CAMP - ING AGAIN -- South Asian Regional Endemic Primate CAMP
First information

Between 1995 - 1997, Zoo Outreach Organisation and CBSG, India conducted three Conservation Assessment and Management Plan (C.A.M.P.) Workshops in collaboration with the Foundation for Revitalisation of Local Health Traditions (FRLHT). FRLHT had been searching for a method of prioritising species for conservation action and the CAMP Workshop, developed by the Conservation Breeding Specialist Group, with which ZOO and of course CBSG, India is associated.

In 1997 ZOO/CBSG, India in collaboration with SACON and a variety of prestigeous hosts conducted seven CAMPs under the auspices of the Biodiversity Conservation Prioritisation Project (BCPP), a collaborative effort of WWF, World Resources Institute and the Nature Conservancy. These workshops proved to be groundbreaking in the use of the CAMP Process for inventory and assessment of biodiversity in connection with national biodiversity plans. More than 1400 species were assessed in 1997. The Reports, which were brought out in 1998, have provided a wealth of information on Indian species to many, many organisations and institutions who are assisting different agencies and organisations in the states to develop their own biodiversity strategy. The output of these workshops also were instrumental in developing a Draft Negative List of Exports under the Ministry of Environment.

The BCPP CAMPs were what we call "first cut" attempts to provide a current listing of species in major groups of vertebrates, selected invertebrates and selected plants. The mandate given by BCPP was to assess as many as possible, so we formulated a workshop strategy which involved the following components for 7 groups of organisms, e.g. medicinal plants (selected, from North, Central and North East India)
1. associating with a national level institution with responsibility for a particular group (e.g. fish - National Bureau of Fish Genetic Resources; Mammals, Centre for Ecological Science; Mangroves, National Institute of Oceanography, etc.),
2. assembling the best possible list of species and synonyms with assistance from specialists in the seven groups,
3. inviting as many specialists as possible to a five-day workshop in which we attempted to assess (in some instances) the entire group of organisms -- 400+ mammals, 200+ amphibians, 500+ reptiles, 500+ fish, etc. In some cases we could finish and some could not.
4. conducting a workshop with objective facilitators giving every specialist a chance to share his information and applying this to the IUCN Red List Criteria to derive a category of threat for as many species as possible.
5. bringing out a Report which reflected the knowledge of all participants and circulating this widely.

These workshops were a contribution to the store of knowledge of Indian biodiversity, but we can do better. It is not enough to conduct such exercises for one country when there are border questions and problems, when the biogeography of an area is better defined and includes more endemic species than a political area, and when input from field biologists from range countries is required in making decisions regarding the species from their own country.

CAMP Workshops are not static; they are dynamic, ongoing processes which never end. Although the status of many species was assessed and recorded, the natural world goes on changing very rapidly. So the status of many of these species is significantly different today than in 1997. Also, people in the field have become better able to gather the information required for making status assessments. The conservation community is more sophisticated today, thanks to workshops, training, the world wide web, etc.

Therefore, we are ready to start again conducting CAMP Workshops, in order to provide a type of monitoring with the information gathered last round, and also to improve on the exercise by taking up fewer species in more xxxxx groups. Instead of assessing 400 mammals of India, this year (2001) we have planned CAMP workshops for South Asian primates (September) and South Asian bats (November). Next year (2002) we hope to cover South Asian rodents, South Asian amphibians, and South Asian reptilian tetrapods and South Asian Odonates. Other groups that would be good to do would be South Asian felids, SA mustelids and viverrids, ungulates, etc. If any of you are interested, we are ready to help you organise and facilitate these events.

There have been some misunderstandings about CAMP workshops, partly because of the fact that CAMP spells a word "camp" that makes sense in association with an exercise like we do. But we don't conduct "camps" ... we conduct "Conservation Assessment and Management Plan" Workshops which try to maintain a standard set by the Conservation Breeding Specialist Group who developed the CAMP Process.

A CAMP (a CBSG CAMP) involves a certain level of strategic planning, objectivity, trained facilitators, and discipline. CBSG (CBSG, India and CBSG, South Asia) conduct these workshops as objective facilitators and conservation actioners. It is good to have an organisation with no stake in the outcome to conduct such workshops. Even for assessing species, there is bias from different agencies, services, organisations, institutions and individuals. Objectivity helps in making sure of the "most correct" outcome for any species.

For example, we have noticed that foresters are disinclined to admit that species are declining. Perhaps they feel it is a reflection on their department. Certain types of conservation NGO's are disinclined to admit a species is NOT in trouble ! They want everything to be assessed as threatened. There are many more examples of such bias. This is not meant to be a criticism -- bias is a normal human character. a survival mechanism, if you will.

This human factor of bias is one very good reason why CAMPs use the IUCN Red List Criteria for assessing species. The IUCN Red List Criteria use numbers, order of magnitude, biological principles and document uncertainty. The new Criteria and Categories of 1994 were approved after years of discussion and debate by the world's foremost conservation biologists. Then they were tested and revisions are about to be published. There is a constant attempt by the Species Survival Commission to make the Red List Criteria and Categories more accurate.

We hope that we meet many of you in various CAMP workshops to be conducted in the next few years. The CAMP Process, combined with grass roots regional and national networking of taxon groups, is one of the most effective methods for monitoring biological diversity in the long term.

We are pioneering regional CAMP workshops of this type in South Asia because we believe in this method. CAMP workshops which assess endemics of South Asia using the expertise of range country biologists produce strong results. The people who are working in the field get to contribute information they have collected and take responsibilty for their country's listings.

Just imagine if every region assessed its endemic species in this manner every few years. The quality of our knowledge of the world would be remarkably enhanced. These workshops will provide a model for other regions of the world.

In this issue of ZOOS' PRINT, we announce the South Asian Regional Endemic Primate CAMP Workshop. Our collaborators so far are the Vice-Chair for Asia of the IUCN SSC Primate Specialist Group, Dr. Ardith Eudey, (Co-organiser), Dr. S.M. Mohnot and Dr. Mewa Singh, Indo-US Primate Project; V. Ramakanth, State Forest Service College,

Conservation Assessment and Management Plan for South Asian Endemic Primates

CAMP for SA Endemic Primates - Summary

South Asia is a mega-diversity region containing the Western Ghats, the Himalaya, the Eastern Ghats, North East India, covering seven countries, India, Pakistan, Nepal, Sri Lanka, Maldives, Bangladesh and Bhutan. In 1997 a Conservation Assessment and Management Plan (CAMP) Workshop for Indian mammals, including the 16 species of primates with a range in India, was conducted for India as part of a larger project. Assessments for endemic Indian primates were accepted by the PSG and IUCN SSC for inclusion on the 2000 Red List. This CAMP Workshop is for all primates with a range in the region of South Asia, defined politically as India, Sri Lanka, Pakistan, Bhutan, Bangladesh, and Nepal. For endemics extending to the neighbouring countries lying within the major biogeographic zones of South Asia, Myanmar and Afghanistan will also be included.

In addition to assessing each species of South Asian primates, species by species, the workshop will provide an opportunity to test hypotheses generated about primate relations in the new PSG taxonomy. These issues have been contentious both within the Asian Working Group and in terms of outside review. The CAMP provides a unique opportunity to access the field data gathered under the Indo-US Primate Project, a cooperative programme of the U.S. Fish and Wildlife Service and MoEF which covered the least studied primate species in India. The field data from this project will be available for this workshop providing an opportunity to use it for Red Listing. Finally, this workshop will be the first time an exercise of this type has been held for primates (even for other groups) for a biological and political region.

Primate field biologists and other specialists primarily from the range countries will be invited to this workshop. Extensive preparations are underway with Taxon Data Sheets about to be sent to all known South Asian primate specialists. At the five-day workshop, special issues such as the contentious taxonomic debate mentioned above will be discussed along with basic conservation aspects of each species (population, distribution, number of mature individuals, threats, trade, etc.) and ultimately an IUCN category derived from the combined input of participants. Research and Management Recommendations will be made on the basis of information collected and IUCN status. As is the normal practice with CAMP Reports, it will be widely circulated to wildlife agency personnel, conservation NGOs, policy makers, academic institutions as well as participants.

It is known that many primate taxa (species and subspecies, endemic and non-endemic) already were identified as EN (19) and VU (11) in the region that we have defined as South Asia. The assessment in 2000 and in the earlier CAMP in 1997 relied very little on the wealth of unpublished data from recent field studies, including those of doctoral candidates working under the auspices of the Indo-US Primate Project. For the region, one taxon was identified as LRcd, an outdated category with the 2000 revisions, 14 as LRnt, 3 as LRlc, 8 as DD and 6 as NE, many of which may also belong in the former two categories.

According to the Primate S.G. website, Russ Mittermeier in a primate meeting suggested that the diversity of primates has until recently, been significantly underestimated. This new-found diversity is threatened by habitat loss and the bushmeat trade, however. Although there have been no primate extinctions during the 20th century, this is no reason for complacency in the 21st century as a number of species are now threatened with extinction. Two-thirds of all primates in the world are found in four countries. The requirements for primate conservation include: effective protective areas, targeted field research, use of the species as "flagships" to promote the conservation of large areas, and the development of sustainable ecotourism.

The proposed CAMP Workshop will draw upon the collected expertise of local primate researchers gathered in a large group perhaps for the first time for the South Asian Region. The primary objective of the Workshop is to assess the conservation status of endemic and non-endemic primates of South Asia, giving priority to those being thought to be under heavy threat drawing on the expertise of a wide range of experts from the region (and outside where appropriate).

Map of South Asia

The objectives of the workshop include :

a. Networking of all South Asian primatologists – academics, government agencies, non-governmental organizations and institutions, zoos, selected individuals and other stakeholders.
b. Providing an opportunity for all stakeholders to actively participate in a process that results in the derivation of the conservation status of primate taxa of the region using the IUCN Red List Criteria and Categories.
c. Deriving the status using all available information – published or unpublished – as a rapid assessment providing adequate documentation as required by the IUCN Red List protocol.
d. Identification of specific taxon-based and habitat-based action plans for the protection of the primates and their habitat.
e. Identification of research and management priorities for future action.
f. Identification of immediate training needs and other practical conservation oriented steps for follow-up.
g. Establishing an example for primate assessment and conservation prioritization for emulation in other parts of the world and in other regions such as South Asia.

Taxonomic issues - more detail

Early in 2000, in anticipation of conservation initiatives for the new millennium, the Primate Specialist Group (PSG) of IUCN's Species Survival Commission (IUCN/SSC) convened a group of field primatologists, taxonomists, biogeographers, morphologists and geneticists to achieve a consensus on a taxonomic arrangement for the Order Primates.

In respect to Asian primates, there was agreement that the four subgenera of the Gibbon family (Hylobatidae) should be recognized as genera: *Bunopithecus, Hylobates, Nomascus* and *Symphalangus*. This proposal was adopted in the 2000 IUCN Red List of Threatened Species. The pending PSG taxonomay recognizes 28 taxa of hylobatids distributed in southern China, northeastern India, and South East Asia. Although the assigned degree of threat in the 2000 Red List ranges from Lower Risk (LR) to Critically Endangered (CR), all Gibbons and Siamangs potentially are threatened because of their exclusive adaptation to arboreal habitats, permanent pair bonding, territoriality and brachiation locomotion.

The CAMP workshop on South Asian primates will have a major focus on the western Hoolock, an endemic taxon and the only Ape in the South Asian region. The potential of this gibbon as a flagship species for conservation already has been recognized in India; the Gibbon Sanctuary recently was established in Assam for the protection of seven primate species including the Hoolock. The area of its distribution supports a large human population, much of it experiencing rural poverty, and a steady loss of forest habitat due to human encroachment and exploitation of trees and forest products, resulting in fragmentation of the Gibbon's habitat. Some tribal people also may hunt the gibbon for food. The workshop will provide an opportunity to establish the actual distribution and habitat preference of the Gibbon throughout the region, to assess the nature and extent of the threat to its survival using the new criteria (2000) just approved by IUCN, to identify areas with insufficient information on distribution and/or threat, to review conservation strategies already in operation or proposed, and to plan a long-term strategy for its survival. Data gathered in field projects supported by the Indo-US Primate Project will be essential to these activities. Further field investigations for areas which were not covered by the project or further questions brought up in the workshop will be planned and field biologists tentatively assigned to these works at the meeting itself.

Endemic primates of South Asia number 38 in three families, e.g. Cercopithecidae (31 sp.), Hylobatidae (1 sp.) and Loridae (6 sp.). These will be prioritised for first attention but non-endemic primates can also be covered, using the IUCN Regional Guidelines, as time permits. Due to the need for discussion of taxonomic issues with respect to Asian primates, this workshop will run five days. During that time, as many South Asian primates as possible will be assessed. Lists of both endemic and non-endemic primates of South Asia are on the following pages.

The South Asian Primate CAMP will provide an excellent opportunity for primatologists in the region to prioritize action which will enhance their technological strength and which can then be followed up by the members and other organisations.

Advantages of Regional Assessments

The workshop has been initiated from the range countries or region of the species in order to provide assessments for the IUCN Red List that are contributed by field biologists from the range itself. In addition to field biologists who study the species, foresters and wildlife agency personnel, academics from governmental surveys and departments, as well as other institutions, both governmental and non-governmental, will be represented at the workshop which will strengthen the quality of recommendations as well as enhancing their implementation.

There are a number of advantages of Regional Assessments using the CAMP process in areas of high biodiversity. A regional assessment for taxon groups in the tropical regions in particular has real benefits, not the least of which is the ability to engage indigenous as well as external field biologists in the workshop. At many workshops held outside the range, local field biologists have not been able to participate in good numbers, which is not the case in a regional workshop of this type. People in the range states of regions of high biodiversity are the stakeholders as well as, ultimately, the saviours of species. It is they who should be intimately involved in such an exercise.

The CBD itself goes to great lengths to insure that the individual states have control over all aspects relevant to their biodiversity and that a participatory methodology be employed in interactions between stakeholders of their biodiversity. Also, if all species which are endemic to that region are assessed, and every region conducts such a workshop, then entire taxon groups will ultimately be completed with direct input from local field biologists. In the past, Red Data Books and even Red Listing was done by just a few people, normally in a western, academic institution who wrote letters to the few known experts in the range countries requesting information about species. This information was utilised to make an assessment of threat status, often on the basis of one or two replies for a very large bio-geographic area or even an entire country or region. Local specialists from the same region often share similar problems and can make detailed, rational, meaningful and practical recommendations for species conservation which are useful in Action Plans for Taxon Specialist Groups as well as for their own regional, national or local use. Bringing local or regional specialists together in a workshop and in small working groups also has added advantages.

Participants of CAMP workshops report that they are stimulated by the group interaction and are able to produce more information than they could remember on their own. It is possible that the group dynamic produces an incremental effect – that the small bits of information held by individuals would be of negligible value taken by themselves, but combined with other pieces of information held by other group members and discussed, add up to respectable data. Dynamic discussion between peers – which may be friendly or argumentative – produces a very different output or conclusion than the opinion of one person. Finally, information about habitat as well as impending for future genuine threats is convenient to collect from people who live in or near the area.

Forest officers, in particular, while they may or may not have detailed information about particular species are knowledgeable about modifications to habitats, past, current and future. The Convention on Biodiversity calls upon the states to "Identify components of biological diversity important for its conservation and sustainable use" and "...monitor ... components of biological diversity identified, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use.". The CAMP process, which undertakes to collect sufficient information about species and their habitats in order to derive an IUCN category of threat for each is itself a device for identification and monitoring, particularly through periodic review which is proposed here. The IUCN Red List now requires more documentation in order to "certify" and list an assessment of a species. The output of the workshop will be submitted to the Species Survival Commission of IUCN so that they can be included on the 2002 Red List of Threatened species.

The Venue for the CAMP will be the State Forest Service College, Coimbatore during the last week of September. Attendance will be restricted to primate field biologists and a few other persons with related expertise or responsibility.

Zoo participation

The Central Zoo Authority will be invited to send selected representatives from important primate zoos. For the sake of interest for the zoological parks, the following items are included in this issue :

- Table of primates held by Indian and other South Asian Zoos
- Executive Summary, Basic Principles of the Guidelines for Non-Human Primate Reintroductions by the Reintroduction Specialist Group of IUCN.
- Decision Tree of the Guidelines for Non-Human Primate Reintroductions by the Reintroduction Specialist Group of IUCN.

Zoo personnel were almost completely missing from earlier Indian CAMPs which was a pity. This year, we will copy the invitation we send to Central Zoo Authority to all the Large zoos which hold the most numerous primate species and hope they will contact CZA with their interest and request to be deputed.

Guidelines for Non-human Primate Re-introductions

DRAFT -- Executive Summary and Decision Tree, IUCN/SSC Re-introduction Specialist Group

Prepared by the Re-introduction Specialist Group of The World Conservation Union (IUCN), Species Survival Commission

I. Context of Guidelines

The IUCN/Species Survival Commission's (SSC's) Re-introduction Specialist Group was established in 1988 in response to an increasing number of plant and animal re-introductions worldwide.

The *IUCN/SSC Re-introduction Specialist Group: Guidelines for Nonhuman Primate Re-introductions* (2001) has been prepared for the Re-introduction Specialist Group by Lynne R. Baker. The document is based on the *IUCN Guidelines for Re-introductions* (1998),
IUCN Guidelines for the Placement of Confiscated Animals (2000), a review of case histories, and consultation across a range of disciplines. To involve experts and interested parties, comments were solicited from a large group of reviewers.

It is important that these guidelines are implemented in the context of IUCN's broader policies pertaining to biodiversity conservation and sustainable management of natural resources. The philosophy for environmental conservation and management of IUCN and other conservation bodies is stated in key documents such as *Caring for the Earth* and *Global Biodiversity Strategy.*

Primate re-introduction projects should be conducted in accordance with the following IUCN policy guidelines: *IUCN/SSC Re-introduction Specialist Group: Guidelines for Nonhuman Primate Re-introductions* (2001), *IUCN Guidelines for Re-introductions* (1998), *IUCN Guidelines for the Placement of Confiscated Animals* (2000), *IUCN Guidelines for the Prevention of Biodiversity Loss due to Biological Invasion* (2000), *Translocation of Living Organisms* (IUCN Position Statement, 1987), as well as the *CITES Guidelines for the Disposal of Confiscated Live Species* (1997).

II. Executive Summary

The *Guidelines for Nonhuman Primate Re-introductions* is intended as a guide for procedures useful to re-introduction programmes and does not represent an inflexible code of conduct. The priority has been to develop guidelines that are of direct, practical assistance to those planning, approving, or implementing re-introductions. The primary audience of these guidelines is, therefore, the practitioners (usually managers or scientists), rather than decision-makers in governments.

Re-introduction practitioners are strongly encouraged to contact the IUCN/SSC Re-introduction Specialist Group (RSG) and present and discuss their re-introduction proposals (see ANNEX III, Pages 23,24). As a result, a network of contacts can be developed and information from various projects more easily shared.

Before initiating any re-introduction project, managers must clearly define why that project is needed. The main goal of any re-introduction effort should be to *establish viable, self- sustaining populations of primates in the wild*. These guidelines do not apply to one-off releases for welfare or other purposes. They are instead written for managers working toward the overall conservation of the species and its habitat.

This document is relevant to re-introductions of primates from both *ex situ* zoological and habitat-country facilities. Details regarding the care of animals in captivity prior to release, such as enclosure enrichment, captive-breeding methods, and similar topics, are beyond the scope of these guidelines. However, where appropriate, important points regarding these topics will be noted. (See Annex II, a listing of husbandry guidelines for certain primate species and genera, Page 22.)

Because the recommendations contained in this document are intended as guidelines, each re-introduction project should develop a written set of instructions and protocol that apply specifically to its species, region, legal structure, etc. Managers should seriously consider all aspects of a re-introduction project before initiation, and they should clearly establish objectives and define both short- and long term goals. Strategies to achieve these goals should be developed and understood by all relevant parties, and a projected time frame should be established.

Adherence to these guidelines will reduce problems and errors that may hinder project success. It is recognised, however, that ultimate ilproject success. It is not yet easy to determine. There are currently no clear and easy rules for determining the success of a re-introduction project. However, with a strong monitoring programme, interim project success can be measured in such terms as survival rate and population growth. And as more re-introduction efforts are conducted and documented, tools for measuring success will be forthcoming. Although managers may be unable to easily define project success, they are accountable for the project's outcomes. Thus, a re-introduction project team should be identified, and each member should clearly understand the goals and objectives of the project. It is also recommended that managers develop intervention policies and mechanisms to correct or reverse situations that don't conform to the desired objectives.

These guidelines cover the main steps of a re-introduction effort. The steps are listed in a suggested order of progression, although some steps overlap with one another. It is realised that many release projects have been operating for some time, and so managers of these projects should attempt to integrate these guidelines as soon as possible into their current operating procedures and protocol.

Basic Principles of Re-introductions

(See "Decision Tree," next page.)

1) Identify the need for re-introduction
2) Define aims, objectives, and time frame
3) Establish multidisciplinary team
4) Determine if the socioeconomic, financial, and legal requirements can be met in the short and long terms
5) Assess the proposed release-site habitat and determine its suitability
6) Review the socioecological and behavioural data on the species of interest
7) Assess the suitability of the release stock
8) Evaluate the genetic status of the release stock
9) Ensure release stock has been cleared for release by a qualified veterinary team
10) Develop strategy and time frame for transport and final release of animals
11) Establish and enact post-release monitoring and other follow-up activities
12) Document project outcomes on an ongoing basis

A complete copy of this 24 page document can be had from the World Wide Web *http://194.158.18.4/intranet.DocLib/Docs/IUCN978.pdf* or *http://primatereintro.8m.com/index.html* or If you do not have access to the web, you can order a xerox copy from this office for the cost of production, Rs. 36 (excluding postal charges)

DECISION TREE : Nonhuman Primate Reintroduction

Q1: Will reintroduction make a significant contribution to the survival of the species? Is the intent to establish viable, self-sustaining populations in the wild? Do the benefits clearly outweigh any potential risks?

NO ▶ *If no, discontinue plans for reintroduction.*

YES ▼

Q2 : Can a multidisciplinary team be established to execute a clearly defined set of aims and objectives in a proposed time frame?

NO ▶ *If no, discontinue plans for reintroduction.*

YES ▼

Q3 : Can a quarantine and veterinary programme be developed, implemented, and followed?

NO ▶ *If no, discontinue plans for reintroduction.*

YES ▼

Q4 : Can the socioeconomic, financial and legal requirements be met in the short and long terms?

NO ▶ *If no, discontinue plans for reintroduction.*

YES ▼

Q5 : Can the proposed release site be assessed? If so, is it considered suitable habitat in which to release the species?

NO ▶ *If no, discontinue plans for reintroduction.*

YES ▼

Q6 : Has the stock been deemed suitable for release (cleared veterinary screening, received appropriate vaccinations, exhibits no abnormal behaviours, etc.)? Has the stock's genetic status been determined, and is the stock still considered suitable for release?

NO ▶ *If no, screen all animals according to the quarantine and veterinary protocol and ensure stock receives clearance for release by veterinary personnel. Otherwise, discontinue plans for reintroduction.*

YES ▼

Q7 : Can the stock be expeditiously and safely transported and relased to a specific site? Can the relased animals be monitored and follow-up activities implemented and executed?

NO ▶ *If no, revise plans to accommodate transport and final release requirements. Otherwise, discontinue plans for reintroductions.*

YES ▼

Q8 : Can project outcomes be documented on an ongoing basis and shared with others in the conservation community?

NO ▶ *If no, revise release plans to ensure documentation of project results. Otherwise, discontinue plans for reintroduction.*

Primates in Indian Zoos - 1999 - 2000 CZA database for Mammals

Hoolock Gibbon

Aizawl Zoo (S), Aizawl, Mizoram	2.0.0.2
Assam State Zoo Cum Botanical Garden (L), Guwahati	1.0.0.1
Manipur Zoological Garden (M), Imphal, Manipur	1.2.0.3
Mini Zoo (Mini), Roing, Arunachal Pradesh*	0.1.0.1
National Zoological Park (L), Mathura road, Delhi	0.1.0.1
Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.2.0.3
Sepahijala Zoological Park (M), Sepahijala, Tripura	0.0.1.1
Total	**5.6.1.12**

Slender loris

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	0.0.1.1
Children's corner, Guindy, (M) TN.	1.0.0.1
Sri Chamarajendra Zoological Gardens (L), Mysore	0.0.1.1
Total	**1.0.2.3**

Assamese Macaque

Aizawl Zoo (S), Aizawl, Mizoram	6.5.2.13
Assam State Zoo Cum Botanical Garden (L), Guwahati	1.0.0.1
Himalayan Zoological Park (SM) Bulbuley, Sikkim	2.3.0.5
Hutatma Bag Zoo, (Mini), Solapur, Maharashtra*	0.0.3.3
Jaipur Zoo (M), Jaipur, Rajasthan	3.0.0.3
Mahatma Gandhi Rastriya Udyan Zoo (Mini), Solapur, MH*	0.0.1.1
Mahendra Chaudhury Zool. Park (L), Chhat bir, PJ	16.19.10.45
Manipur Zoological Garden (M), Imphal, Manipur	2.2.0.4
Maitri Baagh Zoo (M), Bhilai, Madhya Pradesh	1.0.0.1
Miao Mini Zoo (Mini), Miao, Arunachal Pradesh*	2.1.0.3
Mini Zoo (Mini), Roing, Arunachal Pradesh*	2.2.0.4
Nandankanan Biological Park (L), Bhubaneswar, Orissa	1.0.0.1
National Park, Bannerghatta Zool. Garden (M), Bangalore	1.0.0.1
National Zoological Park (L), Mathura road, Delhi	1.3.0.4
Rustomji Deer Park (Mini), Gangtok, Sikkim*	1.0.0.1
Sanjay Gandhi Biological Park (L), Patna, Bihar	2.1.4.7
Sepahijala Zoological Park (M), Sepahijala, Tripura	5.3.0.8
Zoological Garden (L), Alipore, West Bengal	4.2.3.9
Zoological Park (M), Itanagar, Arunachal Pradesh	1.0.0.1
Total	**51.41.23.115**

Crab eating macaque

Children's corner, Guindy, (M) TN.	1.1.0.2
Mini Zoo Haddo (S), Port blair*	10.7.0.17
Total	**11.8.0.19**

Rhesus macaque

Amirdhi Zoo (Mini), Vellore, Tamil Nadu*	0.0.2.2
Amte's Animal Park & Orphanage (Mini), Allapalli*	4.3.0.7
Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	13.9.2.24
Aurangabad Municipal Zoo (S), Aurangabad	1.3.0.4
Baguwa Pheasant Farm (Mini), Gangtok, Sikkim*	1.1.0.2
Bellary Childrens Park-Cum-Zoo (S), Bellary, Karnataka	1.2.0.3
Bhagwan Birsa Biological Park (S), Ranchi, Bihar	6.5.4.15
Bikenar Zoo (SM), Rajasthan	8.4.0.12
Calcutta Snake Park, Zoological Garden (S), Badu	1.1.0.2
Children's Corner (M), Guindy, Tamil Nadu	1.1.0.2
Children's Park Mini Zoo (Mini), Shimoga, Karnataka*	1.0.0.1
Deer Children & Snake Park At Kadri Hill (Mini), Mangalore*	2.1.0.3
Deer Park (Mini Zoo) (Mini), Jhargram, West Bengal*	0.0.3.3
Deer Park Dow Hill (Mini), Kurseong, West Bengal*	2.0.0.2
Deer Park, Bir Talab (Mini), Bhatinda, Punjab*	0.0.8.8
Deer Park, Narain Tewari Dewal (Mini), Almora, UP*	1.0.0.1
Fertilizer Nagar Deer Park (Mini), Baroda, Gujarat*	0.0.3.3
Gandhi Zoological Park (M), Gwalior, Madhya Pradesh	6.8.8.22
Hutatma Bag Prani Sangrahalya (Mini), Solapur, MH*	0.0.1.1
Indira Gandhi Park Zoo & Deer Park (Mini), Rourkela, OR*	1.2.0.3
Indira Gandhi Zoological Park (L), Visakhapatnam	6.3.0.9
Jaipur Zoo (M) Jaipur Rajasthan	1.1.0.2
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	9.3.0.12
Jodhpur Zoo (M), Jodhpur, Rajasthan	7.5.0.12
Kamla Nehru Prani Sanghrahalay (S), Indore	8.5.3.16
Kamla Nehru Zoological Garden (L), Ahmadabad, GJ	12.11.7.30
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	2.2.0.4
Khanvel Deer Park (Mini), Silvassa, Dadra & Nagar Haveli*	0.0.4.4
Kudremukh Mini Zoo (Mini), Chickmagalur, Karnataka*	0.0.6.6
Kurumbapatti Zoological Park (Mini), Salem, Tamil Nadu*	0.2.0.2
Lady Hydari Park, Animal Land (S), Shillong, Meghalaya	8.6.0.14
Maharajbag Zoo (S), Nagpur, Maharashtra	1.1.0.2
Mahatma Gandhi Rastriya Udyan Zoo (Mini), Solapur, MH*	0.0.4.4
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	0.0.26.26
Maitri Baagh Zoo (M), Bhilai, Madhya Pradesh	2.3.0.5
Manipur Zoological Garden (M), Imphal, Manipur	12.11.3.26
Mini Zoo (Mini), Pipli, Haryana*	1.2.0.3
Mini Zoo Silvassa (Mini), Khanvel, Dadra & Nagar Haveli*	0.0.4.4
Mini Zoo, Haddo (S),Port blair, Andaman & Nicobar Is.*	1.1.0.2
Mini Zoo, Ram Bagh (Mini), Amritsar, Punjab*	0.0.7.7
Montfort School Mini Zoo, Yercaud (Mini), Salem, TN*	0.0.2.2
Motijharan Deer Park (Mini), Sambalpur, Orissa*	1.0.0.1
Nandan Van (Mini), Raipur, Madhya Pradesh*	0.0.2.2
Nandankanan Biological Park (L), Bhubaneswar, Orissa	2.0.0.2
National Park, Bannerghatta Zoological Garden (M), KA	1.4.0.5
National Zoological Park (L), Mathura Rd, Delhi	18.16.13.47
Nature Education Centre (Mini), Jamnagar, Gujarat*	0.0.4.4
Nature Park (S), Surat, Gujarat	1.2.0.3
Pal Wild Animal Orphanage (Mini), Jalgaon, Maharashtra*	1.0.0.1
Peshwe Park Zoological Garden (SM) Pune MH	5.5.0.10
Pillalamarri Deer Park (Mini), Mahabub nagar, AP*	0.0.4.4
Pt. Govind Ballabh Pant High altitude Zoo (S) Nainital	2.4.0.6.
Regional Science Centre (Mini), Bhubaneswar, Orissa*	2.2.0.4
Sakkarbaug Zoo (L), Junagarh, Gujarat	3.1.0.4
Sanjay Gandhi Biological Park (L), Patna, Bihar	25.23.0.48
Satsang Zoo For Children Education (Mini), Satsang, Bihar	1.0.0.1
Sayaji Baug Zoo (M), Vadodara, Gujarat	3.5.0.8
Sepahijala Zoological Park (M), Sepahijala, Tripura	4.6.0.10
Shri Ganjanan Vatika (Mini), Buldana, Maharashtra*	1.1.0.2
Somnath Prakalpa Zoo (Mini), Chandra pur, Maharashtra*	2.3.0.5
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	4.2.0.6
Sri Venkateswara Zoological Park (S), Tirupati, AP	2.1.1.4
State Museum & Zoo (S), Thrissur, Kerala	1.1.0.2
Sundervan Nature Discovery Centre (Mini), Jodhpur tekra*	0.3.0.3
Tata Steel Zoological Park (S), Jamshedpur, Bihar	5.1.0.6
Thiruvananthapuram Zoo (M), Thiruvananthapuram, KL	1.0.0.1
Tiger & Lion safari, (M) Thyyarekoppa, Shimoga	1.1.0.2
Udaipur Zoo (S), Udaipur, Rajasthan	3.1.0.4
Van Vihar Nationa Park (M) Bhopal MP	0.0.125.125
V.O.C. Park Mini Zoo (M), Coimbatore, Tamil Nadu	2.3.0.5
Veermata Jijabai Bhosale Udyan & Zoo (L), Byculla (east)	2.2.0.4
Vivekanand Vidya Mandir Zoo (Mini), Buldana, MH*	3.3.0.6
Zoological Garden (S), Bikaner, Rajasthan	8.4.0.12
Zoological Garden (L), Alipore, West Bengal	5.5.0.10
Zoological Park (M), Itanagar, Arunachal Pradesh	4.4.10.18
Total	**232.199.256.692**

Pigtailed macaque

Assam State Zoo Cum Botanical Garden (L), Guwahati,	4.2.0.6
Kamla Nehru Zoological Garden (L), Ahemadabad, GJ	0.1.0.1
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.0.0.1
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	0.2.0.2
Prince Of Wales Zoological Gardens (L), Lucknow, UP	0.1.0.1
Sanjay Gandhi Biological Park (L), Patna, Bihar	1.0.0.1
Sepahijala Zoological Park (M), Sepahijala, Tripura	0.1.0.1
V.O.C. Park Mini Zoo (M), Coimbatore, Tamil Nadu	0.1.0.1
Zoological Garden (L), Alipore, West Bengal	1.0.0.1
Total	**7.8.0.16**

Bonnet macaque

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	15.6.0.21
Assam State Zoo Cum Botanical Garden (L), Guwahati	1.0.0.1
Aurangabad Zoo, (SM), Aurangabad, MH	0.4.0.4
Bellary Childrens Park-Cum-Zoo (S), Bellary, Karnataka	1.3.0.4
Bikenar Zoo (S) Bikenar, Rajasthan	4.0.0.4
Children's Corner (M), Guindy, Tamil Nadu	10.17.0.27
Childrens Mini Zoo (Mini), Dharwad, Karnataka*	8.4.0.12
Gandhi Zoological Park (M), Gwalior, Madhya Pradesh	2.2.0.4
Indira Gandhi Zoological Park (L), Visakhapatnam, AP	6.6.0.12
Jaipur Zoo (M), Jaipur, Rajasthan	3.2.0.5
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	4.3.0.7
Kamla Nehru Prani Sanghrahalay (S), Indore, MP	1.1.0.2
Kamla Nehru Zoological Garden (L), Ahemadabad, GJ	5.2.2.9
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	6.2.0.8
Mahatma Gandhi Rastriya Udyan Zoo (Mini), Solapur, MH*	0.0.15.15

Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	5.2.1.8
Maitri Baagh Zoo (M), Bhilai, Madhya Pradesh	2.0.0.2
Malsi Deer Park (Mini), Dehradun, Uttar Pradesh*	2.2.0.4
Manipur Zoological Garden (M), Imphal, Manipur	2.2.0.4
Mini Zoo (Mini), Abubshahar, dist. Sirsa, Haryana*	1.1.0.2
Mini Zoo (Mini), Bhiwani, Haryana*	2.2.1.5
Mini Zoo (Mini), Jind, Haryana*	4.3.2.9
Mini Zoo (Mini), Pipli, Haryana*	3.3.0.6
Mini Zoo (Mini), KodaNadu, Kerala*	0.0.21.21
Mini Zoo Cum Children Park (Mini), Gulbarga, Karnataka*	0.0.2.2
Nandankanan Biological Park (L), Bhubaneswar, Orissa	3.2.0.5
National Zoological Park (L), Mathura road, Delhi	3.4.0.7
Nature Park (S), Surat, Gujarat	2.3.0.5
Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	1.1.0.2
Parassinikkadavu Snake Park (Mini), Kannur, Kerala*	4.3.0.7
Peshwe Park Zoological Gardens (S), Pune, MH	1.2.0.3
Prince Of Wales Zoological Gardens (L), Lucknow, UP	6.8.0.14
Pt. Govind Ballabh Pant High altitude Zoo (S) Nainital	2.0.0.2
Rohtak Zoo (S), Rohtak, Haryana	3.5.0.8
Sakkarbaug Zoo (L), Junagarh, Gujarat	6.3.0.9
Sanjay Gandhi Biological Park (L), Patna, Bihar	1.0.0.1
Sayaji Baug Zoo (M), Vadodara, Gujarat	1.2.0.3
Shri Ganjanan Vatika (Mini), Buldana, Maharashtra*	3.0.0.3
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	1.0.0.1
Sri Venkateswara Zoological Park (S), Tirupati, AP	4.4.2.10
State Musium & Zoo (S) Thrissur, Kerala	17.14.3.34
Tata Steel Zoological Park (S), Jamshedpur, Bihar	2.1.0.3
Thiruvananthapuram Zoo (M), Thiruvananthapuram, KL	4.3.0.7
Veermata Jijabai Bhosale Udyan & Zoo (L), Byculla (east)	4.2.0.6
V.O.C. Park Mini Zoo (M), Coimbatore, Tamil Nadu	3.5.1.9
Zoological Garden (S), Bikaner, Rajasthan	4.0.0.4
Zoological Garden (L), Alipore, West Bengal	0.0.23.23
Total	**162.129.73.364**

Lion-tailed Macaque

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	5.4.1.10
Assam State Zoo Cum Botanical Garden (L), Guwahati	0.1.0.1
Bellary Childrens Park-Cum-Zoo (S), Bellary, Karnataka	0.1.0.1
Childrens Mini Zoo (Mini), Dharwad, Karnataka*	1.0.0.1
Indira Gandhi Park Zoo & Deer Park (Mini), Rourkela, OR*	1.0.0.1
Jaipur Zoo (M), Jaipur, Rajasthan	2.1.0.3
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.2.0.3
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	2.0.0.2
Maitri Baagh Zoo (M), Bhilai, Madhya Pradesh	2.1.0.3
Mini Zoo (Mini), KodaNadu, Kerala*	0.0.4.4
Nandankanan Biological Park (L), Bhubaneswar, Orissa	2.1.0.3
National Park, Bannerghatta Zoological Garden (M), KA	1.1.0.2
National Zoological Park (L), Mathura road, Delhi	2.1.0.3
Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	1.0.0.1
Parassinikkadavu Snake Park (Mini), Kannur, Kerala*	0.2.0.2
Peshwe Park Zoological Gardens (S), Pune, Maharashtra	1.0.0.1
Sanjay Gandhi Biological Park (L), Patna, Bihar	3.2.0.5
Sepahijala Zoological Park (M), Sepahijala, Tripura	0.1.0.1
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	1.3.0.4
State Museum & Zoo (S), Thrissur, Kerala	3.0.0.3
Thiruvananthapuram Zoo (M), Thiruvananthapuram, KL	4.4.0.8
V.O.C. Park Mini Zoo (M), Coimbatore, Tamil Nadu	1.0.0.1
Zoological Garden (L), Alipore, West Bengal	1.1.0.2
Total	**34.26.5.65**

Stump-tailed macaque

Assam State Zoo Cum Botanical Garden (L), Guwahati	5.2.0.7
Indira Gandhi Zoological Park (L), Visakhapatnam, AP	1.1.0.2
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	1.1.0.2
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.0.0.1
Manipur Zoological Garden (M), Imphal, Manipur	5.6.0.11
Miao Mini Zoo (Mini), Miao, Arunachal Pradesh*	0.1.0.1
Peshwe Park Zoological Gardens (S), Pune, Maharashtra	0.1.0.1
Prince Of Wales Zoological Gardens (L), Lucknow, UP	3.2.0.5
Sanjay Gandhi Biological Park (L), Patna, Bihar	5.5.0.10
Sanjay Gandhi National Park (S), Borivali (east), MH	0.1.0.1
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	0.1.0.1
Sri Venkateswara Zoological Park (S), Tirupati, AP	2.2.0.4
Total	**23.23.0.46**

Slow loris

Aizawl Zoo (S), Aizawl, Mizoram	1.0.0.1
Assam State Zoo Cum Botanical Garden (L), Guwahati	1.1.0.2
Jaipur Zoo (M), Jaipur, Rajasthan	1.0.0.1
Kamla Nehru Zoological Garden (L), Ahemadabad, GJ	0.1.0.1
Lady Hydari Park, Animal Land (S), Shillong, Meghalaya	0.1.0.1
Manipur Zoological Garden (M), Imphal, Manipur	2.0.2.4
Miao Mini Zoo (Mini), Miao, Arunachal Pradesh*	2.0.0.2
Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.0.0.1
Sanjay Gandhi Biological Park (L), Patna, Bihar	3.0.0.3
Sayaji Baug Zoo (M), Vadodara, Gujarat	2.2.0.4
Total	**13.5.2.20**

Common langur

Aranaya Bhawan (Mini), Buland shahar, Uttar Pradesh*	0.0.2.2
Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	2.0.1.3
Assam State Zoo Cum Botanical Garden (L), Guwahati	1.0.0.1
Bhagwan Birsa Biological Park (S), Ranchi, Bihar	1.0.0.1
Children's Corner (M), Guindy, Tamil Nadu	1.1.0.2
Deer Park (Mini), Jhargram, West Bengal*	0.0.2.2
Deer Park, Bir Talab (Mini), Bhatinda, Punjab*	0.0.3.3
Gandhi Zoological Park (M), Gwallor, Madhya Pradesh	1.2.0.3
Hutatma Bag Prani Sangrahalya (Mini), Solapur, MH*	0.0.2.2
Indira Gandhi Zoological Park (L), Visakhapatnam, AP	1.1.0.2
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	3.2.0.5
Kamla Nehru Prani Sanghrahalay (S), Indore, MP	1.2.1.4
Kamla Nehru Zoological Garden (L), Ahemadabad, GJ	3.1.1.5
Kanan Pandari (Mini), Bilaspur, Madhya Pradesh*	3.1.0.4
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.1.0.2
Kurumbapatti Zoological Park (Mini), Salem, Tamil Nadu*	3.3.0.6
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	1.2.0.3
Maitri Baagh Zoo (M), Bhilai, Madhya Pradesh	0.2.0.2
Malsi Deer Park (Mini), Dehradun, Uttar Pradesh*	1.2.0.3
Mini Zoo (Mini), Abubshahar, dist. Sirsa, Haryana*	0.1.0.1
Mini Zoo (Mini), Bhiwani, Haryana*	1.1.0.2
Mini Zoo (Mini), Pipli, Haryana*	2.1.1.4
Mini Zoo, Bansar Bagh (Mini), Sangrur, Punjab*	0.0.2.2
Nandankanan Biological Park (L), Bhubaneswar, Orissa	1.2.0.3
National Zoological Park (L), Mathura road, Delhi	2.6.0.8
Padmaja Naidu Himalayan Zoological Park (S), Darjeeling	2.0.0.2
Rani Bag Zoo (Mini), Buldana, Maharashtra*	2.2.0.4
Rohtak Zoo (S), Rohtak, Haryana	2.1.0.3
Sakkarbaug Zoo (L), Junagarh, Gujarat	1.0.0.1
Sanjay Gandhi Biological Park (L), Patna, Bihar	15.4.0.19
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	0.2.0.2
Tata Steel Zoological Park (S), Jamshedpur, Bihar	3.3.1.7
Thiruvananthapuram Zoo (M), Thiruvananthapuram, KL	3.2.0.5
Veermata Jijabai Bhosale Udyan & Zoo (L), Byculla (east)	5.1.0.6
Zoological Garden (L), Alipore, West Bengal	1.1.0.2
Zoological Park (Mini), Kohima, Nagaland*	9.3.0.12
Total	**72.50.16.138**

Golden langur

Assam State Zoo Cum Botanical Garden (L), Guwahati	1.2.0.3
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	1.0.0.1
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.0.0.1
Mini Zoo (Mini), Roing, Arunachal Pradesh*	0.1.0.1
National Park, Bannerghatta Zoological Garden (M), KA	0.1.0.1
Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	2.0.0.2
Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.0.0.1
Sepahijala Zoological Park (M), Sepahijala, Tripura	0.1.0.1
Zoological Park (Mini), Kohima, Nagaland*	1.0.0.1
Total	**7.5.0.12**

Nilgiri langur

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	4.4.2.10
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	0.1.0.1
Mini Zoo (Mini), Kodanadu, Kerala*	0.0.1.1
Nandankanan Biological Park (L), Bhubaneswar, Orissa	1.0.0.1
Parassinikkadavu Snake Park (Mini), Kannur, Kerala*	2.0.0.2
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	2.3.0.5
Thiruvananthapuram Zoo (M), Thiruvananthapuram, KL	0.1.0.0
V.O.C. Park Mini Zoo (M), Coimbatore, Tamil Nadu	2.1.0.3
Total	**10.10.3.23**

Leaf Monkey

Sepahijala Zoological Park (M), Sepahijala, Tripura	2.2.0.4
Total	**2.2.0.4**

Capped langur

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	2.0.0.2
Assam State Zoo Cum Botanical Garden (L), Guwahati,	1.0.0.1
Jawaharlal Nehru Biological Park (M), Bokaro, Bihar	0.2.0.2
Kamla Nehru Zoological Garden (L), Ahemadabad, GJ	0.2.0.2
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.0.0.1
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	1.0.0.1
Manipur Zoological Garden (M), Impal, Manipur	1.0.0.1
National Park, Bannerghatta Zoo (M), Bangalore, KA	0.1.0.1
Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	1.2.0.3
Sanjay Gandhi Biological Park (L), Patna, Bihar	1.0.0.1
Sayaji Baug Zoo (M), Vadodara, Gujarat	1.0.0.1
Sepahijala Zoological Park (M), Sepahijala, Tripura	1.1.0.2
Zoological Park (Mini), Kohima, Nagaland*	1.1.0.2
Total	**11.9.0.20**

Orang-utan

Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	3.1.0.4
Peshwe Park Zoological Gardens (S), Pune, Maharashtra	0.1.0.1
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.1.0.2
Total	**4.3.0.7**

Chimpanzee

Arignar Anna Zoological Park (L), Vandalur, Tamil Nadu	2.1.0.3
Jaipur Zoo (M), Jaipur, Rajasthan	0.1.0.1
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	1.1.0.2
Mahendra Chaudhury Zoological Park (L), Chhat bir, PJ	0.1.0.1
Nehru Zoological Park (L), Hyderabad, Andhra Pradesh	1.2.0.3
National Zoological Park (L), Mathura road, Delhi	1.1.0.2
Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.1.0.2
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	3.3.0.6
Zoological Garden (L), Alipore, West Bengal	2.2.0.4
Total	**11.13.0.24**

African Red Monkey - Patas

Sayaji Baug Zoo (M), Vadodara, Gujarat	0.2.0.2
Total	**0.2.0.2**

Capuchin Monkey

Prince Of Wales Zoological Gardens (L), Lucknow, UP	3.2.0.5
Tata Steel Zoological Park (S), Jamshedpur, Bihar	1.1.0.2
Jaipur Zoo (M), Jaipur, Rajasthan	1.0.0.1
Total	**5.3.0.8**

Japanese Monkey

Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.3.0.4
Pt. Govind Ballabh Pant High altitude Zoo (S) Nainital	1.2.0.3
Total	**2.5.0.7**

Baboon Hamadryas - Sacred

Prince Of Wales Zoological Gardens (L), Lucknow, UP	1.0.0.1
Jaipur Zoo (M), Jaipur, Rajasthan	1.0.0.1
Sri Chamarajendra Zoological Gardens (L), Mysore, KA	2.4.0.6
Kanpur Zoological Park (L), Kanpur, Uttar Pradesh	2.0.0.2
Zoological Garden (L), Alipore, West Bengal	1.0.0.1
Total	**7.4.0.11**

Spider Monkey

Jaipur Zoo (M), Jaipur, Rajasthan	0.1.0.1
Total	**0.1.0.1**

Olive Baboon

State Museum and Zoo (SM) Trissur, Kerala	1.0.0.1
Zoological Garden (L), Alipore, West Bengal	2.1.2.5
Total	**3.1.2.6**

Chackma Baboon

Sri Chamarajendra Zoological Gardens (L), Mysore, KA	1.1.0.2
Total	**1.1.0.2**

* from 1997 Central Zoo Authority database

Primates held in South Asian Zoos other than India

Pakistan

Marghzar Zoo, Islamabad

Rhesus Macaque, *Macaca mulatta*	4.5.2.11

Karachi Zoo

Rhesus Monkey, *Macaca mulatta*	0.0.15.15
Long-Tailed Monkey, *Macaca silenus* (sic)	0.0.2.2
Mc Mohan Monkey, *Macaca mulatta mc.Mohani* (sic)	0.0.2.2

Lahore Zoo

Langur, *Semnopithecus entellus*	3.2.0.5
Rhesus Macaque, *Macaca mulatta*	7.4.0.11

Bangladesh

Dakha Zoo

Rhesus Macaque, *Macaca mulatta*	40.50.0.90
Assamese Macaque, *Macaca assamensis*	1.1.0.2
Bonnet Macaque, *Macaca radiata*	2.2.0.4
Pigtailed Macaque, *Macaca nemestrina*	2.4.0.6
Langur, *Presbytis entellus*	0.2.0.2
Capped Langur, *Presbytis pileatus*	1.2.0.3
Slow Loris, *Nycticebus coucang*	2.1.0.3

Rangpur Zoo

Rhesus Macaque, *Macaca mulatta*	5.4.0.9

Chittagong Zoo

Slow Loris, *Nycticebus coucang*	2.1.0.3
Rhesus Macaque, *Macaca mulatta*	18.12.0.30
Capped Langur/ Hanuman, *Trachypithecus pileatus*	4.4.0.8

Sri Lanka

National Zoological Gardens of Sri Lanka

Grey Langur, *Presbytis entellus*	1.3.1.5
Pig-tailed Macaque, *Macaca nemestrina*	0.1.0.1
Rhesus Macaqus, *Macaca mulatta*	0.2.0.2
Slender Loris, *Loris tardigradus*	1.2.0.3

Nepal

Central Zoo, Lalitpur, Kathmandu, Nepal

Lion-tailed Macaque, *Macaca silenus*	2.0.0.2

IUCN Red List *Categories*

CR – Critically endangered — a taxon is Critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future as defined by the criteria.
EN – Endangered — a taxon is Endangered when it is not Critically endangered but is facing a very high risk of extinction in the wild in the near future as defined by the criteria.
VU – Vulnerable — a taxon is Vulnerable when it is not Critically endangered or Endangered but is facing a high risk of extinction in the wild in the medium term future as defined by the criteria.
LR – Lower risk – a taxon is Low Risk when it has been evaluated and does not qualify for any of the threatened categories, Critically endangered, Endangered, Vulnerable, or Data Deficient. (LR-nt – near threatened, LR-lc –least concern, LR-cd – conservation dependent).
DD – Data deficient – A taxon is Data Deficient when there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status.
NE – Not evaluated – A taxon is Not Evaluated when it has not yet been assessed against the criteria.

Scientific name	Status based on criteria	Distribution
Family CERCOPITHECIDAE		
1.*Macaca arctoides* (I. Geoffroy, 1831)	VU A1cd	Bangladesh; Cambodia; India; Lao People's Demo-cratic Republic; Malaysia; Myanmar; Thailand; Viet Nam
2.*Macaca assamensis* (McClelland, 1840)	VU A1cd	Bangladesh; Bhutan; China; India; Lao People's Democratic Republic; Myanmar; Nepal; Thailand; Vietnam
3.*Macaca assamensis assamensis*	VU A1cd	China; India; Lao People's Democratic Republic, Myanmar; Thailand; Vietnam
4.*Macaca assamensis pplops*	VU A1cd	Bangladesh; Bhutan India; Nepal
5.*Macaca fascicularis* (Raffles, 1821)	LR/nt	Bangladesh; Brunei Darussalam; Cambodia; Hong Kong (intro.); India; Indonesia; Lao People's Democratic Republic (?);Malaysia; Mauritius (intro.); Myanmar; Palau;Philippines; Singapore; Thailand; United States (?, intro.), Vietnam
6.*Macaca fascicularis aurea*	LR/nt	Bangladesh; Myanmar; Thailand
7.*Macaca fascicularis umbrosa*	DD	India
8.Macaca leonina (Blyth, 1863)	VU A1cd	Bangladesh; Cambodia; Lao People's Democratic Republic; Malaysia; Myanmar; Thailand; Viet Nam
9.*Macaca mulatta* (Zimmermann, 1780)	LR/nt	Afghanistan (ex?); Bangladesh; Bhutan; China; Hong Kong; India; Lao People's Democratic Republic; Myanmar; Nepal; Pakistan; Thailand; United States (intro.); Viet Nam
10.*Macaca radiata* (É. Geoffroy, 1812)	LR/lc	India
11.*Macaca radiata diluta*	LR/lc	India
12.*Macaca radiata radiata* (É. Geoffroy, 1812)	LR/lc	India
13.*Macaca silenus* (Linnaeus, 1758)	EN B1+2c, C2a	India
14.*Macaca sinica* (Linnaeus, 1771)	VU A1c	Sri Lanka
15.*Macaca sinica aurifrons*	VU A1c	Sri Lanka
16.*Macaca sinica sinica* (Linneaus, 1771)	VU A1c	Sri Lanka
17.*Macaca thibetana* (Milne-Edwards, 1870)	LR/cd	China; India (?)
18.*Presbytis femoralis* (Martin, 1838)	LR/nt	Brunei Darussalam; Indonesia; Malaysia; Myanmar(?);Singapore; Thailand
19.*Presbytis femoralis robinsoni*	DD	Malaysia (?); Myanmar (?); Thailand
20.*Semnopithecus entellus* (Dufresne, 1797)	LR/nt	Bangladesh; Bhutan (?);China; India; Nepal; Pakistan; Sri Lanka
21.*Semnopithecus entellus ajax*	LR/nt	Afghanistan; India; Pakistan
22.*Semnopithecus entellus anchises*	LR/nt	India
23.*Semnopithecus entellus dussumieri*	DD	India
24.*Semnopithecus entellus elissa*	DD	India
25.*Semnopithecus entellus entellus* (Dufresne, 1797)	LR/nt	Bangladesh; India
26.*Semnopithecus entellus hector*	LR/nt	India; Nepal
27.*Semnopithecus entellus hypoleucos*	DD	India
28.*Semnopithecus entellus priam*	DD	Indial
29.*Semnopithecus entellus schistaceus*	LR/nt	Bhutan; China; India; Nepal
30.*Semnopithecus entellus thersites*	VU A1cd	Sri Lanka
31.*Trachypithecus barbei barbei* (Blyth, 1847)	NE	Myanmar; Thailand
32.*Trachypithecus barbei holotephreus*	NE	China; Lao People's Democratic Republic; Myanmar;Thailand; Vietnam
33.*Trachypithecus geei* Khajuria, 1956	EN A1acd, C2a	Bhutan; India
34.*Trachypithecus johnii* (Fischer, 1829)	VU A1d, B1+2c, C2a	India
35.*Trachypithecus obscurus* (Reid, 1837)	LR/lc	ASIA
36.*Trachypithecus obscurus* corax	NE	Myanmar
37.*Trachypithecus obscurus flavicauda*	NE	Myanmar; Thailand
38.*Trachypithecus obscurus sanctorum*	NE	Myanmar
39.*Trachypithecus obscurus shanicus*	NE	Myanmar
40.*Trachypithecus pileatus* (Blyth, 1843)	EN A1cd, C2a	Bangladesh; China; India; Myanmar
41.*Trachypithecus pileatus brahma*	EN A1cd, C2a	India
42.*Trachypithecus pileatus durga*	EN A1cd, C2a	Bangladesh; India; Myanmar
43.*Trachypithecus pileatus pileatus* (Blyth, 1843)	EN A1cd, C2a	India; Myanmar
44.*Trachypithecus pileatus shortridgei*	EN A1cd, C2a	China; Myanmar
45.*Trachypithecus pileatus tenebricus*	EN A1cd, C2a	India
46.*Trachypithecus vetulus* (Erxleben, 1777)	EN A1cd	Sri Lanka
47.*Trachypithecus vetulus monticola*	EN A1cd	Sri Lanka
48.*Trachypithecus vetulus nestor*	EN A1cd	Sri Lanka
49.*Trachypithecus vetulus philbricki*	EN A1cd	Sri Lanka
50.*Trachypithecus vetulus vetulus* (Erxleben, 1777)	EN A1cd	Sri Lanka

Scientific name	Status based on criteria	Distribution
Family HYLOBATIDAE		
51.*Bunopithecus hoolock* (Harlan, 1834)	EN A1cd	Bangladesh; China; India; Lao People's Democratic Republic (?); Myanmar
52.*Bunopithecus hoolock hoolock* (Harlan, 1834)	EN A1cd	Bangladesh; India; Myanmar
53.*Bunopithecus hoolock leuconedys*	EN A1cd	China; Myanmar
54.*Hylobates lar* (Linnaeus, 1771)	LR/nt	China; Indonesia; Lao People's Democratic Republic; Malaysia; Myanmar; Thailand
55.*Hylobates lar carpenteri*	LR/nt	Lao People's Democratic Republic; Myanmar; Thailand
56.*Hylobates lar entelloides*	LR/nt	Myanmar, Thailand
Family LORIDAE		
57.*Loris tardigradus* (Linnaeus, 1758)	VU A1cd	India; Sri Lanka
58.*Loris tardigradus lydekkerianus* Cabrera, 1908	DD	India
59.*Loris tardigradus malabaricus*	DD	India
60.*Loris tardigradus nordicus*	EN A1c	Sri Lanka
61.*Loris tardigradus nyctoceboides*	EN A1c	Sri Lanka
62.*Loris tardigradus tardigradus*	EN A1c	Sri Lanka
63.*Nycticebus coucang* (Boddaert, 1785)	LR/lc	ASIA

NOTE: All taxa below were assessed or reassessed in 2000, except those noted as 1996 assessments. The most recent assessment is given in each case. Taxa that will not appear on the public version of the 2000 Red List are all those assessed as LR/lc or DD. I have only recorded the region of occurrence for all LR/lc species occurring in more than three countries.

IUCN Red List Categories and Criteria explained in brief below

** IUCN Red List *Criteria*

A – Population reduction – (1) observed, inferred, suspected or estimated reduction, or **(2)** projected or predicted reduction of at least 20% (VU), or 50% (EN), or 80% (CR) in 10 years or 3 generations whichever is longer based on **(a)** Direct observation; **(b)** index of abundance appropriate for the taxon; **(c)** decline in areas of occupancy, extent of occurrence and/or quality of habitat; **(d)** actual or potential levels of exploitation; **(e)** effects of introduced taxa, hybridisation, pathogens, pollutants, competitors, or parasites.

B – Restricted distribution — Extent of occurrence estimated to be less than 20,000 sq km. (VU), or 5,000 sq km (EN) or 100 sq km (CR) and/or area of occupancy estimated to be less than 2000 sq.km. (VU), or 500 sq km (EN), or 10 sq km (CR), and qualifying for any two of the following : **(1)** severely fragmented, or known to exist in not more than 10 locations (VU), or 5 locations (EN), or single location (CR); **(2)** continuing decline, observed, inferred, projected in any **(a)** extent of occurance, **(b)** area of occupancy; **(c)** area, extent and/or quality of habitat; **(d)** number of locations or subpopulations; **(e)** number of mature individuals; **(3)** extreme fluctuation in either **(a)** extent of occurance, **(b)** area of occupancy, **(c)** number of populations or subpopulations, **(d)** number of mature individuals.

C – Population estimates – population estimated to number less than 10,000 (VU), or 2,500 (EN), or 250 (CR) mature individuals and either **(1)** estimated, continuing decline of at least 10% in 10 years or 3 generations or whichever is longer (VU), or 20% in 5 years or 2 generations, whichever is longer (EN), or 25% in 3 years or 1 generation whichever is longer (CR) OR in **(2)** continuing decline, observed, projected, inferred, number of mature individuals and population structure in the form of either **(a)** severely fragmented [no subpopulation estimated to contain more than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals] ; **(b)** all individuals are in a single subpopulation.

D – Restricted populations – (1) Population estimated to number less than 1000 (VU), or 250 (EN), or 50 (CR) mature individuals; **(2)** Population restricted in area of occupancy of less than 100 sq km or less than 5 locations (VU).

E – Probability of extinction – quantative analysis showing the probability of extinction in the wild is at least 10% in 100 years (VU), or 20% in 20 years or 5 generations, whichever is longer (EN), or 50% in 10 years or 3 generations, whichever is longer (CR).

Summary Data Tables for Selected Species of Northern, Northeastern and Central Indian Medicinal Plants are on the following pages. Below is a Key to the symbols used in the tables :

No. of Locatlon : F = Fragmented

Range: A = < 100 sq.km.; B = < 5,000 sq.km.; C= < 20,000 sq.km.; D= > 20,000 sq.km.;

Area: A = < 10 sq.km.; B= < 500 sq.km.; C= <2,000 sq.km.; D = >2,000 sq.km.;

Data Quality: 1= Reliable census or population monitoring; 2 = General field studies; 3 = Informal field sightings; 4 = Indirect information; 5 = Museum/ herbarium/ collection/ records; 6 = Hearsay/ popular belief

Threat: Al = Artificial lighting; L = Loss of habiat; Lf = Loss of habitat due to fragmentation; D = Diseases; E = Edaphic factors (changes in); H = Harvest; Hf = Harvest for food; I = Human interference; P = Predation; Ps = Pesticides; Pu = Pollution; R = Road kills; Sf = Fire as catastrophic event; Sn = Siltation; T =Trade; Tp = Trade of parts

Research Recommendations: G= Genetic management; H=Husbandry research; Hm = Habitat maangement; Lh= Life history studies; Lm = Limiting factor management; Lr = Limiting factor research; M = Monitoring; O = Other (specific to the species); P = PHVA; PP = PHVA pending further work; S= Survey search and find; T = Taxonomic and morphological genetic stdies; Tl= Translocations

Cultivatlon Recommendations : 1= Captive breeding for conservation either only in *in situ* or both *in situ* and *ex situ* with the population maintaining 90% genetic diversity for 100 years; 2 = same as 1 but periodic reinforcement of captive stock with genetic materials from the wild; 3 = Captive breeding only for research, education or husbandry but not for conservation; 4 = Captive breeding for sustainable utilisation; 5 = restricted breeding; P = pending

Level of difficulty: 1 = Least difficult; 2 = Moderately difficult; 3 = Very difficult; Unk = Unknown