

# KEY ACHIEVEMENTS

## 2016-2020



KERALA STATE BIODIVERSITY BOARD



# **Kerala State Biodiversity Board**



## **Chairman:**

Dr. S.C. Joshi IFS (Rtd.)

## **Member Secretary:**

Dr. V. Balakrishnan

## **Board Members**

Dr. K. Satheeshkumar

Sri. K.V. Govindan

Dr. K.T. Chandramohanam

Dr. T.S. Swapna

Sri. A.K. Dharni IFS

# **KEY ACHIEVEMENTS 2016-2020**



**Kerala State Biodiversity Board**



**PINARAYI VIJAYAN**  
CHIEF MINISTER



GOVERNMENT OF KERALA

Secretariat  
Thiruvananthapuram-695 001

No. 30(2)/Press/CMO/2020

2020

I am happy to note that Kerala State Biodiversity Board is preparing a comprehensive document which highlights its major achievements over the years.

I hope that this document will go a long way to popularising the various activities undertaken by the KSBB, to maintain the biodiversity and ecological integrity of the State. May it also serve as a means to encourage the general public, and our younger generation in particular, to participate in biodiversity conservation activities and to ensure the sustainable management of our biological resources.

Best Wishes

**Pinarayi Vijayan**



**I**t has been the continued endeavor of Kerala State Biodiversity Board a statutory regulatory body under Department of Environment, Government of Kerala to plan, promote, co-ordinate and oversee the implementation of The Biological Diversity Act 2002 and Rules 2004 for

- Conservation of biodiversity,
- Sustainable utilization of bioresources
- Fair and equitable sharing of benefits.

*The Environment 'white paper' of Government of Kerala lays emphasis on balanced economic and social development while preserving the State's Biodiversity.*

## Key Achievements

Over the last few years various measures, both institutional and legislative, have been initiated or given a renewed impetus. Numerous initiatives have moved from the conceptual stage to implementation, while many other new concepts have been introduced. The key achievements includes

1. **Strengthening Institutional Structure of Board.**
2. **Empowering Biodiversity Management Committee ( BMC).**
3. **Biodiversity documentation.**
4. **Implementing Access And Benefit Sharing.**
5. **Biodiversity Research.**
6. **Biodiversity Education and Awareness Building.**

The foundation for strengthening institutional structure of Board was established by constitution of Kerala Biodiversity Fund a non lapsable corpus fund for Biodiversity conservation vide G.O.(MS).No.03/12/Envnt dated 24.02.2012 and empowering Biodiversity Management Committee (BMC) as Environmental Watch Groups vide G.O (P) No:04/13/ Envnt dated 13/ 5/ 2013 whereby the responsibility of primary environmental protection was given at the grass root level to the BMC of the respective panchayat.



# STRENGTHENING INSTITUTIONAL STRUCTURE OF BOARD

## 1. Strengthening Governance

- **Working group for Biodiversity, Climate Change, Environment and Disaster management:** In Kerala, as per Panchayati Raj Act, 1994 it is mandatory for each Local Self Government to constitute Working Groups for different sectors which is responsible for formulation and implementation of plan process in the sector. The 13<sup>th</sup> Working group for Biodiversity, Climate Change, Environment and Disaster management was constituted at all LSGIs vide GO No 2462/2018/LSGD dated 19.09.2018 including BMC members.
- **Designation of Authorized officers for Biodiversity Conservation:** Range officers of Kerala Forest Department were designated as Biodiversity nodal officer (vide GO No 19/2019 F & WLD dated 16.01.2019) for enforcing Biodiversity Act and for strengthening BMCs to function as Environmental watch groups.
- **State Steering Committee on Biodiversity:** State level steering committee for Biodiversity (vide G.O 60/2018/Envtd dated 11/05/2018) was constituted with Secretaries of LSGD, Water resources, Agriculture, Forest, Fisheries, Tourism, Animal Husbandry, Department of Environment and Climate Change for integration of activities and schemes of different departments utilizing biodiversity and to ensure that biodiversity concerns are addressed in the policies of the line departments.
- **Authorizing Police Officers :** The Police department vide Executive directive No 2/2020 /PHQ dated 03/02/2020 has authorized that if any police officers have reasonable grounds to believe that an offence has been committed under the provisions of the Act they shall verify the facts by spot inspection and inform the concerned forest officers to take necessary action.





**Kerala Biodiversity Fund:** The Kerala State Government by G.O(Rt No.7/2020/Envt dated 18/01/2020 has issued an order for the establishment, administration, utilization and auditing of Kerala Biodiversity Fund. The fund is meant for conservation of biological diversity, fair and equitable sharing of the benefits arising out of the use of biological resources and associated knowledge

**Locally Important Biodiversity Heritage Site:** Kerala State Government by G.O 5/2020 / Evt dated 03/03/2020 has empowered BMC to notify locally important biodiversity rich area/ ecosystems/ trees as Locally Important Biodiversity Heritage Areas after conducting a preliminary survey with the help of TSG.

## 2. Strengthening Institutional Capacity

- **Expert committees:** Seven Thematic Expert Committees on various subjects as flora, fauna, Agrobiodiversity, Access and Benefit Sharing, Aquatic ecosystem etc were constituted to provide direction and to suggest recommendations in order to implement various provisions of the BD Act in Kerala. State level meeting of Seven Thematic expert committees conducted.

### Linkages with Line Departments

1. State level Consultative Workshop on Mainstreaming Biodiversity in Governance in association with Forest department
  2. State level meeting for Mainstreaming Biodiversity in Governance for the missions of Government as Haritha Keralam Mission, Suchitwa Mission, Kudumbasree, MNREGS, Literacy Mission
  3. The Virtual Biodiversity Cadre: A network of trained nodal officers were identified in each of the line departments to create "The Virtual Biodiversity Cadre" with institutional capacity and knowledge to mainstream Biodiversity concerns in policies and the schemes of the department.
- Training for Range Forest Officers: A basic orientation training on various regulatory provisions under the Act and its field level implementation to Range Forest Officers of All territorial / Wildlife / Flying squad DFOs and RFOs under Southern Circle Kollam, ABP Circle Thiruvananthapuram, and Northern Circle Kannur, Eastern Circle Palakkad and Wildlife Circle Palakkad was conducted in two batches







- **Citizen charter:** As part of a continuous and ongoing process to bring more transparency and citizen friendliness into its functioning and, to become more accountable and transparent a Citizen Charter declaring the standards for various services offered by the Board was developed.
- **Toll free number for filing complaints:** A toll free number was started and an online complaint register facility was put in operation for filing complaints regarding degradation of ecosystems , depletion of biodiversity, non functioning of BMC, specific threats to biodiversity etc.
- **Development of standard guidelines:** In order to bring in more transparency four major Guidelines for various activities of the Board were developed which includes
  1. Guidelines for Operationalisation of BMC's
  1. Guidelines for Public awareness programs
  2. Guidelines for Research proposals
  3. Guidelines for Biodiversity Clubs
  4. Guidelines for processing of applications for ABS
- The institutional infrastructure at district level was strengthened in order to facilitate coordination of activities and the required office infrastructure was provided in 10 districts.

### KSBB Citizen Charter





# BIODIVERSITY CONSERVATION

## 1. STRENGTHENING BIODIVERSITY MANAGEMENT COMMITTEE ( BMC)

Local governments are becoming increasingly important as managers and users of bioresources, regulation of land use, and supporting implementation of policies and strategies relating to biodiversity. The guiding principle of KSBB include strengthening peoples ownership and participation in local governance of biodiversity by Strengthening BMCs the Environmental watch groups of Kerala. Kerala has become a BMC notified state right from 2012 but much remains to be done to strengthen the regulatory, enforcement, and incentive mechanisms.

The institutional structure for decentralized Biodiversity conservation strengthened by constituting BMCs in all the 1200 local bodies of Kerala viz., 941 Grama Panchayats, 152 Block Panchayats, 14 District Panchayats, 87 Municipalities and 6 Corporations during 2020.

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### Capacity building

#### ◆ Training of Master Trainer

Recognizing the constraints of KSBB to conduct training for large number of BMCs district level master resource persons were identified and a two day residential training with focus on technical aspects as well as communication skills were imparted on 23,24,&25th February 2018 at KILA, Thrissur. This was followed by a practical hands on session with members from each of the 20 selected model BMCs. A total of 65 master trainers @ 4- 5 per district were trained as part of this. Uniform training modules and handbook were prepared covering the following aspects:



- a) Functioning and statutory responsibilities of BMCs as envisaged in the Biodiversity Act, 2002,
- b) Need for biodiversity conservation
- c) Role of BMCs in environment/ biodiversity conservation
- d) Biodiversity Management and Convergence with LSGIs, etc.
- e) Functions of LSGs as per Panchayati Raj Act relating to Environment and Biodiversity Conservation
- f) Access and Benefit sharing.



## ◆ District level BMC strengthening workshops

A series of 19 workshops were held from June 2017 to August 2017-18 and 69.9 % coverage of BMCs were achieved. Awareness was given in various sections regarding the functioning and statutory responsibilities of BMCs as envisaged in the Biodiversity Act, 2002, need for biodiversity conservation, role of BMCs in environment/ biodiversity conservation etc. In continuation with the workshop, an open forum was also held with the BMC members.

- 65 master trainers trained
- 19 district level BMC capacity building workshops conducted
- 104 block level training conducted.
- 82.2 % BMCs covered in Block level workshops.

- Exposure visit of 40 model BMCs to Seed festival, Wayanad.
- 59 model BMCs being supported.
- Velliyamattom , Edavaka and Meenangadi BMC recieved 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> prize respectively in Biodiversity exhibition conducted along with KSBC 2019.



## ◆ Block level BMC strengthening workshops

To increase the participation of BMC members Block level training programme in each district were conducted by master trainers from May to July 2018. A total of 104 trainings were held at Block level and 850 BMCs (82.2%) participated.

## ◆ Exposure visit to BMC

Forty BMC members of Kerala from the various districts of Kerala participated in the Seed Festival 2018 conducted by M.S. Swaminathan Research Foundation, Wayanad. A special session organized for the model BMCs discussed the gaps in the implementation of BD act in Panchayath level and empowered them by giving directions for the conservation of traditional varieties and traditional knowledge in their area.

## ii. Conservation of Biodiversity by BMCs

### ◆ Model BMC's

During the 13<sup>th</sup> five year plan KSBB has a target to develop BMCs as Model BMCs as per the provisions of Biodiversity Act, 2002. A State level consultative workshop was held on 15.11.2017 to finalize the criteria for identification of model BMCs and the support required. Twenty BMCs were selected from 14 districts for the year 2017-18 and 28 BMCs during 2018-19 and they are supported through capacity building workshops and for implementation of biodiversity conservation projects suitable for their jurisdiction.



### Model BMC projects

- Ecosystem rejuvenation : 22
- Conservation of Agrobiodiversity : 12
- Sacred groves : 4
- Biodiversity gardens : 8
- Indigenous fish 1
- Heronry : 1





## ◆ BMC best practices

- The BMC of Thavinjal, Wayanad took a resolution during 2019 to prevent the unsustainable extraction of Ochlandra which is overharvested in huge quantities during a local festival at the nearby Kottiyoor temple. This is the first instance where a BMC has enforced its regulatory powers.
- BMC of Kumbla panchayat decided to name a road in the panchayat as “ Orange breasted green pigeon road”, showing an innovative model of creating awareness on biodiversity conservation.
- Spread over 62 acres, Pannivelichira in Mallappuzhassery panchayat at Pathanamthitta is a biodiversity hotspot and a paradise for several migratory and endemic species of birds. The water dyke which also irrigated the farms nearby, was rampantly encroached upon over the years and has become only one-third of what it was. 126 species of birds of which 56 are migratory have been identified from here. The dyke harbors 30 species of fish, 50 species of butterflies and 16 sp of reptiles. The BMC of Mallappuzhassery panchayat resolved to declare Pannivelichira a Local Biodiversity Heritage Site (BHS), the first of its kind initiative in India.







## Best BMC- National level and State level recognition for BMCs

### Best BMC

2013 - Edavaka GP, Wayanad

2014 - Eraviperoor GP, Pathanamthitta

2015 - Mankara GP, Palakkad

2017- Kolayad, Kannur

2018 - Meenangadi, Wayanad

**Special Jury mention:** Adoor Municipality

2019 : Maranchery, Malapuram,  
Veeyapuram, Alapuzha

Eraviperoor BMC received Best BMC and Meenangadi BMC special mention in Best BMC award instituted by UNDP and NBA during 2018.

The Eraviperoor Biodiversity Management Committee (BMC), is an excellent model of a multi-stakeholder partnership in local biodiversity conservation, sustainable management of water resources, promotion of renewable energy and enhanced livelihoods. The LSG has rejuvenated a tributary of the river Pampa, successfully recovered 13.5 acres of river bank and shown exemplary work in plastic waste management with support from the Government of India, agencies, civil society organizations and academic institutions. It has also successfully revived the traditional cultural practice of boat racing. With innovative ideas and an optimistic vision, the BMC has also leveraged financial and technical resources, and received India UNDP award for Best BMC at National level during 2018.





### III

## BIODIVERSITY DOCUMENTATION

# PEOPLE'S BIODIVERSITY REGISTER

### PBR updation in 1034 LSGs

Total 82 academic institutions and research organizations identified for regular updation of PBR and capacity building of BMC

Peoples Biodiversity register documenting the flora and fauna of the locality along with associated knowledge prepared in all the 1034 local bodies at grass root level viz., 941 GramaPanchayats, 87 Municipalities and 6 Corporations during 2019.

### Marine Biodiversity Register of Kollam and Thiruvananthapuram District

Preparation of Marine Biodiversity Register (MBR) along the Kerala coast started during 2013 and MBR of Thiruvananthapuram coast is completed while Kollam is ongoing. The MBR contain

comprehensive information on availability of marine biological resources, their medicinal, food or any other use and information on coastal habitats, marine flora and fauna along with associated Traditional knowledge

### Biodiversity Information System-ePBR

**S**oftware for ePBR- a work flow based system which facilitates LSG to collect, disseminate biodiversity data and generate PBR electronically completed in association with NIC. Training provided to Technical assistants of LSG Software rolled out to panchayats.





## IV

## BIODIVERSITY HERITAGE SITE

**Asramom Mangroves, Kollam on the banks of Ashatamudi Lake is the First Biodiversity Heritage Site of Kerala, declared on June 5<sup>th</sup> 2019.**

**Biodiversity assessment for declaring Sacred grove containing Kulavetti at Kalasamala, Thrissur dist. and Edayilakadukavu as Biodiversity Heritage sites completed.**

The First Biodiversity Heritage Site of Kerala:  
Asramam Mangrove Forest area, Kollam District

**T**he area of 57.53 hectare theAsramam mangroves and associated wetland comprises 15 species of true mangroves, 22 species of mangrove associates, 122 plant species, 34 edible fish species and about

62 species of birds etc. About 100 to 200 years old trees are seen in the area (*Syzygium lancealotum*, *Vateria indica*, *Syzygium travancoricum*, *Syzygium cumini*, *Calophyllum inophyllum*, *Hopea wightiana*, *Drypetus sepiaria*) along with other rare plants like *Pamburus missionis*, *Calamus rotang* *Drosera burmanni* etc. The 50-60 year old mangroves species like *Sonneratia caseolaris* (Chakkarakandal), *Rhizophora mucronata* (Prandankandal), *Bruguiera gymnorrhiza* (Kara kandal), *Caesalpinia crista* (Kazhandi) are seen here.





## Local Biodiversity Heritage Site

**G**uidelines for declaration of local BHS prepared and 9 local BHS has been declared by the respective BMCs in different districts of Kerala

No.	Name of BMC & District	Name of Local BHS/ Tree
1	Mallappuzhasseri Grama panchayat, Pathanamthitta	'Pannivelichira' – a wetland ecosystem
2	PandalamThekkekara Grama panchayat, Pathanamthitta	A two hundred year old cashew nut tree in the 5 <sup>th</sup> ward of panchayat
3	Pandalam Municipality, Pathanamthitta	16 number of trees (heronries) seen in the town area of the municipality
4	Anchuthengu Grama panchayat, Thiruvananthapuram	Two Chempaka trees seen in 2 <sup>nd</sup> ward of panchayat (about 250 year old)
5	Chirayinkeezhu Grama panchayat, Thiruvananthapuram	'Nattumavu'(150 year old) seen in 5 <sup>th</sup> ward of panchayat
6	Mudakkal Grama panchayat, Thiruvananthapuram	'Kadalkandam' – a biodiversity rich wetland area & a two hundred year old tree – 'Poovanam' as local biodiversity heritage tree.
7	Ayarkunnam Grama panchayat, Kottayam	A two hundred year old 'Nattumavu' tree, a keystone species seen along the bank of Meenachil River
8	Alakkode Grama panchayat, Kannur	'Eeyyabharanithuruthu' – a biodiversity rich island area in the Kuppampuzha
9	Pallikkal Grama panchayat, Pathanamthitta	'Arattuchira'- a wetland ecosystem







# **BIODIVERSITY RESEARCH**

## **IMPACT ASSESSMENT OF FLOODS ON BIODIVERSITY - COMMUNITY PERSPECTIVES**

Impact Assessment of floods on Biodiversity conducted in 187 LSGs by BMC and more than 1000 volunteers and local experts participated in this survey. Such an assessment with the active involvement of State-District-BMC mechanisms through intensive trainings and survey is the first of its kind initiative in the country. Various PRA tools were used to generate the data on livelihood alteration, biodiversity loss, landscape devastation, and the wash away of floral and faunal components for preparing this report.

- ⊗ Training for 187 BMCs was provided wherein hands on training for conducting field survey and focal group discussions were provided
- ⊗ 635 volunteers trained in Biodiversity survey techniques
- ⊗ 13 district level meetings under chairmanship of District Panchayat President
- ⊗ 374 BMC meetings conducted
- ⊗ 3 State level core committee meeting conducted





## a. Major Biodiversity Projects implemented during 13<sup>th</sup> Five Year Plan

- ✓ Focused study on Impact of natural disasters on different aspects of biodiversity was conducted through 28 institutions/ universities of Kerala.
- ✓ **Ecosystem service valuation of marine and coastal ecosystem in Kadalundi Community Reserve of Kerala:** The area is an important coastal and marine biodiversity area, important bird area listed by IBC and an important nursery ground for fish species and is the third community reserve in the country and only one in state.
- ✓ **Studies on habitat identification and propagation protocol for in situ and ex situ conservation of 6 notified plant sp. by JNTBGRI in final stage.**
- ✓ **A study on “Environment Poisoning from Pineapple farms in Kerala:** A Preliminary Study” were conducted in Pathanamthitta, Kottayam and Idukki through Tropical Institute of Ecological Science, Thrissur and report submitted to the Hon’ble High Court. The report submitted by Board specifically pointed out the obligations of the Government to bring in stringent stipulations and guidelines to control excessive usage of pesticides in Pineapple farms. The Hon’ble High Court has given directions to Government to take into consideration the recommendations of KSBB and take necessary action.
- ✓ **Conservation of Agrobiodiversity:** The homesteads of Kerala are described as centres of tropical biodiversity similar to tropical forest ecosystem and one of the most productive unit of land. Home gardens maintained by custodian farmers are not only important sources of food, fodder, medicines, spices, herbs and, flowers, and are also important for the in situ conservation of a wide range of farmers varieties, landraces and wild crop relatives. A project for on farm conservation of Agrobiodiversity through Custodian farmers is initiated through Rebuild Kerala Initiative

Riparian vegetation of 9 rivers  
Tribal livelihood - 4  
Agriculture- 1  
Flora- 8  
Fauna- 3  
Mangrove ecosystem- 2  
Forest Ecosystem- 2





- ✓ **Riverine Biodiversity Rejuvenation:** The studies conducted post 2018 floods suggested that recovery strategies should be site specific, eco-friendly and based on a landscape and ecosystem approach for disaster risk reduction based on the concept of “Room for River”. A Riverine biodiversity rejuvenation in selected flood affected panchayats of Pamba river is initiated through Rebuild Kerala Initiative.
- ✓ **Database of Tradable/Commercially Potential Bioresources and their Economic Valuation in Kerala:** Kerala is a biodiversity rich state and many economically important plant and marine species are found in Kerala. The project funded as part of RKI aims to document the commercially traded bioresources of Kerala.



## b. Externally Funded Projects

### i. Food and Agricultural Organization Supported Projects

FAO supported project on ‘Strengthening Agriculture and Allied Sector Contributions to India’s National Biodiversity Action Plan (NBAP) 2008 and National Biodiversity Targets (NBTs)’ was implemented in the states of Punjab, Kerala and Mizoram. The project with technical assistance of KSBB was implemented by CDS and KILA. As part of project Comprehensive review of agriculture and allied sectors commitments at state and local levels to agrobiodiversity conservation and reporting as per the NBAP 2014 was conducted. The project also served to enhance capacity of stakeholders mainly BMCs engaged in the conservation and use of agrobiodiversity at Alapuzha.

- State level gap assessment workshop
- Site level gap assessment workshop
- Report Institutional support for Management of Agrobiodiversity in Kerala submitted by CDS to FAO
- Training to BMCs by KILA



## ii. National Medicinal Plant Board funded project on “Resource Augmentation, Sustainable Harvesting and Value Addition of Medicinal Plants Resources through Biodiversity Management Committee (BMCs)”

Project is currently being implemented at Thirunelli, Poothadi, Noolpuzha, Thavinjal and Pozhuthana Gramapanchayat of Wayanad district and promotes local level conservation, cultivation, sustainable harvesting of medicinal plants from within and outside forest areas and its use, value addition and marketing with a view to generate income for improving the livelihood of local communities, especially the tribal people.

- Produced more than 50,000 saplings of various medicinal plants and planted in 2 hectare lands available in 5 Gps as envisaged in the project.
- Completed the construction of warehouse and drying yard in 5Gps and effective steps have been taken to utilize these infrastructure facilities for storage purpose of medicinal plants followed by marketing directly to the Ayurvedic Medicine manufactures through buy back arrangements to avoid the exploitation of middleman.
- On experimental basis, machinery and equipments have been installed at Thirunelli GP for semi processing like chopping and powdering of dried medicinal plants.
- As a part of value addition programme, training programme was conducted thrice involving the selected target groups like Kudumbasree, self-help groups, farmers tribal healers, VSS and EDC etc. to produce 6 Home Remedies that are useful in primary health care of the people.





### iii. NBA funded project on “Strengthening Local Self Governments to integrate Biodiversity Conservation in the local development plans through participatory community action” implemented by MSSRF.

The project aims to build awareness on BD act in Wayanad and documenting the process of formation of new BMCs. The prime interest of this project is to empower the local self-governments to take decisions on biodiversity governance through awareness building on existing legislative frame works in India and to integrate that in the local development planning through participatory community action

### iv. UNDP funded Munnar Landscape project

Ministry of Environment, Forest and Climate Change, Government of Kerala and United Nations Development Programme with the support from the Global Environment Facility is implementing a project India High Range Mountain Landscape Project for developing an effective multiple use management framework for conserving biodiversity in the mountain landscape of the Western Ghats. KSBB is conducting two studies for analyzing the land use changes and impact on Biodiversity in the project area and documentation of flora, fauna and ecosystem diversity of the project area.



## c. Major Report Submitted

### 1. Kerala state report for India's Sixth National Report to CBD – NBT

KSBB submitted a report on the progress made by Kerala state in achieving the National Biodiversity Targets - Kerala state report . This was prepared as part of the consultations held by NBA for submitting India's Sixth National Report to CBD. KSBB undertook extensive consultations with experts in the field, research organizations and line departments and two state level workshops were held as part of this. The activities being undertaken by KSBB towards the implementation and achievement of national biodiversity targets NBT1, NB2, NBT 3, NBT 6, NBT 9, NBT 10, NBT 11 were brought out in this report.

### 2. Impact of floods/ landslides on Biodiversity- Community Perspectives

The report reveals how the flood and landslides affected various landscapes, Agrobiodiversity, Species diversity and biocultural diversity of the state. About 771 different landscapes including riverine, forest, plantations and agricultural fields were affected. Soil erosion was the major impact in 86 % of area. Most of the impacts on biodiversity are due to changes in the habitats, inundation for a longer period and displacement of animals during the flood. Changes have occurred in distribution patterns, all of which will have long term impact on ecological processes. The report also outlines long term and short term strategies for environment and biodiversity inclusive sustainable development and provides recommendations for a green growth for Nava Keralam. This report was officially submitted to the Honorable Chief Minister of Kerala during the inaugural ceremony of the State Biodiversity Congress held at Govt.Brennen College, Thalassery on 27<sup>th</sup> January 2019.



### 3. Rebuild Kerala Development Plan (RKDP)

As part of Rebuild Kerala Development Plan KSBB submitted a detailed report regarding the major recovery needs in Biodiversity sector post flood and the overall challenges in the sector. The Report includes

1. Overarching challenges concerning biodiversity in Kerala
2. Proposed Approach ( Strategies To Address Major Challenges)

**The proposed approach is organized into:**

- a. Policy interventions/ Government orders/Govt directions
- b. Institutional framework
- c. Strategies and Action Plan
- d. Technical Studies

### 4. Report of sacred groves of Kerala

- ✓ 7058 sacred groves were reported in the state
- ✓ Alapuzha reported maximum number of sacred groves whereas Idukki reported the minimum.
- ✓ The size of the groves varied from 0.5cent to acres.





# ACCESS AND BENEFIT SHARING (ABS)

- ☞ 600 notices issued
- ☞ Four ABS agreement signed

- ☞ Capacity building programs held on ABS for Eighty Industries, Fifteen Traders, Ten Farmers, Ten Distributors, Ayurvedic Doctors and Professors on 15/12/2017
- ☞ Capacity building programmes held for respective associations of industries on 17-01-2018.

**B**iological Diversity Act provides for regulation of unsustainable collection of bioresources by Indian nations without the approval of State Biodiversity Board. For the first time in Kerala the state forest department arrested five persons under the Biological Diversity Act, 2002, for allegedly felling and smuggling *Cyathea crinite* trees from Mathappu area near Munnar for allegedly supplying to an ayurvedic company.

**Cyathea crinite**, locally known as '**pannal**', is a threatened species of tree fern included in the red list of the International Union of Conservative of Nature (IUCN).





# BIODIVERSITY IV EDUCATION AND EXTENSION ACTIVITIES

## Kerala Biodiversity Museum

The first Biodiversity Museum in the country, an initiative of Kerala State Biodiversity Board (KSBB) was opened to public on June 2018 by Hon'ble Chief Minister of Kerala Shri Pinarayi Vijayan. The state-of-the-art museum is set up maintaining the charm of the heritage 19th century 'boat pura' at Vallakadavu. It showcase the splendours and mysteries of the natural world and bring the wonders of science, for students of all ages right from the beginning of Earth - The BIG BANG to the origin of life and the plethora of organisms which we see now. The Biodiversity Museum interprets the diversity and showcases the beauty of the natural world to visitors through interactive panels, videos, exhibits and life size models and dioramas.

### Major Attractions

- **User friendly interactive kiosk section:** Through videos, interactive games and sessions the richness of Biodiversity is highlighted. The section for kids is highly informative with several fun filled games and has a wealth of information with relevant links which is being constantly updated for the benefit of researchers.





- **Science on Sphere- Unlocking nature's complexity-**  
The 'Science on a Sphere', is a large visualization system that uses multimedia projections to simulate animated images of Earth, Land, Ocean etc on a six foot diameter sphere analogous to a giant globe, combined with narration.
- **3 D theatre:** 50 seat theatre features the latest movies on plants and animals with advance 3 D technology.
- **Exhibition galleries:** The Museum has permanent exhibition galleries- Biodiversity: The web of life, Gateway of living world, Global action for biodiversity, Biodiversity conservation and sustainable utilization.



**1<sup>st</sup>** Kerala State Biodiversity Congress was held at Thalassery during January 2019. The focal theme of the congress was "Biodiversity for Climate Resilient Kerala" and was inaugurated by Hon'ble Chief Minister Shri. **Pinarayi Vijayan** on 27<sup>th</sup> January. The major highlights of KSBC 2019 are:





## 1. Consultative Workshop on

Biodiversity Conservation Best Practices

Biodiversity Conservation Priorities and Strategies

**Scientists, conservationists, academicians, officials, etc. shared/ presented the best practices of biodiversity conservation at national and state level.**

2. **Biodiversity Management Committee meet** - presentation by BMC of the various ongoing schemes for the conservation of biological resources and ecosystem in their respective jurisdiction.

3. **Children's biodiversity congress** - Children Scientists presented their projects in a lively session and interacted with Scientists

4. **Biodiversity Exhibition** - 98 Institutions, individuals and Govt. Stalls participated for Exhibition and Exchange of Climate Resilient Seeds and Varieties.







A seed exchange programme was conducted by exchanging traditional varieties of seeds (Rakthashaali rice, Jeeraka shala Rice, Gandhakashaala Rice etc.) among participants and seed kit prepared and exchanged with students, activists, academicians, farmers etc.



A special stall - "vithupura" was installed exclusively for farmers to exhibit and exchange the varieties they conserved.

Twenty two Government department; Three central Government organizations; Eighteen non government organisation; Twenty one Biodiversity Management Committee; Fourteen farmers participated in the exhibition.



## BIODIVERSITY EDUCATION

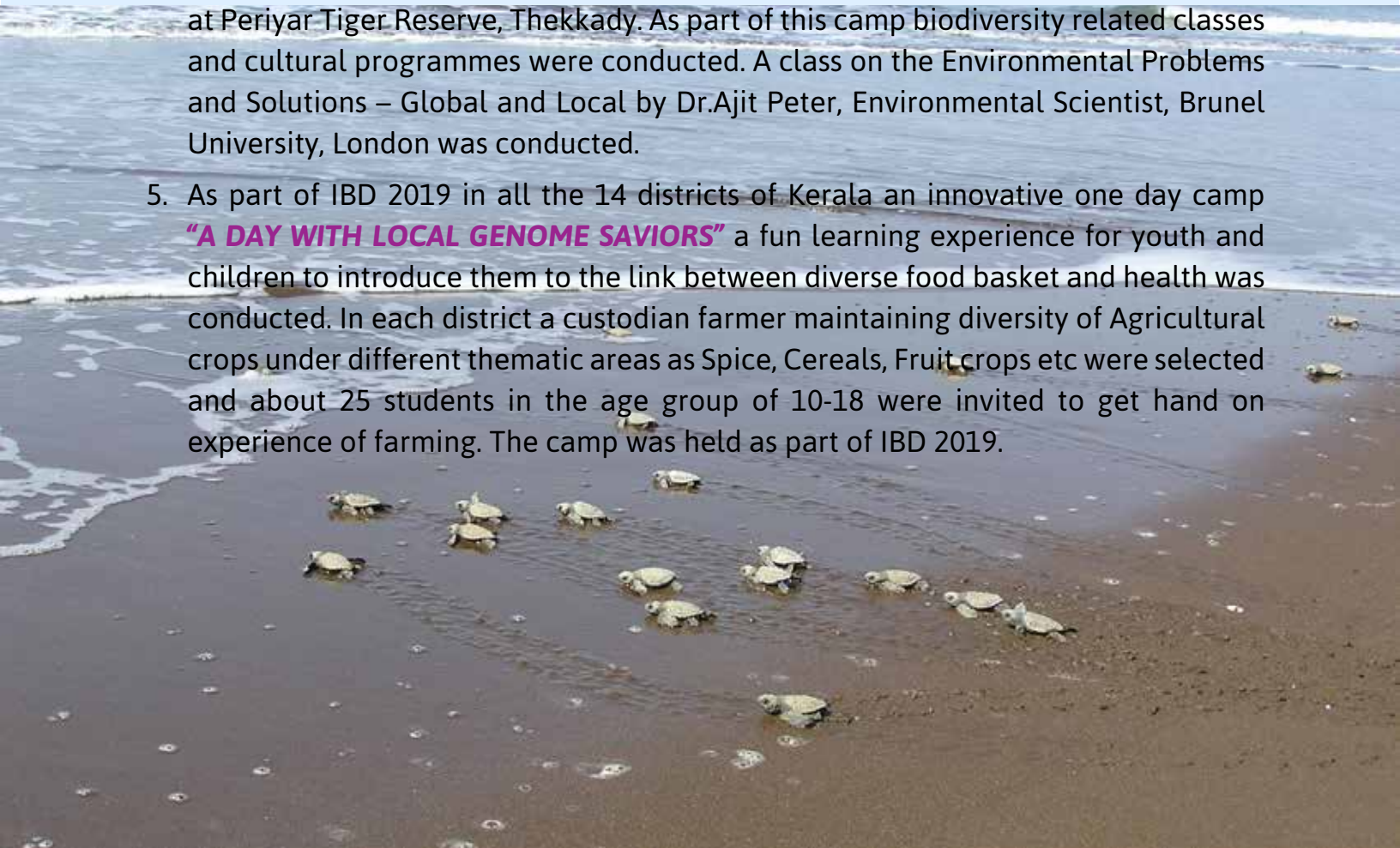
- ▶▶ 1600 registered biodiversity clubs in Kerala
- ▶▶ Workshops were conducted for Biodiversity Club coordinators in 14 districts for creating biodiversity awareness.
- ▶▶ Assistance @ Rs. 5000/club distributed to 140 biodiversity clubs for carrying out biodiversity conservation activities.
- ▶▶ Created biodiversity awareness among public through All India Radio programme Harithavani.
- ▶▶ KSBB supported 54 Biodiversity related awareness programmes and exhibitions during 2017-19 by providing financial assistance
- ▶▶ Participated in 20 exhibitions during 2017-19
- ▶▶ Participated in CoP 14 with the focal theme 'Investing in Biodiversity for people and planet' at Sharm El-Sheik in Egypt during Nov 2018
- ▶▶ Organized a biodiversity rally of students from KELTRON, Vellayambalam to Dept. of Museum and Zoo, Tvpm which was flagged off by Dr.ShashiTharoor, Hon'ble M.P.
- ▶▶ Participated & showcased efforts of SBBs in the India International Science Festival 2017 at Chennai conducted by UNEP-GEF-MoEFCC ABS Programme.



## BIODIVERSITY CAMPS

The International Day for Biological Diversity (IBD) is celebrated all over the country on 22nd May, the day on which the text of the Convention on Biological Diversity (CBD) was adopted in 1992, to enhance awareness about the threats to and importance of biodiversity in sustaining life on this planet. The day is celebrated annually by conducting Nature camps

1. As part of IBD 2017 , KSBB organized a beach cleanup drive with participation of 60 volunteers at Trivandrum, and 10 gunny bags of waste were handed over to Coorparation for proper waste disposal.
2. As part of IBD 2017 two day nature camp for school students at Kannur and Kasaragode was conducted. Interactive classes on the conservation of sea coast and marine turtles and fish community, beach clean up, planting of mangrove seedlings in the selected areas were some of the activities taken up..
3. For IBD 2018 a 3 days Camp at Wayanad district was held for Biodiversity club students at Wayanad Wildlife Sanctuary. As part of this biodiversity related classes, forest visit and biodiversity quiz competitions were conducted. The classes focused on Agro biodiversity, Cultural diversity and diversity of butterflies etc.
4. A 2 days Nature Camp at Idukki district were held for Biodiversity club co-ordinators at Periyar Tiger Reserve, Thekkady. As part of this camp biodiversity related classes and cultural programmes were conducted. A class on the Environmental Problems and Solutions – Global and Local by Dr.Ajit Peter, Environmental Scientist, Brunel University, London was conducted.
5. As part of IBD 2019 in all the 14 districts of Kerala an innovative one day camp **“A DAY WITH LOCAL GENOME SAVIORS”** a fun learning experience for youth and children to introduce them to the link between diverse food basket and health was conducted. In each district a custodian farmer maintaining diversity of Agricultural crops under different thematic areas as Spice, Cereals, Fruit crops etc were selected and about 25 students in the age group of 10-18 were invited to get hand on experience of farming. The camp was held as part of IBD 2019.





# MILESTON

**2012**

**Kerala declared as BMC notified state in COP 11  
Kerala Biodiversity Fund constituted  
District level BMC capacity building programs  
TSG constituted in all districts  
KSBB hosted 1st National Biodiversity Congress**

**2010**

**Kerala Biodiversity Strategies and Action Plan  
BMCs constituted in 200 LSGs  
Peoples Biodiversity Register prepared in 15 LSGs  
Government order for PBR fund utilization**

**2009**

**BMC constituted in 7 LSGs**

**2008**

**Kerala State Biological Diversity Rules notified  
Government order for BMC constitution.**

**2006-07**

**Capacity building program for 753 LSG's**

**2005**

**Kerala State Biodiversity Board established**



# ES 2005-2020

**2013**

**Government order authorizing BMC as environmental watch groups**

**2014**

**KSBB hosted 2<sup>nd</sup> National Biodiversity Congress**

**2015**

**BMC reconstituted in all LSGs**

**2017**

**KSBB hosted 3<sup>rd</sup> National Biodiversity Congress  
BMC capacity building program in 14 Districts.**

**2018**

**BMC capacity building program in Block level BMC  
Government order for constitution of 13<sup>th</sup> working group on Environment, Climate Change, Biodiversity and Disaster Management  
State level Steering Committee constituted**

**2019**

- ✓ Kerala 1<sup>st</sup> state in India to complete preparation of PBR in all LSGs
- ✓ Government order authorizing Range forest officers as nodal officer for Biodiversity
- ✓ Government order for constitution of Block and District level BMCs
- ✓ Asramom Mangroves notified as 1<sup>st</sup> Biodiversity Heritage Site of Kerala
- ✓ 1<sup>st</sup> Kerala Biodiversity Congress

**2020**

**BMC constituted in all District, Block, Panchayats, Municipalities and Corporations  
BMC empowered to declare locally important areas as Biodiversity Heritage Sites**





## **KERALA STATE BIODIVERSITY BOARD**

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