

# GOVERNMENT OF KARNATAKA



## BIOLOGICAL DIVERSITY CONSERVATION & DEVELOPMENT FOR SURVIVAL

By

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## KARNATAKA BIODIVERSITY BOARD



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## **PREFACE**

Biological Diversity Act 2002 has the main objective of Conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of utilization of genetic researches.

The act, as per section 41(1) provides for the constitution of Biodiversity Management Committee at every local body for the purpose of documentation of biodiversity and associated traditional knowledge to achieve the objectives of Biological diversity Act. This document is called people's biodiversity registers (PBR's). The register shall contain comprehensive information on availability. Knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them.

Out side the forest area, Biodiversity Management Committees are constituted at grama panchayaths. The preparation of People's Biodiversity Registers (PBR's) is in progress as per the present programme, Biodiversity out side the forest area is being documented.

Karnataka is endowed with some of the most magnificent forests in the country. From the majestic evergreen forests of the Western Ghats to the scrub jungles of the plains, a wide variety of habitats exist with very typical flora and fauna, some of them endemic to the region. The forests comprise of several types ranging from fragile coastal mangroves along the coastlines to tropical wet evergreen forests all along the Western Ghats. In the high rainfall zone, there are pockets of biodiversity-rich shola forests interspersed with altitude grasslands.

The State has around 20 percent of its total geographical area (TGA) as 'recorded forest area'. According to the State of Forest Report 2001 published by the Forest Survey of India, Dehradun, the total 'forest cover' of Karnataka is 36,991 sq. km representing around 19.3 percent of the total geographical area of the state.

Karnataka's forests support a wide range of biodiversity. About 25 percent of the elephant population and about 10 percent of the tiger population of the country are found in the forests of Karnataka, which also account for around 4500 species of flowering plants, 500 species of birds, 120 species of mammals, 160 species of frogs and 800 species of fish, out of which 350 species are endemic. The Western Ghats, which covers about 60% of the forest area of Karnataka is one among the 25 biodiversity hot spots of the world and forms an important ecosystem.

The department prepares the working plans for forest area. Working plan of the department highlights the utilization and management of timber and other major & minor forest produce in each division. It provides the inventory of resources in the forest. In view of the vast biodiversity of forest, the Karnataka Biodiversity Board proposes that in addition to above, the documentation of flora including medicinal plant and other organisms including gymnosperms lichens, fungi, algae, and ferns etc., having economic value, their associated traditional knowledge of the tribal community should also be documented. The funding will be done by the Karnataka Biodiversity Board and Deputy Conservator of Forests (Territorial) will be asked to do this documentation also so that the Biodiversity other than timber, major forest produce wild fauna is also documented.

**(Dr.R.C.Prajapati)**

Additional Principal Chief Conservator of  
Forest & Member Secretary  
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## **What is Biodiversity?**

Diversity is the hallmark of life on earth. The life supporting parts of the earth is the biosphere. Each organism, during the course of evolution, has developed suitable structure and adaptations to live in a specific geographical region or habitat in the biosphere. In fact genetic changes particularly those in tune with the environment, are mainly responsible for the creation of new species. No organisms can lead an independent life on the planet. They need to interact with the environment for survival. The biodiversity which encompasses the diversity of genes, species and ecosystems determines the continued existence of life on earth.

The environmental changes and over exploitation of resources had resulted in the extermination of many plants and animals from the earth. Human beings are responsible for the irrecoverable and unfavorable changes in the environment to a greater extent. For example, on a global scale, 50- hectare rain forest is removed every minute from the surface of earth due to anthropogenic interventions. The global environmental changes such as climate change and ozone depletion, both creations of modern man, have contributed their share to the deterioration of the environment and extinction of species. The present rate of extinction of species is reported to be 30,000 annually, i.e, three species per hour, which is faster than that happened during the geological past. If the present situation continues, many species in the biosphere may become exterminated in the foreseeable future itself.

## **Types of Biodiversity**

The term 'biodiversity' the abbreviated technology for 'biological diversity' has now a buzzword not only in scientific research but also in developmental planning and policy making. In a general perspective, biodiversity is the variety of life, and it includes all the living forms in earth, from microbes to blue whale. In a scientific perspective. It refers collectively to variation at all levels of biological organization namely genes, species and ecosystems. Scientifically, biodiversity can be perceived at three levels – genetic diversity species diversity and ecosystem diversity.

## **Genetic Diversity**

Genetic diversity refers to the variation of chromosomes and genes within them, within species. This diversity makes it possible to develop new breeds of plants and animals and allowing species in the wild to adapt to changing conditions. Wild species provide much important and unique genetic material and the wild relatives of plants and domestic animals will form essential components for ensuring food security. Of late, genetic diversity has acquired considerable importance because of the great potential of genes in various applications such as preparation of life saving medicines, drugs, pollution control, mineral extraction, etc. A variety of new organisms with high productivity and disease resistance have been produced with genes from the wild stock.

## **Species Diversity**

A species is a group of plants or animals whose genes are so similar that they can breed together and produce fertile offspring. Usually different species look different. Species diversity refers to the variety and abundance of species within a geographic area. Species richness refers to the number of different species within a region. The total number of species so far recorded will be around 1.7 million, and a moderate estimate indicates that there will be around 10-15 million species in our planet.

## **Ecosystem Diversity**

Each living being interact with its living and non-living surrounding and thus dynamic interacting systems have been formed as a result of evolutionary process spanning across millions of years. These dynamic units of earth are referred to as ecosystems, which include forests, grasslands, deserts, mangroves, wetlands, ponds, lakes, rivers, oceans, etc. Each ecosystem is different in its own way as they differ in its structure and function. The extent of ecosystem varies from less than a hectare to thousands of hectares. An ecosystem consists of communities of plants and animals and the soil, water, and air on which they depend. Ecosystem diversity refers to the variety of ecosystems found within a certain geographical area or to the variety of species within different ecosystems.

## **Hotspots of Biodiversity**

The distribution of biodiversity is not uniform throughout the earth. While more biodiversity is concentrated in regions along the equatorial, some species are restricted to localized pockets in certain unique geographical regions. The species restricted to certain geographical area and found no where else in the world are called endemic species.

In 1988 British ecologist, Norman Myers forwarded the concept of hotspots to identify the most important areas for preserving plant and animal species. Accordingly twenty five hotspots have been identified in various parts of the world. India is part of two such hot spots – Western Ghats and Sri Lanka and Indo-Burma. The countries rich in biodiversity are referred to as mega biodiversity countries. India is one of the twelve mega biodiversity countries in the world.

Life is unique to the planet earth. From the frozen polar regions to the depth of the oceans, life exists in mesmerizing diversity represented by organisms ranging from microbes to blue whales. This wide array of biodiversity is responsible for the existence of human race as it depend on them for food, shelter, water, medicines, etc., since ages the great treasure of biodiversity on earth has been utilized by human as well as other living organisms.

## Uses of Floral Diversity

Rice occupies the prime position among the food crops used by human beings.

Indian copal tree, black dammer tree, etc., represent the plants used for extracting gums and resins. The plants such as cashew, red silk, cotton tree, *Persea macrantha* and Indian persimmon are important since their exudates has been used for the production of gums. Perfumes are extracted from plants such as sandal, chambaka, vetiver and lemon grass. Trumpet flower tree, *Myristica malabarica*, Indian madder, indigo plant, turmeric, red sandal wood etc., are important for the production of natural dyes.

Some plant parts are also used for the processing of lather. Important among them are wattle, *Chebulic myrobalan*, *Bellaric myrobalan* and *Jaman*. In addition to forming an important raw, material in paper industry, cane and bamboo support the livelihood of rural population as they are used for making many house hold articles and handicrafts. Nine species of canes and two species of bamboo are mainly used for these purposes. Plants such as marothis tree, neem and Indian beech, though non-edible, are used for the production of medicinally important oils. Fibers are obtained from ***Steurcilua***, ***Antiaris***, East Indian screw tree, Dhaman, etc., In addition coconut etc represent plant species that provide natural fibers.

Plants are used as food since the beginning of early civilization. More than 700 plants, minerals and parts or animals are used in traditional Indian systems of medicines such as Ayurveda and Sidda. A large variety of plants are used as medicine in traditional treatment methods. Huge quantities of medicinal plants, however, are used by the industrial drug manufacturing institutions. Tribal communities still depend on materials of biological origin for treating diseases. About 600 forest plants are found to be used for the formulation of medicines. Many of these plants are also available in the midlands and coastal areas of the State.

In addition to their use in Indian systems of medicine, chemicals separated from plants find application in modern systems of medicine such as allopathy. Morephine – the commonly used pain killer, quinine, an antimalarial drug, micotine – a stimulant for heart muscles and nervous system, vinblastin and vincrestine – anticancer drugs, etc are only a few examples of vital life saving drugs of plant origin. Traditionally, turmeric is used as an antibiotic. Reports also indicate that it can also be used for treating dreaded disease like cancer.

Fungi represent the most diverse group of organisms in our planet. They are present in air, water, and organic materials. Ecosystems in Karnataka are ideal habitats for fungi and hence fungal diversity is very high in the State. Along with microbes they help in degrading biological materials, thus contributing to soil fertility and fungi play a key role in environmental sanitation. Presence of fungi is inevitable for the germination of seeds such as that of orchids. The fungi growing on the roots of plants help absorbing minerals and nutrients from the soil.

Some species of fungi form delicious and nutritious food materials. Mushrooms growing commonly in the villages of Karnataka during monsoon seasons, are sources of delicious food. Oyster mushroom and milky mushroom are cultivated commercially. They are employed in the manufacture of bread, butter, wine and beer. Further, fungi form raw material in the production of carbonic acid, alcohol, vitamins, weedicides, and biological pesticides, bacterial and antifungal drugs, etc. Cycosporin, a drug used against the rejection of implanted organs by human body, is extracted from fungi.

There are some diseases causing fungi also. Fungal diseases are major concern in agriculture and forestry as it may lead to serious economic losses. Bud rot of coconut, *Mahali*, quick wilt of pepper, leaf blast of paddy, leaf spot diseases, rhizome rot, wilting of vegetables and fruits represent some common fungal diseases. Fungi are responsible for about 60 diseases in human beings and animals. They are the causative agents of many skin diseases. Degradation of wood is also caused, by fungi. Further, fungal invasion deteriorates the quality of many food items and render them inedible.

## **Uses of Faunal Diversity**

Wildlife and their products serve mankind in many ways. Fish and meat form important ingredients in our food. We depend on goat, chicken, duck, etc, for our food. The water bodies of Karnataka were rich in fish wealth. However, uncontrolled use of pesticides and conversion of wetlands contributed to the decline in fish fauna associated with these ecosystems. The skin of snakes and crocodile is used for making articles like purse, kit, etc. Tusks of elephant, deer and wild boar and civet from civet glands of civets are used in the preparation of drugs as well as for the manufacture of handicrafts. Unfortunately, large number of animals, particularly Nilgiri langur, pangolin, bats, crocodile and slender loris, are killed attributing medicinal value to their flesh. Wildlife watching has become a major package with ecotourism activities, and this flesh. Wildlife watching has become a major package with ecotourism activities and this has also contributed to strengthening of the economy of the State. Animals are used widely in medical research and studies for checking the efficiency of drugs. Animals also play an important role in maintaining ecological equilibrium. For example, snakes control the population of rats, Birds are useful in pollination and distribution of plants. Crows and dogs clean the surroundings by eating the food materials wasted by human beings. In addition we depend on the animal community for satisfying many of our needs such as food, cloth, sports, entertainment, health, etc. Animals such as elephant, cow, bullock, horse and peacock are integral parts of our culture and religious heritage.

Insects represent the most dominant group in animal community. Honey bee, silkworm, lac insect. Predator insects used for controlling agricultural pests, etc, are beneficial to man kind. Insects pollinating plants are also useful. There are harmful insects as well. Dreaded diseases such as malaria and elephantiasis are transmitted by mosquitoes. Similarly, houseflies also act as agents in carrying pathogens. Honeybees are very much useful to human being, Apiculture (rearing of honey bees) and sericulture (rearing

of silk worms) have become cottage industries. Biological control of agricultural pests using predatory insects would reduce the application of chemical pesticides and thus environmental pollution. Biological control of pests and integrated pest management has become popular now in agriculture and forestry.

Biodiversity encompasses the variety of all life on earth. India is one of the 12 mega diverse countries of the world. With only 2.5% of the land area, India already accounts for 7.8% of the global recorded species. India is also rich in traditional and indigenous knowledge, both coded and informal.

India is a party to the Convention on Biological Diversity (1992). Recognizing the sovereign rights of States to use their own biological resources, the Convention expects the Parties to facilitate access to genetic resources by other Parties subject to national legislation and on mutually agreed upon terms (Article 3 and 15 of CBD). Article 8 (j) of the Convention on Biological Diversity recognizes contributions of local and indigenous communities to the conservation and sustainable utilization of biological resources through traditional knowledge, practices and innovations and provides for equitable sharing of benefits with such people arising from the utilization of their knowledge, practices and innovations.

Biodiversity is a multi-disciplinary subject involving diverse activities and actions. The stakeholders in biological diversity include the Central Government, State Governments, institutions of local self-governmental organizations, industry etc. one of the major challenges before India lies in adopting an instrument, which helps realize the objectives of equitable sharing of benefits enshrined in the convention on Biological Diversity.

According to the International Convention on Biodiversity (CBD), Biodiversity is the variability among living organisms from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; including diversity within species, between species and of ecosystems. In a broad sense, it includes the entire life on earth.

## **Definitions:**

(b) "biological diversity" means the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of ecosystems;

(c) "biological resources" means plants, animals and micro-organisms or parts thereof, their genetic material and by-products (excluding value added products) with actual or potential use or value, but does not include human genetic material;

(f) "commercial utilization" means end uses of biological resources for commercial utilization such as drugs, industrial enzymes, food flavours, fragrance, cosmetics,

emulsifiers, oleoresins, colours, extracts and genes used for improving crops and livestock through genetic intervention, but does not include conventional breeding or traditional practices in use in any agriculture, horticulture, poultry, dairy farming, animal husbandry or bee keeping;

(o) "sustainable use" means the use of components of biological diversity in such manner and at such rate that does not lead to the long-term decline of the biological diversity thereby maintaining its potential to meet the needs and aspirations of present and future generations;

(p) "value added products" means products which may contain portions or extracts of plants and animals in unrecognizable and physically inseparable form.

India is considered as one among 70 the mega-diversity nations of the world. Species Diversity of India is shown in absolute numbers of species and the proportion they represent of the world total in Table 1

<b>Group</b>	<b>Global Diversity</b>	<b>India</b>	<b>Endemics</b>
Prokaryotes	4800	850	-
Fungi	69000	23000	-
Algae	26900	2500	-
Angiosperms	250000	17500	5750
Insects	800000	60000	-
Molluscs	50000	5050	-
Fishes	23000	2500	-
Amphibia	42006	204	110
Reptiles	300	446	187
Birds	9000	1250	70
Mammals	4000	372	44

### **Endemic Species:**

Endemic species are those which occur only in a restricted geographical area like an island, a peninsula, a mountain range or a phytogeographical area. Since they are highly extinction-prone, they are considered on priority for conservation care.

### **Threatened Species:**

Threatened Species are such species which are facing the danger of disappearance in the immediate future. The IUCN (International Union for Conservation of Nature and Natural Resources) has recognized three categories of threatened species namely critically endangered, Endangered and Vulnerable based on the magnitude of the danger they are facing.

India contains about 172 species of animal considered globally threatened by IUCN which include 53 species of mammal, 69 birds, 23 reptiles and 3 amphibians. India contains globally important populations of some of Asia's rarest animals, such as the Bengal Fox, Asiatic Cheetah, Marbled cat, Asiatic Lion, Indian Elephant, Asiatic Wild Ass, Rhinoceros Markhor, Gaur, Wild Asiatic Water Buffalo etc. More than 4000 species of plants are threatened of which about 425 are endangered.

### Species Diversity of Karnataka:

According to reliable estimations, Karnataka has over 22,000 known species. This includes about 4,500 flowering plants, 800 fishes, 600 birds, 160 reptiles, 120 mammals, and Karnataka can boast of some species, which have been reported as occurring only in the state. It includes the newly described plant species like **Semecarpus Kathlekanensis** (Occurring only in the myristica swamps of Uttara Kannada district). The spider **ornithoctonus gadgilli** frog **Nyctibatrachus hussaini** and the fresh water fish **Parabatasio Sharavatensis** are among the species of animals newly reported from the state. **Hubbardia heptaneuron** is a grass species, which is reportedly extinct from the state. This was growing in the Jogfalls area prior to the construction of Linganamakki reservoir. However, later attempts to reallocate this species have failed.

#### Information available about threatened plants and animals of Karnataka

Group	No. of threatened Species	Some important species
Plants	330 + (30 endangered)	Artocarpus hirsutus (Hebbalasu), Coscinium fenestratum (Maradarsina) Pterocarpus santalinus (Raktha chandana), Persea marcrantha (Gulmavu Rauvolfia serpentina (Sarpangandha) Drosera indica (Hula Hiduka)
Birds	45+	Long billed Vulture, Great Indian Bustard, Lesser Florican, White backed vulture.
Mammals	18+	Blackbuck, Gaur, Tiger, Sloth bear, Elephant, Lion tailed macaque, Palm civet, Nilgiri leaf monkey, Fishing Cat, Bengal Fox, Smooth Indian Otter
Reptiles	08+	Indian Phthon, Olive ridley turtle, Black pond turtle
Fishes	44+ (Fresh water) 13+ (Marine)	Labeo spp., Channa spp, Puntius spp, Scillago sp.

## **BIOLOGICAL DIVERSITY ACT 2002 (SALIENT FEATURES)**

### **Prior intimation to State Biodiversity Board for obtaining biological resource for certain purposes:**

7. No person, who is a citizen of India or a body corporate, association or organization which is registered in India, shall obtain any biological resource for commercial utilization, or bio-survey and bio-utilization for commercial utilization except after giving prior intimation to the State Biodiversity Board concerned:

Provided that the provisions of this section shall not apply to the local people and communities of the area, including growers and cultivators of biodiversity, and *vaids* and *hakims*, who have been practicing indigenous medicine.

### **Functions of State Biodiversity Board:**

23. The functions of the State Biodiversity Board shall be to advise the State Government, subject to any guidelines issued by the Central Government, on matters relating to the conservation of biodiversity, sustainable use of its components and equitable sharing of the benefits arising out of the utilization of biological resources;

b. regulate by granting of approvals or otherwise requests for commercial utilization or bio-survey and bio-utilization of any biological resource by Indians;

c. perform such other functions as may be necessary to carry out the provisions of this Act or as may be prescribed by the State Government.

### **Power of State Biodiversity Board to restrict certain activities violating the objectives of conservation etc.**

24. (1) Any citizen of India or a body corporate, organization or association registered in India intending to undertake any activity referred to in section 7 shall give prior intimation in such form as may be prescribed by the State Government to the State Biodiversity Board.

(2) On receipt of an intimation under sub-section (1), the State Biodiversity Board may, in consultation with the local bodies concerned and after making such enquires as its conservation, may deem fit, by order, prohibit or restrict any such activity if it is of opinion that such activity is detrimental or contrary to the objectives of conservation and sustainable use of biodiversity or equitable sharing of benefits arising out of such activity:

Provided that no such order shall be made without giving an opportunity of being heard to the person affected.

(3) Any information given in the form referred to in sub-section (1) for prior intimation shall be kept confidential and shall not be disclosed, either intentionally or unintentionally, to any person not concerned thereto.

### **Biodiversity Heritage Sites:**

37 (1) Without prejudice to any other law for the time being in force, the State Government may, from time to time in consultation with the local bodies, notify in the Official Gazette, areas of biodiversity importance as biodiversity heritage sites under this Act.

2. The State Government, in consultation with the Central Government, may frame rules for the management and conservation of all the heritage sites.

### **Constitution of Biodiversity Management Committee:**

41. (1) Every local body shall constitute a Biodiversity Management Committee within its area for the purpose of promoting conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and microorganisms and chronicling of knowledge relating to biological diversity.

(2) The National Biodiversity Authority and the State Biodiversity Boards shall consult the Biodiversity Management Committees while taking any decision relating to the use of biological resources and knowledge associated with such resources occurring within the territorial jurisdiction of the Biodiversity Management Committee.

(3) The Biodiversity Management Committees may levy charges by way of collection fees from any person for accessing or collecting any biological resource for commercial purposes from areas falling within its territorial jurisdiction.

### **Application of Local Biodiversity Fund:**

44. (1) Subject to the provisions of sub-section (2), the management and the custody of the Local Biodiversity Fund and the purposes for which such Fund shall be applied, be in the manner as may be prescribed by the State Government.

(2) The Fund shall be used for conservation and promotion of biodiversity in the areas falling within the jurisdiction of the concerned local body and for the benefit of the community in so far such use is consistent with conservation of biodiversity.

### **Annual Report of Biodiversity Management Committees:**

45. The person holding the custody of the Local Biodiversity Fund shall prepare, in such form and during each financial year at such time as may be prescribed, its annual report, giving a full account of its activities during the previous financial year, and submit a copy thereof to the concerned local body.

### **Audit of accounts of Biodiversity Management Committees:**

46. The accounts of the Local Biodiversity Fund shall be maintained and audited in such manner as may, in consultation with the Accountant General of the State, be prescribed and the person holding the custody of the Local Biodiversity Fund shall furnish, to the concerned local body, before such date as may be prescribed, its audited copy of accounts together with auditor's report thereon.

## **Annual report, etc, of the Biodiversity Management Committee to be submitted to district Magistrate**

47. Every local body constituting a Biodiversity Management Committee under sub-section (1) of section 41, shall cause, the annual report and audited copy of accounts together with auditor's report thereon referred to in sections 45 and 46, respectively and relating to such Committee to be submitted to the District Magistrate having jurisdiction over the area of the local body.

### **Penalties**

55. (1) Whoever contravenes or to or abets the contravention of the provisions of section 3 or section 4 or section 6 shall be punishable with imprisonment for a term which may extend to five years, or with fine which may extend to ten lakh rupees and where the damage caused exceeds ten lakh rupees such fine may commensurate with the damage caused, or with both.

(2) Whoever contravenes or attempts to contravene or abets the contravention of the provisions of section 7 or any order made under sub-section (2) of section 24 shall be punishable with imprisonment for a term which may extend to three years, or with fine which may extend to five lakh rupees, or with both.

## **22. Constitution of Biodiversity Management Committees**

(1) Every local body shall constitute a Biodiversity Management Committee (BMCs) within its area of jurisdiction.

(6) The main function of the BMC is to prepare People's Biodiversity Register in consultation with local people. The Register shall contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them.

(7) The other functions of the BMC are to advise on any matter referred to it by the State Biodiversity Board or Authority for granting approval, to maintain data about the local vaidas and practitioners using the biological resources.

### **Role of Teachers and Scientific Communities in implementation:**

1. Identification of components of biodiversity for its conservation and sustainable use.
2. Monitor, through sampling and other techniques, the components, paying particular attention to those requiring urgent conservation measures and those which offer great potential for sustainable use.

3. Identify processes and categories of activities which have or are likely to have significant adverse impacts on the conservation and sustainable use of biological diversity and monitor their effects through sampling and other techniques.
4. Identify and assist in establishing protected areas by developing necessary guidelines.
5. Identify and prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitat or species.
6. Designing and assisting in ex-situ conservation by research on plants, animals and micro organisms.
7. Identification of threatened species and to find ways and means to reintroduce them in their native condition.
8. Programming Scientific and technical education and training in measures for identification, conservation and sustainable use of biological diversity.
9. Promote, design and assist in national programmes of awareness on biological Diversity.
10. Maintaining records of the changing scenario in the form of proceedings of debates, workshops, symposia, scientific interactions etc and popularize.

## **PEOPLE'S BIODIVERSITY REGISTER (PBRs)**

The function of Biodiversity Management Committees is to prepare People's Biodiversity Register in consultation with the local people. The Register shall contain comprehensive information on availability, knowledge of local biological resources, their medicinal or any other use or any other traditional knowledge associated with them

### **The PBR will be the document to serve the following objectives:**

1. Community regulation of access to biodiversity resources related to sustainable harvests.
2. Promoting knowledge – based sustainable management of agriculture, livestock, fish, forest and public health so as to enhance the quality of life of the community members.
3. Opportunities to generate funds through the imposition of collection fees for access to biodiversity resources.
4. Conserving valuable Resources.
5. Value addition to biodiversity resources.
6. Recording of biodiversity related knowledge, coupled with opportunities to generate funds through imposition of collection fees for access to local knowledge.
7. Sharing the benefits of commercial application of local knowledge.
8. Help people access information of significance in management of their crops and livestock, availability of seeds of various traditional crop cultivars and special properties of these cultivars
9. Help people share their special knowledge of uses and management of biodiversity resources, access information on technologies of relevance for better management of biodiversity resources, provide information on prevalent prices and quantities of that species to help estimate the level of commercial demand for the species.
10. Help continuation of traditional practices of conservation and sustainable use of biodiversity by facilitating their recognition and incorporation. In the Biodiversity Management plans of local Biodiversity Management Committees.
11. Help empower women and other weaker sections of communities intimately linked to biodiversity by involving them in the process of documentation and development of the Biodiversity Management Plans of local Biodiversity Management Committees.
12. Help preserve the biodiversity related knowledge of people for the posterity through its codification and recording.
13. Help people publicize the nature of their special knowledge without disclosing with commercial enterprises interested in access to such knowledge.
14. Help local communities claim rewards in national conservation programmes.

**FORM I**  
(see rule 14)  
**Application form for access to Biological resources and associated  
Traditional knowledge**  
**Part A**

**1. Full particulars of the applicant**

- i. Name:
- ii. Permanent address:
- iii. Address of the contact person / agent, if any, in India:
- iv. Profile of the organization (personal profile in case the applicant is an individual). Please attach relevant documents of authentication):
- v. Nature of business:
- vi. Turnover of the organization in US \$:

**2. Details and specific information about nature of access sought and biological material and associated knowledge to be accessed**

- a. Identification (scientific name) of biological resources and its traditional use:
  - b. Geographical location of proposed collection:
  - c. Description / nature of traditional knowledge (oral/documented):
  - d. Any identified individual/community holding the traditional knowledge:
  - e. Quantity of biological resources to be collected (give the schedule):
  - f. Time span in which the biological resources is proposed to be collected:
  - g. Name and number of person authorized by the company for making the selection:
  - h. The purpose for which the access is requested including the type and extent of research, commercial use being derived and expected to be derived from it:
  - i. Whether any collection of the resource endangers any component of biological diversity and the risks which may arise from the access:
3. Details of any national institution which will participate in the Research and Development activities.
  4. Primary destination of accessed resource and identity of the location where the R&D will be carried out.
  5. The economic and other benefits including those arriving out of any IPR, patent obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs
  6. The biotechnological, scientific, social or any other benefits obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs
  7. Estimation of benefits, that would flow to India/ communities arising out of the use of accessed bio-resources and traditional knowledge
  8. Proposed mechanism and arrangements for benefit sharing.
  9. Any other information considered relevant.

## Part B : Declaration

I/ we declare that:

- Collection of proposed biological resources shall not adversely affect the sustainability of the resources;
- Collection of proposed biological resources shall not entail any environmental impact;
- Collection of proposed biological resources shall not pose any risk to ecosystems;
- Collection of proposed biological resources shall not adversely affect the local communities;

I/we further declare the Information provided in the application form is true and correct and I/we shall be responsible for any incorrect/ wrong information.

Place  
Date

Signed  
Name  
Title

\*\*\*\*\*

**FORM II**  
(see Rule 17)

**Application for seeking prior approval of National Biodiversity Authority for transferring the results of research to foreign nationals, companies, NRI' s, for commercial purposes.**

1. Full particulars of the applicant
  - i. Name
  - ii. Address:
  - iii. Professional profile
  - iv. Organizational affiliation (Please attach relevant documents of authentication):
2. Details of the results of research conducted
3. Details of the Biological resources and /or associated knowledge used in the research.
4. Geo-geographical location from where the biological resources used in the research are collected
5. Details of any traditional knowledge used in the research and any identified individual /community holding the traditional knowledge
6. Details of institution where R&D activities are carried out.
7. Details of the individual / organization to whom the research results are intend to transfer.
8. Details of economic, biotechnological, scientific or any other benefits that are intended, or may accrue to the individual /organization due to commercialization of transferred research results.
9. Details of economic, biotechnological, scientific or any other benefits that are intended, or may accrue to the applicant seeking approval for transfer of results of research.
10. Details of any agreement or MOU between by the proposed recipient and applicant seeking approval for transfer of results of research.

**DECLARATION**

I/we declare the information provided in the application form is true and correct and I/we shall be responsible for any incorrect/ wrong information.

Place  
Date

Signed  
Name  
Title

\*\*\*\*\*

**FORM III**  
(See rule 18)

**Application for seeking prior approval of National Biodiversity  
Authority for applying for Intellectual Property Right**

1. Full particulars of the applicant
  - i. Name
  - ii. Address:
  - iii. Professional profile
  - iv. Organizational affiliation (Please attach relevant documents of authentication)
2. Details of the invention on which IPRs sought
3. Details of the Biological resources and for associated knowledge used in the invention.
4. Geo-geographic allocation from where the biological resources used in the invention are collected
5. Details of any traditional knowledge used in the invention and any identified individual /community holding the traditional knowledge
6. Details of institution where Research and Development activities are carried out.
7. Details of economic, biotechnological, scientific or any other benefits that are intended, or may accrue to the applicant due to commercialization of the invention.

**DECLARATION**

I/we declare the information provided in the application form is true and correct and I /We shall be responsible for any incorrect / wrong information.

Place  
Date

Signed  
Name  
Title

\*\*\*\*\*

**FORM IV**  
(See rule 19)

**Application form for seeking approval of National Biodiversity Authority for third party transfer of the accessed Biological resources and associated traditional knowledge.**

1. Full particulars of the applicant
  - i. Name
  - ii. Address:
  - iii. Professional profile
  - iv. Organizational affiliation (Please attach relevant documents of authentication):
2. Details of the biological material and traditional knowledge accessed.
3. Details of the access contract entered (Copy to be enclosed)
4. Details of the benefits and mechanism /arrangements for benefit sharing already implemented.
5. Full particulars of the third part to whom the accessed material/ knowledge is intended to transfer.
6. The purpose of the intended third party transfer.
7. Details of economic, social, biotechnological, scientific or any other benefits that are intended, or may accrue to the third party due to transfer of accessed biological material and knowledge.
8. Details of any agreement to be entered between the applicant and the third party.
9. Estimation of benefits that would flow to India/ communities arising out of the third party transfer of accessed biological resources and traditional knowledge
10. Proposed mechanism and arrangements for benefit sharing arising out of the proposed third party transfer.
11. Any other relevant information

**DECLARATION**

I/we declare the Information provided in the application form is true and correct and I /we shall be responsible for any incorrect /wrong information.

Place  
Date

Signed  
Name  
Title

# THE KARNATAKA BIOLOGICAL DIVERSITY RULES, 2005

## FORM I (See rule 15)

### **Application form for prior intimation to access / collection of Biological resources for commercial utilization and associated traditional knowledge**

*Every application shall be accompanied by a fee of Rs.1000 (Rupees One thousand only) in the form of cheque or demand draft drawn in favour of the Board.*

#### **Part A**

#### **1. Full particulars of the applicant:**

- a. Name :
- b. Permanent address :
- c. Address of the contact person / agent, if any, in India :
- d. Profile of the organization (personal profile in case the applicant is an Individual). Please attach relevant documents of authentication):
- e. Nature of business :
- f. Turnover of the organization in Indian Rupee

#### **2. Details and specific information about nature of access sought and biological material and/or associated knowledge to be accessed**

- a. Identification (scientific name) of biological resources and its traditional use :
- b. Geographical location (including village, taluk and district) of proposed collection :
- c. Description / nature of traditional knowledge and its existing manifestations and uses (oral / documented) :
- d. Any identified individual / family / community holding the traditional knowledge
- e. Quantity of biological resources to be collected:
- f. Times span in which the biological resources are proposed to be collected.
- g. Name and number of person authorized by the company for making the collection.
- h. The purpose for which the access is requested including the type and extent of research, commercial use being derived and expected to be derived from it :
- i. Whether any collection or use of the resource endangers any component of biological diversity and the risks which may arise from the access.

#### **3. Estimation of benefits that would flow to communities arising out of the use of accessed bio-resources and traditional knowledge**

#### **4. Proposed mechanism and arrangements for benefit sharing 5. Any other information**

**Part “B” : Declaration**

I/we declare that :

- Collection and use of proposed biological resources shall not adversely affect the sustainability of the resources;
- Collection and use of proposed biological resources shall not entail any environmental impact ;
- Collection and use of proposed biological resources shall not pose any risk to biodiversity, including ecosystems, species, and genetic diversity
- Collection and use of proposed biological resources shall not adversely affect the local communities ;

I/we undertake to pay any fee and / or royalty, as may be levied by the Board or Biodiversity Management Committees. I/we further undertake to furnish any irrevocable bank guarantee, as may be prescribed by the Board.

I/we further declare the Information provided in the application form is true and correct and I / we shall be responsible for any incorrect / wrong information.

Place  
Date  
Title

Signed  
Name

\*\*\*\*\*

**FORM – III  
(See Rule 22 (4) )**

**GRAM PANCHAYAT/TP/ZP/MUNICIPALITY/CORPORATION  
BIODIVERSITY MANAGEMENT COMMITTEE**

**Annual Report for the Financial Year April 200... to March 200....**

1. Introductory
2. Constitution of the BMC including changes therein
3. Meeting of the BMC
4. Activities of the BMC including the various functions performed under Section 41 of the Act.
5. Prosecutions launched and convictions secured
6. Finance and Accounts of the Board
7. Visits to the BMC by experts, Important persons etc.
8. Any other important matter dealt with by the Board.

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