

# Kerala Biodiversity Strategy *and* Action Plan



Kerala State Biodiversity Board  
Government of Kerala



*Conservation of biodiversity  
and its sustainable utilization  
for human well being*

## Strategies and Action Plans

### Conservation of biodiversity

#### I. General

**Strategy 1.** Maintain the topographic features of the State to reduce the loss of biodiversity.

#### Action Plan

1.1. Enact a comprehensive land-use legislation to prevent further deterioration of the topography of the state and for conservation of biodiversity.

#### II. Biodiversity in the cultural landscape (Panchayats, Municipalities and Corporations)

**Strategy 2.** Documentation of the biodiversity and its traditional use

#### Action Plan

- 2.1. Prepare for each Panchayat, Municipality and Corporation a People's Biodiversity Register (PBR) containing details, including traditional uses, of all living organisms occurring in the respective areas with the total involvement of school and college students and teachers, Self Help Groups (SHG), local community and NGOs under the guidance and supervision of the Panchayat level Biodiversity Management Committees (BMCs) to be established under the Biodiversity Act.
- 2.2. Identify the biodiversity component of the local area that could be amplified substantially to help generate additional income for the local people.



- 2.3 Earmark at least one plot characteristic of each panchayat, municipality and corporation (for example: sacred groves, wetlands, heronry, with rare species) according to the extent available for long-term conservation
- 2.3 Formulate Biodiversity Management Plan by each local body for their respective areas.

### III. Forest and Wildlife

#### Strategy 3. Conservation of biodiversity-rich areas outside the PAs (Protected Areas)

##### Action Plan

- 3.1 Identify the biodiversity rich areas outside the present PAs and ensure conservation on priority basis and subsequently bring them within the Protected Area ambit by realigning the borders or declare them as separate PA or Heritage Site depending on the merit and logistics of individual cases. Recommendations given by the Wildlife Institute of India, Salim Ali Centre for Ornithology and Natural History and the French Institute may be considered in this regard.
- 3.2 Study the biodiversity richness and uniqueness of the low lying riparian forests and initiate conservation measures.

#### Strategy 4. Build up a strong data base on the forest biodiversity of the state

##### Action Plan

- 4.1. Strengthen research programmes in protected areas, involving local research institutions, colleges and universities, so as to develop a benchmark data on biodiversity and its functional aspects.
- 4.2. Make exhaustive survey of Rare, Endangered and Threatened (RET) species in the forest ecosystems, assessing their status and range of distribution and, identifying potential habitats for protection.
- 4.3. Identify keystone, umbrella and endemic species which need to be conserved on priority basis with details on their occurrence in the State.
- 4.4 Identify indicator species for each macro and micro ecosystem in the State as well as indicators for monitoring ecosystem and habitat changes.
- 4.6 Initiate new research programmes to study the impact of global warming and climate change on biodiversity.
- 4.7. Encourage taxonomic research by bona fide taxonomists in different groups of organisms of Kerala

#### Strategy 5. Conservation of Ecosystem, Species and Gene Pools

##### Action Plan

- 5.1 Identification of the causes of depletion and strategies to mitigate such negative impacts.
- 5.2 Identification of wild plant and animal species and their habitats requiring conservation actions.





- 5.3 Identification of macro and micro invertebrates and their habitats requiring conservation actions
- 5.4 Standardization of protocols for conservation of endangered species and their natural habitats.
- 5.5 Reintroduction and establishment of viable populations of threatened species.
- 5.6 Promotion of ex situ conservation of RET species in botanical and zoological gardens, arboreta, seed banks, cryopreservation and, or any other suitable methods.
- 5.7 Formulate regulations in the collection of RET species, with regional priority, without hindering research by bona fide taxonomists.
- 5.8 Create a database of ex situ collections and conservatories in the State.
- 5.9 Provide a schedule for plants in the Kerala Forest Act, 1961, and frame legal measures based on the conservation status of the species as in the case of wild animals given in the Wildlife (Protection) Amendment Act, 2002.
- 5.10 Identify gene pools based on genetic variability of economically important species
- 5.11 Demarcate and map the identified unique ecosystems such as high elevation sholas and Myristica swamps and species-specific habitats and prepare specific conservation plans for each.
- 5.12 Identify and establish buffer zones around all the protected areas
- 5.13 Encourage conservation activities through people's participation.
- 5.14 Implement an efficient fire fighting mechanism to contain annual forest fires
- 5.15 Effective control measures to prevent the spread of IAS (Invasive Alien Species).
- 5.16 Establish an effective coordinating and monitoring mechanism/ cell for the various research activities going on in the forests and introduce an easily retrievable system of information.

#### **Strategy 6. Prevention of habitat fragmentation and maintenance of habitat continuity**

##### **Action Plan**

- 6.1 Map all the existing forest types in Kerala using remote sensing at higher spatial scales, GIS data, and field studies.
- 6.2 Map and document all the existing and potential wildlife corridors, and sensitive species habitats, evaluate their ecological status and, declare them as Eco Sensitive Zones to prevent all detrimental activities.
- 6.3 Prepare specific action plans for the management of corridors through Participatory Forest Management.
- 6.4 Coordinate and monitor the activities of various departments under the guidance of Biodiversity Management Committees (BMCs) so as to prevent all encroachments.

- 6.5 Identify degraded forest areas and restore them either by allowing natural regeneration providing adequate protection from fire, cattle and other biotic pressures or by planting indigenous species according to the suitability of the area. .
- 6.6 Make evaluation of biodiversity an integral component of development projects and programmes to avoid all adverse impacts and enrich the biodiversity of the area.
- 6.7 Implementation of micro-level action programmes to save biodiversity in specialized and fragile habitats such as sholas, riverine forests and Myristica swamps.

#### **Strategy 7: Mitigation of human-wildlife conflicts**

##### **Action Plan**

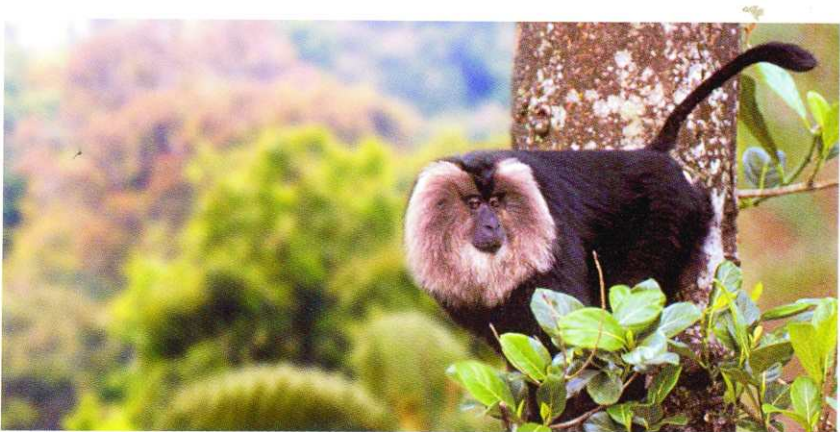
- 7.1 Ban implementation of any project or construction of buildings on known corridors of wildlife.
- 7.2 Launch awareness campaigns to discourage encroachment by man into wildlife territories.
- 7.3 Protect the core areas from human interference, including eco-tourism
- 7.4 Encourage stall-feeding to check cattle lifting.
- 7.5 Promote fodder production on village wastelands and development of fuel wood plantations.

#### **Sustainable use of biodiversity**

#### **Strategy 8. Establish a model for sustainable utilization of resources for livelihood and the equitable benefits**

##### **Action Plan**

- 8.1 Encourage medicinal plant and NFWP cultivation in home gardens, especially in the adjacent areas of forests which while improve the economy of people will help reduce burden on the natural ecosystems.
- 8.2 Develop and implement eco-development projects adjacent to all the Protected Areas in order to meet the demands of local people.
- 8.3 Collect and compile details on the availability of excessively exploited species.
- 8.4 Develop effective guidelines and rules for monitoring and regulating bioprospecting.



- 8.5 Initiate capacity building at grass root level for participatory decision making to ensure eco-friendly and sustainable use of natural resources.
- 8.6 Encourage traditional sustainable uses of biodiversity and, devise mechanisms for providing tangible benefits to local communities for their efforts.
- 8.7 Intensify measures for restoration of degraded areas to meet the daily subsistence needs of local people.
- 8.8 Assess the socioeconomic status of dependants of the forest resources.
- 8.9 Through participatory approach, assess the extent of demand of resources being used, mode of collection and, impacts due to the same.
- 8.10 Assess the sustainability of Non Wood Forest Produce (NWFP) and demarcate areas for resource use.
- 8.11 Set up NWFP conservation areas on the lines of medicinal plant conservation areas.
- 8.12 Develop alternate livelihood mechanism for the resource dependants to reduce their dependence on the forests.
- 8.13 Coordinate the activities of various departments such as Forests, Animal Husbandry, Agriculture, Tribal, Tourism, Energy and Local Self Government to safeguard the interests and objectives of the management of forests.
- 8.14 Formulate a biodiversity code of conduct and make it legally binding for implementing any new development project by government departments, public and private institutions, national and multinational corporate bodies, construction corporations, Local Self Governments and NGOs .
- 8.15 Encourage cultivation of fuel wood plantation/community wood lots in areas outside Protected Areas and in community lands with fast growing indigenous species.
- 8.16 Promote alternatives for fuel wood with solar and biogas.
- 8.17 Regulate commercial collection of bio-resources with the help of Biodiversity Management Committees.



## Strategy 9. Prevention of over exploitation and encroachment

### Action Plan

- 9.1 Involve enforcement agencies from other line departments to combat poaching and illegal trade.
- 9.2 Rehabilitate offenders who come forward for protection and conservation through participatory approach (Social fencing).
- 9.3 Strengthen the existing Intelligence Wing of the Forest Department, in the line of the Police Department to combat illegal activities in the forest areas.
- 9.4 Create Conservation Reserves around PAs to reduce over exploitation in such areas.
- 9.5 Prevent encroachment by proper demarcation of boundaries and prepare and implement time bound eviction plan. Maintain coordination with concerned departments such as local bodies, forests and revenue.
- 9.6 Strict law enforcement by integrating all enforcement departments against uncontrolled sand mining from rivers as well as terrestrial areas, and demolition of hills.

## Strategy 10. Ensure sustained availability of raw material for indigenous food and medicines

### Action Plan

- 10.1 Collect data on annual requirement of raw drugs and their mode of collection for Indian Systems and Folklore System of medicine.
- 10.2 Prepare resource inventory of raw drugs and determine the rare or fast depleting resources
- 10.3 Evaluate the impact of collection of large quantities of medicinal plants through participatory approach involving such organizations as Ecodevelopment Committees and Vana Samrakshana Samithis.
- 10.4 Make it mandatory for the drug manufacturing units to declare their annual raw material requirement.
- 10.5 Promote cultivation of medicinal plants in areas such as wastelands, homesteads, government lands and forest plantations by involving ayurvedic firms, and ensuring the involvement of local bodies, Self Help Groups (SHGs), Kudumbasrees and farmers.
- 10.6 Establish the correct botanical identity of raw drugs and their phyto-chemical characteristics.
- 10.7 Ensure conservation, promotion and popularization of medicinal plants and wild edibles. (plants and animals)



#### IV. Biodiversity inside the Plantations

Strategy 11. Protect and promote biodiversity in and around plantations

##### Action Plan

- 11.1 Ban land use conversion in the existing plantations and their neighbouring areas.
- 11.2 Identify and acquire corridors adjoining plantations for biodiversity conservation.
- 11.3 Restoration of abandoned plantations with indigenous species.

#### V. Wetland ecosystems (ponds, tanks, lakes, reservoirs, streams, rivers, mangroves, estuaries, backwaters)

##### Conservation

Strategy 12. Ensure long-term conservation of select wetlands in the State

##### Action Plan

- 12.1 Document the wetland resources of Kerala using GIS and Remote Sensing data with a participatory approach for ground checking involving school and college students and teachers, SHGs and other volunteers.
- 12.2 Prepare a Wetland Register for each panchayat, municipality and corporation accounting each water body on the land such as ponds, tanks, lakes, streams, rivers and reservoirs along with its biodiversity, economic utility and traditional use.
- 12.3 Prioritise the various types of wetlands based on their biodiversity values, economic potential and intangible benefits and, also based on their local, regional, national and international importance to formulate a Network of Wetland Conservation Area in the State, analogous to the Protected Area Network for the forests and wildlife.
- 12.4 Bring out a comprehensive State Wetland Conservation and Sustainable Use Action Plan and also a State Wetland Conservation and Sustainable Use Act, the latter to give legal support to implement the action plan.
- 12.5 Declare mangroves and other important wetlands as Community Reserves under Wildlife Protection (Amendment) Act, 2002 to control land use practices, till the Wetland Act comes into operation.
- 12.6 Prepare information material and organize massive awareness programmes to popularize the need for wetland conservation.

Strategy 13. Prevent conversion of wetlands into any other land use and maintain their extent and ecological status

##### Action Plan

- 13.1 Ban conversion of wetlands into any other form of land use and, also construction of buildings within 100 m of





wetlands, legal provisions for which should be given in the proposed Wetland Act.

- 13.2 Dumping of wastes by individuals, institutions, corporate bodies, panchayats, municipalities or corporations should be made as a non-bailable act, punishable with imprisonment.
- 13.3 Constitute a Local Empowered Committee with statutory powers to book the offences, as per the proposed Wetland Act for the surveillance of the wetlands.
- 13.4 Schools and colleges should be encouraged to adopt wetlands close to their vicinity and be made responsible for monitoring the major biodiversity and changes in water quality with the input from local technical support groups.

#### Sustainable use

**Strategy 14. Sustainable utilization of wetland resources for the benefit of local community**

#### Action Plan

- 14.1 Prepare management plans for select wetlands from each panchayat, municipality, and corporation focusing on the economic benefit to local people and, conservation of water and biodiversity. Priority should be given for the Ramsar Sites.
- 14.2 Encourage traditional use of wetlands even if they are inside the Protected Areas or in the proposed Network of Wetland Conservation Area.
- 14.3 Launch economically profitable farming of native species that flourish inside water bodies or adjacent areas (example: fishes, medicinal plants).
- 14.4 Restore degraded and also recently disappeared wetlands, especially the mangroves by planting native mangrove species.





### Strategy 15. Establish environmental flows in each river basin

#### Action Plan

15.1. Ensure proper water budgeting for equitable availability of water for both upstream as well as downstream stakeholders.

### Strategy 16. Institute a legal and administrative framework for conservation and sustainable use of wetland resources

16.1. Constitute a Kerala State Wetland Authority under the proposed Wetland Act with statutory powers to liaise, implement and monitor the various actions envisaged in the proposed Wetland Action Plan. The said Authority should have representatives from various stakeholders. This is essential as it is impossible for one single stakeholder to manage such a vital resource having a large number of stakeholders.

16.2. Constitute District Wetland Authorities and also Local Empowered Committees (at Panchayat level) under the Wetland Act to work under the control of the State Wetland Authority for the smooth, effective running and implementation of the schemes for each district and panchayat.

16.3. Launch a Water Revolution in the same spirit as the Green revolution of the 1960s to give impetus to the vital issues related to water and food security.

### Strategy 17. Prepare a data base on the aquatic biodiversity

#### Action Plan

17.1. Resolve taxonomic ambiguity of prioritized groups of fishes and other aquatic taxa, jointly using molecular and morphometric data.

17.2. Prepare a consolidated atlas of freshwater fish species with photographs, identification key and if possible with DNA Barcodes.

17.3. Identify biodiversity rich aquatic ecosystems and declare them as Aquatic Sanctuaries or Community Reserve according to the merit of the individual cases.

17.4. Frame policies and regulate collection and trade of RET species as well as ornamental fishes from the wild.

## VI. Coastal and marine biodiversity

### Strategy 18. Documentation of coastal and marine biodiversity of Kerala

#### Action Plan

18.1. Prepare a database of coastal and marine biodiversity of Kerala.

18.2. Provide taxonomic training to young researchers and students in groups where taxonomic expertise is not available in the State (example: echinoderms and cephalopods).

18.3. Prepare field guides and identification keys for lower groups of marine organisms.

- 18.4 Assess the quantity and diversity of marine organisms discarded as by-catch and take appropriate actions to reduce the same.
- 18.5 Develop an ecosystem approach for the management of fishery resources of the State.
- 18.6 Conserve the sand dunes in the Kerala coast and document the coastal vegetation in each locality.
- 18.7 Create awareness about the importance of coastal biodiversity and the vital need for its conservation.

## VII. Agro-biodiversity and domesticated biodiversity

### Strategy 19. Develop a data base of agro- biodiversity and domesticated biodiversity

#### Action Plan

- 19.1 Prepare a detailed inventory of traditional agricultural varieties and domesticated animal diversity with details on their losses, current status and source of availability.
- 19.2 Prepare a detailed inventory of agro-biodiversity in each agro-ecological zones with emphasis on rice field ecosystems.
- 19.3 Provide required research input to generate new information, especially with regard to the impacts of exotics introduced into the traditional agricultural and animal husbandry systems of the State.
- 19.4 Develop an agro-ecosystem approach in the agriculture planning of Kerala, integrating with the existing schemes. Develop the Regional Agricultural Research Stations into Agro-Biodiversity Conservation and Research Centres.

### Strategy 20. Promote conservation of indigenous varieties and their commercial production

#### Action Plan

- 20.1 Promote on-farm and ex situ conservation of local breeds and varieties by giving incentives to farmers.
- 20.2 Conduct awareness programmes on the significance of conserving indigenous agro- biodiversity and domesticated biodiversity.



- 20.3 Substantial State financial incentives may be given to farmers for cultivation of traditional varieties with organic inputs.
- 20.4 Encourage institutional programme for conservation of agro-biodiversity, especially by establishment of multi-locational germplasm banks.
- 20.5 Promote collection, characterization and utilization of under utilized traditional crops/species
- 20.6 Promote the quality and value of traditional varieties through value addition, thereby creating demand which will balance between High Yielding Varieties and local land races in terms of sustainable use.
- 20.7 The State should formulate an Organic Farming Policy, including organic certification procedures and, phase out toxic chemicals from agriculture within a maximum period of ten years.
- 20.8 Explore the below-ground diversity and promote use of soil biota for enhancing soil quality
- 20.9 Conserve the germplasm of local varieties of plants and domesticated animal diversity.
- 20.10 Establish seed village in selected areas and strengthen seed production and conservation.
- 20.11 Encourage traditional crops with crop/variety combinations along with forms such as livestock and fish, suiting the varying need of the farmer.
- 20.12 Encourage farming of traditional breeds of cattle, goats, pigs, and poultry.
- 20.13 Formation of herd registration programme for the domestic animal diversity of the state.
- 20.14 Make a thorough study of the merits of the homesteads as a farming unit, especially in the effective conservation, sustainable management and efficient utilisation of the different components.
- 20.15 Integrate local agro-biodiversity components into ongoing government assisted programmes such as National Rural Employment Generation Programme (NREGP) and Western Ghats Development Programme (WGDP).
- 20.16 Ensure availability of seeds of indigenous and rare varieties of plant and native animals to farmers.



**Strategy 21. Prevent contamination of natural biodiversity of the state from genetically modified organisms (GMOs)**

**Action Plan**

- 21.1 Stop all experimentations with GMOs in the open field to prevent genetic contamination of natural varieties with Genetically Modified Organisms.
- 21.2 Formulate measures to prevent the accidental or illegal entry of GMOs from neighbouring regions and states.
- 21.3 Prevent contamination of the rich agro-biodiversity of the state from genetically modified organisms.
- 21.4 Prepare a database of the research and experiments on GMOs going on in various institutions in the state.
- 21.5 Provide adequate basic knowledge about GMOs and genetic engineering to the panchayat members, field level staff of forest and agriculture departments, and farmers so as to prevent the contamination of the biodiversity by GMOs.

**VIII. Sacred groves**

**Strategy 22. Conservation of sacred groves**

**Action Plan**

- 22.1 Prepare an inventory of all the sacred groves and prepare a priority list for conservation action based on anthropogenic pressures on the groves.
- 22.2. Analyse the total biodiversity content, physical parameters and human dimensions of each sacred grove and identify species which need protection and remedial measures to maintain the ecological integrity of the sacred groves.
- 22.3 Assess the existing status of the protection of sacred groves and suggest measures for their long term conservation.
- 22.4 Give incentives/awards to sacred grove owners and local committees based upon the total extent of sacred groves protected.

**IX. Education, training and research**

**Strategy 23. Create biodiversity technical support group and a network of taxonomists and conservationists**

**Action Plan**

- 23.1 Identify research institutions, universities, NGOs and individual experts engaged in taxonomy and research on biodiversity related issues in the State and create an institutional network.
- 23.2 Publish a directory of taxonomists and knowledgeable persons in biodiversity in Kerala.
- 23.3 Identify gap areas from time to time and prioritise research accordingly.
- 23.4 Organise programmes for capacity building in taxonomy for teachers, students, and amateur taxonomists.
- 23.5 Encourage research on microorganisms with special reference



to their role in various functional aspects of ecosystems such as energy flow, nutrient cycling and decomposition and, also in drug industry.

- 23.6 Encourage short term training/refresher courses on taxonomy and biodiversity by providing financial assistance to various academic institutions, research departments, and NGOs working in the field.
- 23.7 Encourage universities to initiate courses in sustainable development at Masters/Diploma level.
- 23.8 Introduce awareness programmes for managers, bureaucrats, judiciary and legislatures on conservation and sustainable use of biodiversity.

### **Strategy 24. Set up and strengthen institutions and agencies for economic evaluation of biodiversity**

#### **Action Plan**

- 24.1 Promote studies to assess the tangible and intangible services rendered by biodiversity
- 24.2 Impart training on economic evaluation of biodiversity
- 24.3 Approach universities to begin courses on eco-economics with special emphasis on biodiversity

### **Strategy 25. Implement biodiversity education and awareness programmes for the target groups**

#### **Action Plan**

##### **a. Awareness**

- 25.1 Constitute a committee under the Education and Environment Departments to promote biodiversity conservation and environmental and biodiversity education through the school curriculum.
- 25.2 Promote through both formal and informal means of environment education, the importance of conservation and sustainable use of biodiversity to various target groups
- 25.3 Reinforce Principles and Practice of Taxonomy at four levels from High School to Post Graduate Level syllabi, in Zoology, Botany, Environmental Sciences, Life Sciences and Agricultural Sciences, and in the allied subjects.
- 25.4 Produce biodiversity education and awareness material in Malayalam and English and, also interactive CDs on biodiversity of Kerala.
- 25.5 Produce field guides, manuals, identification keys, taxonomic revisions, monographs and publication of new taxa to identify the fauna and flora of Kerala.
- 25.6 Identify and develop appropriate methods and tools for awareness programmes.
- 25.7 Create awareness among the public on biodiversity conservation; its inseparable links with common household activities such as waste recycling, rain water harvesting, organic farming, sustainable agricultural practices,



traditional food processing and food habits, traditional health practices, home-made remedies, and folklore.

- 25.8 Strengthen the network of eco-clubs in schools (National Green Corps) and support eco-clubs or biodiversity clubs in colleges and teacher training centers and, also facilitate similar clubs in local bodies.
- 25.9 Create a database of all the institutions, individuals and NGOs working in the field of environmental protection and biodiversity conservation.
- 25.10 Use the network of NGOs, Continuing Education Centres, libraries and Akshaya Centres to initiate biodiversity awareness programmes.
- 25.11 Design and implement environment and biodiversity awareness programmes aimed particularly at rural women and involve Kudumbasree and Self-Help Groups in the process.
- 25.12 Survey to evaluate the existing awareness on biodiversity in different sections of the society.
- 25.13 Popularise the existing rules and regulations regarding biodiversity conservation.
- 25.14 Introduce ecology and sustainable development in the curriculum of engineering, management and hospitality graduate and post graduate courses.
- 25.15 Develop a structured publicity programme for enhancing the awareness for biodiversity through audio, visual and print media.
- 25.16 Establish biodiversity interpretation centers at district and state levels with the help of local bodies, educational organizations, research institutions and charity organizations.

#### **b) Training**

- 25.17 Capacity building for biodiversity dependent communities through developing resource material for sustainable harvests, storage, preliminary processing, primary value addition and efficient marketing.
- 25.18 Create awareness among the policy makers and common people regarding the ecological and economic values of natural resources through workshop and training programmes.
- 25.19 Provide practical training to people belonging to different sections of the



society on various aspects of biodiversity conservation, bringing positive attitudinal changes and equip them for sustainable use of resources.

- 25.20 Organize multi-level Trainers' Training Programmes to provide sufficient resource persons for imparting training on various aspects of biodiversity conservation to different sections of the society.

### X. Traditional knowledge systems, patents and benefit sharing

**Strategy 26: Make use of the knowledge on biodiversity as a source of income generation**

#### Action Plan

- 26.1 Document the traditional knowledge on conservation and sustainable use of biodiversity available with communities through People's Biodiversity Registers.
- 26.2 Create awareness among the people about the provisions of Convention on Biological Diversity for protecting Intellectual Property Right (IPR) and the need for documenting traditional knowledge.
- 26.3 Enact a State legislation to protect the intellectual property rights over indigenous knowledge. Encourage documentation of tribal medicines and validate claims of effectiveness to get IPR protection
- 26.4 Encourage and revise sustainable traditional and other folk uses of components of biodiversity and promote tangible benefits to local communities for conserving traditional knowledge and practices.
- 26.5 Create a documentation system of benefit sharing and practices for wider use.
- 26.6 Establish a facilitation centre in Kerala State Biodiversity Board to help negotiate on behalf of local people/communities and also to provide guidelines for ensuring the benefits derived from traditional knowledge
- 26.7 Create public awareness about the need to conserve, protect and gainfully use these knowledge systems for securing benefits.
- 26.8 Recognize and integrate traditional knowledge and practices into biodiversity conservation and management of Common Property Resources (CPRs).
- 26.9 Preserve and strengthen traditional, religious, ethical and cultural methods of conservation such as sacred groves.





- 26.10 Introduce and popularise a holistic approach on primary health care linking with biodiversity and indigenous knowledge.
- 26.11 Documentation and popularization of traditional diversity in lifestyles, food, medicines, handicrafts, and folk arts.
- 26.12 Artisans and craftsmen living on biodiversity resources such as bamboo, reeds, canes and screw pines should be assured of the resources required and supported by marketing information, design development, welfare schemes, and organizational assistance.
- 26.13 Regulate all raw material trade and enact legislation to prevent bio-piracy by selling live / dry plant and animal material to unknown outside agencies.

**Strategy 27. Establish Kerala Biodiversity Information System (KBIS)**

**Action Plan**

- 27.1 Establish a Single Window Counter accessible by general public to address their queries/grievances on matters related to environment and biodiversity (office or as a Public Grievance Website or Dial in System)
- 27.2 Kerala Biodiversity Board to take lead to establish a centralized data base facility.  
[The information available on the biodiversity of Kerala and the data that would be generated through People's Biodiversity Registers (PBRs) in all the local bodies will be consolidated. Information available with other research institutions such as Kerala Forest Research Institute (KFRI), Tropical Botanic Garden and Research Institute (TBGRI), universities, and colleges and departments such as forest and wildlife and, tribal development on biodiversity would also be compiled for this purpose. This spatial biodiversity registry will present a complete, interactive and dynamic data base of the State].
- 27.3 Information required on biodiversity of Kerala by various departments of the Government of Kerala, research institutions, universities, colleges and individuals would be made available with maximum ease. However, the data will be classified and, protective measures taken for information which would require clearance of the Biodiversity Management Committee and the Board on payment of required fees.
- 27.4 As a policy open source information communication technologies should be used.
- 27.5 Establish biodiversity monitoring programmes for each pahchayat, municipality, corporations and the major ecosystems.



- 27.6 Preparation of Biodiversity Atlas, especially for the major taxa which would indicate the health of the system. An Atlas of Breeding Birds would be ideal to start with.
- 27.7 Status Report of the Biodiversity of Kerala should be brought out periodically by consolidating the information from various sources such as reports from the BMCs, research projects, monographs, and taxonomic publications.

### **XI Creation of a corpus fund for biodiversity conservation**

**Strategy 28. Ensure sustainability of the biodiversity conservation activities**

#### **Action Plan**

- 28.1 Apart from the plan funds from the Government of Kerala, to sustain the activities identified in the Action Plan, it is desirable to raise a Biodiversity Corpus fund contributed by various stakeholders such as government departments, development agencies, and corporate bodies
- 28.2 The LSGs may be encouraged to allocate funds on an annual basis for biodiversity related activities in their respective areas.



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**Kerala State Biodiversity Board**

Pallimukku, Petta P.O., Thiruvananthapuram - 695 024.

Tele-Fax : 0471 - 2740234; Ph : 2740240; E-mail : [kerolabiodiversity@gmail.com](mailto:kerolabiodiversity@gmail.com)