

# People's Biodiversity Register (Volume 1 - Biodiversity)

Simplified methodology  
**FOR COMMENTS BY THE PUBLIC**

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## **People's Biodiversity Registers**

The evolution of human societies over several millennia is closely related to plants and animals. The domestication of crop plants and farm animals about 12000 years ago revolutionized the human civilization by creating more stabilized societies. The early historic and medieval period gradually reduced human interaction with the wild plants and animals. The development of modern science and technologies during the industrial and post-industrial period did not do away with our link to nature. Different groups of people continue to depend on natural resources at varying scales. Some draw resources from across continents while others within a country or a region. There are also people continue to depend on locally available biodiversity and bio-resources for their livelihoods. Such population who are directly dependent on local biological resources have, through their keen sense of observation, practices, and experimentation developed and established a body of knowledge that is passed on from generation to generation. Some are widespread traditional knowledge like cultivation practices; others are highly specialized such as bone setting or jaundice, which are generally passed only to close members of the family.

India is land of biological and cultural diversity. It is one of the ten-mega biodiverse countries of the world. It also the home of a large number of tribal groups, pursuing different kinds of nature based livelihoods. In addition, a large number of farming and fishing communities and nomadic groups posses traditional knowledge of varying degrees. The development of modern science and technologies notably biotechnology and information technologies have increased the value of biodiversity and associated knowledge including traditional knowledge (TK) .The growing importance of biodiversity, bio-resources and associated knowledge is fairly well understood. The first step towards conservation r sustainable utilization of biodiversity is its documentation. Biodiversity and associated knowledge is found in different ecosystems, under different legal management regimes and hence the results and manner of documentation will also differ.

The present manual guidelines have drafted taking into consideration different ecosystems and include the rural urban and protected areas. The guidelines may be customized and further information may be added to enrich the effort. It is important to keep in mind some of the issues related to PBRs:

- It is to be undertaken in a participatory mode involving varying sections of village society.
- While documenting the knowledge and views of both genders are to be recorded.
- Information provided by people need to be collated analysed and crosschecked by the members of the Technical Support Group (TSG) before documentation.
- The PBR is important base document in the legal arena as evidence of prior and hence careful documentation is necessary.
- The document should be enclosed by the BMC and later publicized in the gram sabha.
- The document can be a very useful tool in the management and sustainable use of diversity.
- The document should be periodically updated with additional and new information as and when generate.
- The document can be a very useful teaching tool for teaching environmental studies at schools, colleges and university level.

### **The PBR Process**

The preparation of People's Biodiversity Registers (PBRs) involves the active support and cooperation of a large number of people who need to share their common as well as specialized knowledge. One of the first steps for preparing a PBR is to organize a group meeting to explain the objectives and purpose of the exercise. Different social groups in the village need to be identified for purpose of data collection from those groups. In an urban situation, spots where biodiversity are important need to be identified for the purpose of the study and documentation. The documentation process includes information gathered from individuals through detailed questionnaire, focused group discussion with persons having knowledge about an issue and published secondaryb information.

### **Documentation of Traditional Knowledge (TK) related to biodiversity**

Documentation of knowledge of individuals with regard to biodiversity and its uses is an important part of PBR. A huge volume of literature on the subject is available in the Internet and can be easily accessed.

## **Case Studies**

Documentation of interesting and relevant case studies related to biodiversity and or associated traditional knowledge is important. Knowledgeable individuals may be contacted and their views documented carefully. In some cases focus group discussion may be held for the purpose of documentation.

### **People's Biodiversity Registers and the role of National Biodiversity Authority (NBA)**

The National Biodiversity Authority shall provide guidance and technical support to the Biodiversity Management Committee (BMC) for preparing People's Biodiversity Register

### **People's Biodiversity Registers and the role of State Biodiversity Board (SBB)**

The State Biodiversity Board (SBB) would provide necessary training to the Technical Support Group (TSG) of the district and enable smooth functioning and aid in networking for creation and maintenance of People's Biodiversity Registers (PBRs).

### **People's Biodiversity Registers and Role of the Technical Support Group (TSG)**

The Technical Support Group (TSG) will consist of experts drawn from various disciplines and line departments, universities, research institutes, colleges and schools and non-governmental organizations. The Technical Support Group will provide technical inputs and advice to the BMCs on identification of plants and animals, monitor and evaluate the PBR exercise, examine confidential information and advice on legal protection, maintain a database of local and external experts on biodiversity

### **People's Biodiversity Registers and the role of the Biodiversity Management Committee**

The mandate of the Biodiversity Management Committee has been clearly highlighted in the Biodiversity Rules 2002 as follows:

- 1) The main function of the BMC is to prepare People's Biodiversity Register in consultation with the 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
- 2) 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 vairs and practitioners using the biological resources.
- 3) The Authority shall take steps to specify the form of the People's Biodiversity Registers, and the particulars it shall contain and the format for electronic database.
- 4) The Authority and the State Biodiversity Boards shall provide guidance and technical support to the Biodiversity Management Committees for preparing People's Biodiversity Registers.

- 5) The People's Biodiversity Registers shall be maintained and validated by the Biodiversity Management Committees.

### **PBR Methodology**

The PBR is a participatory process requiring intensive and extensive consultation with the people. The objectives and purpose is to be explained in a group meeting in the presence of all sections of people in the Panchayat, members of the BMC, students, knowledgeable individuals and all those interested in the effort.

Documentation includes photographs (including digital images), drawings, audio and video recordings and other records like printed material.

### **Process in PBR Preparation**

- Step 1** Formation of Biodiversity Management Committee (BMC)
- Step 2** Sensitization of the public about the study, survey and possible management
- Step 3** Training of members in identification and collection of data on biological resources and traditional knowledge
- Step 4** Collection of data. Data collections includes review of literature on the natural resources of the districts, Participatory Rural Appraisal (PRAs) at village level, house hold interviews, individual interviews with village leaders and knowledgeable individuals, household heads, key actors of the panchayat raj institutions and NGOs and direct field observations
- Step 5** Analysis and validation of data in consultation with technical support group and BMC
- Step 6** Preparation of People's Biodiversity Register (PBR)
- Step 7** Computerization of information and resources

Details of Biodiversity Management Committee (BMC) of the panchayat (One elected Chairperson and six persons nominated by the local body; not less than one third to be women and not less than 18% belonging to SC/ST)

- 1) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 2) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 3) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 4) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 5) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 6) Name:  
Age:  
Gender:  
Address:  
Area of specialization:
- 7) Name:  
Age:  
Gender:  
Address:  
Area of specialization:

List of *Vaids*, *hakims* and traditional health care (human and livestock) practitioners residing and or using biological resources occurring within the jurisdiction of the village

Name:  
Age:  
Gender:  
Address:  
Area of Specialisation:  
Location from which the person accesses biological material:  
Perception of the practitioner on the resource status:

Name:  
Age:  
Gender:  
Address:  
Area of Specialisation:  
Location from which the person accesses biological material:  
Perception of the practitioner on the resource status:

Name:  
Age:  
Gender:  
Address:  
Area of Specialisation:  
Location from which the person accesses biological material:  
Perception of the practitioner on the resource status:

Name:  
Age:  
Gender:  
Address:  
Area of Specialisation:  
Location from which the person accesses biological material:  
Perception of the practitioner on the resource status:

Name:  
Age:  
Gender:  
Address:  
Area of Specialisation:  
Location from which the person accesses biological material:  
Perception of the practitioner on the resource status:

List of individuals perceived by the villagers to possess Traditional Knowledge (TK) related to biodiversity in agriculture, fisheries, and forestry

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Name:  
Age:  
Gender:  
Address:  
Area of specialization:

Details of schools, colleges, departments, universities, government institutions, non-governmental organization and individuals involved in the preparation of the PBR

1) Name and Address:

2) Name and Address:

3) Name and Address:

4) Name and Address:

5) Name and Address:

6) Name and Address:

7) Name and Address:

Details of access to biological resources and traditional knowledge granted, details of the collection fee imposed and details of the benefits derived and the mode of their sharing

No	Name and address of the person/institution/company/others	Local and Scientific Name of the biological material accessed and quantity	Date and resolution of the BMC and endorsement by the panchayat	Details of collection fee imposed	Anticipated mode of sharing benefits or quantum of benefits shared

**General Details**

Name of the panchayat:

Taluk:

District:

State:

Geographical Area of the Panchayat:

Population of the panchayat: Total  
Male                  Female

Habitat and Topography:

Climate (Rainfall, Temperature and other weather patterns)

Land Use (Nine fold classification available with village records)

Date, Month and Year of PBR preparation

Management Regime: Reserve Forests (RF) / Joint Forest Management (JFM) / Protected Areas (PA) / Community Owned and Managed Forests (COM)

## PBR – Formats

## Agrobiodiversity

## Format 1 Crop Plants

1 Crop	2 Scientific Name	3 Local Name	4 Description of the Variety	5 Landscape/ Habitat	6 Approx. Area sown	7 Local status		8 Special features	9 Uses	10 Associated TK	11 Other details	12 Cropping Season	13 Community/ Know. holder
						Past	Present						
Rice	Oryza sativa		Veliyan	Lowland valleys		Plenty	Rare	Tall variety High yield Resistant to drought, flood, pest & diseases	Food Fodder Roofing Fuel	Provides more energy	Suitable for “Valicha” cultivation		Kurichiya  Kuruma  W. Chetty

The format 1 could be used for documenting information about Millets, Cereals, Oil seeds, Commercial crops, Tuber crops, Vegetables, Legumes, Aromatic crops etc. The column No. 9 ‘other details’ vary with the nature of crops. For measuring local status, there need to identify a particular year – significant changes in ecology occurred – and compare the status as past and present (past = before the particular incident). We have to list out all possible features of a crop/plant and give short forms of the same. If relevant, cultivation practices, propagation techniques, usage etc can be included in the column 8, in associated TK.

Format 2 Fruit species

1	2	3	4	5	6	7		8	9	10	11	12	13
Plant	Scientific Name	Local Name	Variety	Habit	Landscape/ Habitat	Local status		Source of plant/seeds	Season of Fruiting	Uses (usage)	Associated TK	Other details market/own use	Community/ Know. holder
						Past	Present						

Format 3 Medicinal Plants

1	2	3	4	5	6	7	8		9	10	11	12	13
Plant	Scientific Name	Local Name	Variety	Habit	Landscape / Habitat	Source of plant/seed s	Local status		Uses (usage )	Part used	Associat ed TK	Other details market/own use	Communit y Kn. Holders
							Past	Present					

Uses : Food  
 Veterinary Medicine  
 Human Medicine (Sub-divisions like for children, women etc)  
 Agricultural Purpose (Bio-pesticide)  
 Spiritual

Other details  
 Propagation methods  
 Harvesting period  
 Cultivated or collected from wild or both  
 Perennial/annual/seasonal





**Format 10 Weeds**

1	2	3	4	5	6	7		8	9	10	11	12
Plant	Scientific Name	Local Name	Affected crop	Habit	Landscape / Habitat	Local status		Uses if any	Management options	Associated TK	Other details	Community Kn. Holders
						Past	Present					

Other details include how long the weeds have been attacking the crops in this locality, when it came under notice, intensity of natural multiplication etc

**Format 11 Insects and animals attacking crops**

1	2	3	4	5	6	7	8	9	10
Insect/ Animal	Scientific Name	Local Name	Habit	Habitat	Time/season of attack	Management mechanism	Associated TK	Other details	Community/ Know. holder

Other details include possible reasons for insects/animal attack

**Format 12 Fish diversity**

1	2	3	4	5	6	7		8	9	10	11	12
Fish	Scientific Name	Local Name	Variety	Features	Waterscape	Local status		Uses	Associated TK	Commercial rearing	Other details	Community Kn. Holders
						Past	Present					

Other details include mode of catching fish, time of availability, breeding time, feeds and etc

Format 13 Domesticated animals/birds

1	2	3	4	5	6	7		8	9	10	11	12
Animal	Scientific Name	Local Name	Breed	Features	Method of keeping	Local status		Uses	Associated TK	Commercial rearing	Other details including products and services	Community Kn. Holders
						Past	Present					

Uses include milk, meat, skin, fur and etc

Format 14 Wild animals/birds

1	2	3	4	5	6	7	8		9	10	11	12	13
Animal	Scientific Name	Local Name	Habitat	Description (Animals, Reptiles, Amphibians, Birds, Fishes, Insects)	Time of appearance	Nature of interaction	Local status		Uses	Associated TK	Mode of hunting	Other details including roosting sites	Community Kn. Holders
							Past	Present					

Nature of interaction (crop attack, attacking pet animals, etc)

Format 15 Animals/birds used for medicinal purpose

1	2	3	4	5	6		7	8	9	10	11
Animal	Scientific Name	Local Name	Wild/breed	Habitat	Local status		Medicinal uses	Part used	Associated TK and beliefs	Other details	Community Kn. Holders
					Past	Present					

PEOPLE AND AGROBIODIVERSITY

Format 16 Peoplescape

Community	Major occupation	Sub-occupations	Depending landscapes	Major resources accessed and seasons of access	Landscape management practices	Resource management practices	Caste/tribe	Social condition	Nature of inhabitants	No. of HHs

Major occupation may be farming. Sub-occupations could be fishing, collection of NTFP animal husbandry, artisans, services

Examples of depending landscapes are agriculture landscape, rivers, forest etc.

Major resources accessed could be agriculture resources of different nature, fish, birds, water, mud, and etc

How the community manages the landscapes they use for satisfying different needs, their strategies and perception

How the community manages the resources they access for satisfying different needs, their strategies and perception, conflicts etc



**WILD BIODIVERSITY**

Format 20 Trees, Shrubs, Herbs, Tubers, Grasses, Climbers

1	2	3	4	5	6		7	8	9	10	11
Plant	Scientific Name	Local Name	Habit	Habitat	Local status		Commercial/ own use	Part collected	Associated TK	Other details	Community/ Know. holder
					Past	Present					

Format 21 Wild Plant Species of Importance

S. No	Local Name of Species	Variety	Scientific Name	Importance	Trends

Format 22 Aquatic Biodiversity

1	2	3	4	5	6		7	8	9	10	11
Scientific Name	Local Name	Variety	Features	Waterscape	Local status		Uses	Associated TK	Commercial rearing	Other details	Community Kn. Holders
					Past	Present					

Other details include mode of catching fish, time of availability, breeding time, feeds and etc

**Format 23 Aquatic Species of Importance**

S. No	Local Name of Species	Variety	Scientific Name	Importance	Trends

**Markets for Domesticated animals and birds**

Name of the weekly market:

Location:

Duration in which the markets meet: Weekly / Fortnightly / Monthly / Biannual / Annual

If weekly or fortnightly market, day in which the market meets:

If Biannual or Annual, month in which the market meets:

Types of animals bought and sold: Poultry / Sheep / Goats / Cattle / Ducks / Pigs / Donkeys / Mules / Horses / Camels / Others (Specify)

Types and Number of animals transacted in a day:

Places from which animals arrive:

Places to which the animals are sold / transported to:

**Markets for Fishes**

Name of the market:

Location:

Duration in which the markets meets: Daily / Biweekly / Others

Species of fishes brought and sold:

No	Local Name	Scientific Name	Place from which the fish arrived	Remarks

**Special Conditions – Nomadic Populations**

Nomadic herders of livestock including cattle, sheep, goat, camels, ducks and rarely pigs, traders, entertainers possess specialized knowledge on biodiversity. For the purpose of PBR exercise, nomadic populations need to be considered as local groups in localities where they are registered as voters. These specialized PBRs can be designed to suit particular nomadic population. In addition, it would be worthwhile collect information on nomads visiting a locality.

## Urban Biodiversity Registers

Biodiversity Registers in Urban Areas need to be prepared differently as the issues and concerns are different. The format presented may be customized and used appropriately.

**I. Campus biodiversity.** Individual listing of species found on campuses of schools, colleges, institutes and other public places would be necessary.

### a. Plants, Shrub and Trees

No	Local Name	Scientific Name	Season of flowering	Remarks

### b. Insects, Birds and Animals

No	Local Name	Scientific Name	Season of visit	Remarks

**II. Nurseries, Pet Shops and Aquariums.** Nurseries are an important pathway through which plant species get introduced into an urban location. A database of nurseries, plant species sold by them and their sources would be of interest. On similar lines pet shops and aquariums are important spots for recording animal biodiversity. A database of pet shops and aquariums would help a local urban body to manage biodiversity.

### a. Nurseries

Name and address of the nursery:

List of Species, varieties and types sold

No	Species	Variety	Strain	Source of the material	Volume of Monthly, Seasonal and Annual Sale

### b. Pet shops

Name and address of the pet shop:

List of species, breeds and types sold

No	Species	Breed	Type	Source	Volume of Monthly, Seasonal and Annual Sale

Details of birds, dogs, cats and other types of animals sold to be recorded

**c. Aquariums**

Name and address of the aquarium:

List of species, breeds and types sold

No	Species	Breed	Type	Source	Volume of Monthly, Seasonal and Annual Sale

**III. Watercourses.** One of the last natural areas in urban areas are water courses which are filled with garbage and sewage. A number of species of plants and animals are found to inhabit them. Listing of species found in such areas would be useful, since some rare types are to be found in such locations. A record of Fishes, Amphibians, Emergent, Submerged and Floating Vegetation would be useful.

**IV. Home gardens and roof tops.** A number of plant species are found in home gardens and roof tops. Species listing and abundance would be interest for management of biodiversity in urban areas.

No	Common Name	Scientific Name	Uses	Remarks

**V. Parks.** Urban Local Bodies are vested with the responsibility of maintaining parks and public spaces. A list of species of plants and animals found in these locations would be part of the Urban Biodiversity Register.

Name of the park

Area

Managed by: Municipality / Corporation / Development Authority

**List of plant species found**

**a. Plants, Shrub and Trees**

No	Local Name	Scientific Name	Season of flowering	Remarks

**List of common birds, insects and reptiles**

**VI. Zoos and Botanical Gardens.** The state is vested with the responsibility of zoological and botanical gardens. A list of species found in zoological and botanical gardens may already be available with the authorities, which may be annexed to the PBR.

**VII. Vacant and Open spaces.** Many urban areas have vacant and open spaces and a number of plants and animals are found in such locations.

**VIII. Places of Worship like Temples, Mosques, Churches.** Places of workshop like temples, mosques, churches are an important spots for recording biodiversity of plants and domesticated animals. Some species may also be found in waterbodies of temples such as temple tanks or ponds.

**Species found in places of worship**

No	Local Name	Scientific Name	Significance	Other details of interest	Area

Biodiversity of *Nandavanams*

Many temples in India have a small area set aside for the purpose of producing flowers for the temple and contain important component of biodiversity. A checklist of species found in such nandavanams need to be included in the rural and urban biodiversity registers.

No	Local Name	Scientific Name	Season of flowering	Remarks

#### Temple Goshalas

Many temples in India maintain a Goshala consisting of milch cattle donated by the public. A documentation of the process, breeds donated and the manner in which they are maintained would be very useful.

No	Local Name	Scientific Name	Number of animals	Remarks

#### Biodiversity in Church campus

Many church campuses have well managed gardens. Having possibility of protection, these areas are of interest as well.

No	Local Name	Scientific Name	Season of flowering	Remarks

#### IX. Avenue trees

One of the important natural element in urban areas is the presence of avenue trees, which serve humans as well as act as a place for small insects, birds and animals. By recording the species found it is possible to monitor biodiversity in urban areas.

#### Species of avenue trees, birds and animals found

No	Local Name	Scientific Name	Approximate Age	Use

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**X. Florists, Fruit Sellers and Vegetable Sellers**

Flower, fruit and vegetable sellers depend on biological diversity and may procure material locally or from long distances and sometimes even from international sources. These are potential source of invasive alien species into a locality and hence would help raise awareness on these dimensions of biodiversity.

No	Local Name	Scientific Name	Source of material	Season of availability

**People’s Biodiversity Registers of Protected Areas**

Protected Areas (PAs) are a unique category of legal regimes that cover about 3% of the land and water area of India. PAs are under the control of the Forest Department, and invariably used by people living around at varying degrees. PBRs for such locations need to take into special conditions of access.

Name of the protected area  
Details

**Biodiversity Related Industries**

Category: Plant related / Animal based

References

Beeja Samrakshakndkaru, Green Foundation – Acc No. NBA/ 00069

Diversity in Flora Tathaguni Estate 2004, KBB Karnataka Acc No. NBA/00/39

Peoples' Biodiversity Register 2004 Village Khakrakona South 24 Parganor, West Bengal – Acc No. NBA/00238

A Simple Guide to IPRs, Biodiversity and Traditional Knowledge Kalpavrisksh & IIED – Acc no. NBA/

NBAGR – A Profile Acc No. NBA/

Biodiversity Awareness Workshop on NBA/00439 AGR & Conservation April 2006

Webresources

[www.wipo.org](http://www.wipo.org)

[www.cbd.org](http://www.cbd.org)

[www.wto.org](http://www.wto.org)

[www.unesco.org](http://www.unesco.org)

[www.unep.org](http://www.unep.org)

[www.nba.org](http://www.nba.org)

[www.moef.nic.in](http://www.moef.nic.in)