. We need to be very careful about extrapolating or applying the concepts of extinction dynamics to microbes.

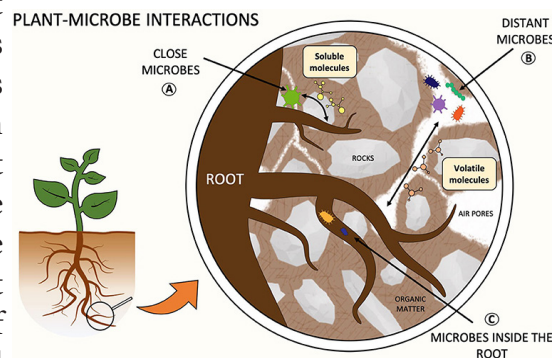
It is clear that a number of organisms known to have existed several millions of years ago are only distantly related to existing species. For some soil biota survival is tightly linked to host plants,

through symbiosis, so extinction risk can likely be tied strongly to the demographics of these hosts. Soil decomposers that may not be host specific but have evolved a high affinity to specific compounds (for example, white-rot fungi degrading lignin in woods) could be susceptible to high-impact events that can modify the availability of their substrate.

The hotspots of extinction for belowground organisms could be very different from those for aboveground organisms. Soil ecology still lags far behind aboveground ecology and our knowledge of the world belowground is comparatively limited. Soil biodiversity represents one of the largest carbon stocks on Earth and plays a major role in mitigating climate change. It is estimated that there is more carbon stored in soils than the total carbon in both the atmosphere and aboveground vegetation.

When soil is eroded, the carbon in soils is lost in the form of greenhouse gasses (GHGs), contributing to global warming. Increasing soil biodiversity could reduce at least half of emissions needed to limit the global average temperature increase to well below 2°C above pre-industrial levels as set by the Paris Agreement.

It is preferable to avoid degradation in the first place, by adopting sustainable land management practices. Farming practices that increase soil biodiversity include sustainably managing soil water and nutrients, controlling erosion, and maintaining groundcover. One such method is agro forestry, which involves planting trees alongside crops. Conservation of soil biodiversity is aided by minimizing harm to soils, avoiding soil sealing practices, reducing risks caused by soil erosion, organic matter decline, compaction, salinization, landslides and soil contamination. Compilation of an inventory of contaminated sites and remediating those sites and raising awareness of soil issues also helps in conserving the soil biome.



## Sustainable Livelihood Group - an RKI Pampa initiative

The Project implemented by KSBB and funded by Rebuild Kerala Initiative (RKI) is supporting 10 persons to improve their livelihood and income. A dynamic and enthusiastic team from the Ranni-Perunad Grama Panchayath was trained in nursery techniques as part of livelihood enhancement under the Pampa Riverine Biodiversity Rejuvenation Project



Sustainable Livelihood Group at KVK Thadiyoor

The training program was inaugurated by Chairman of KSBB Dr. C George Thomas and presided over by Senior Scientist and Head, Dr. C P Robert, ICAR-KVK. Scientific Officer Dr. Sudheesh N, KSBB), Subject Matter Specialist- Horticulture, ICAR - KVK Dr. Rincy K Abraham, Subject Matter Specialist-Ag. Extn., ICAR-KVK Dr. Sindhu, District coordinator, KSBB, Pathanamthitta Arun C Rajan, Assistant Program Coordinator, KSBB, Pathanamthitta Anagha S and the trainees from Ranni Perunad Grama Panchayath attended the event.

The training was conducted from 19<sup>th</sup> - 22<sup>nd</sup> April at the campus of ICAR-Krishi Vigyan Kendra, Thadiyoor. The skill training comprises of both theoretical and practical sessions in plant nursery, potting mixture, plant propagation techniques like cutting, layering, grafting & budding, root stalk preparation, scion selection, cover filling and planting, diseases and pest management in nursery and record keeping. The sessions were handled by the following experts from ICAR-Krishi Vigyan Kendra, Dr. Rincy K Abraham, Vinod Mathew, Subject Matter Specialist (Agro), Alex John, Subject Matter Specialist (Plant Protection). A certificate basic tools kit and planting materials were issued to the trainees.



Inauguration by Dr. C.George Thomas at KVK Thadiyoor

These trained local people will develop a plant nursery in association with the Perunad Grama Panchayath at Madathumoozhy. This convergence will assure the effectiveness of the training for fulfilling the objectives of the Pampa Project.



Kerala State Biodiversity Board

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