The CAMP Process & IUCN Red List Criteria as a Tool for use in Participatory Forest Resource Assessment and Planning

Prepared for Lecture-Discussion, IIFM, 20 March 1998

Briefing Notes

compiled by

Zoo Outreach Organisation
a positive and constructive, sensible and sensitive, conservation, education, research, networking, and animal welfare organisation

CBSG, India
a Regional Network partner of the Conservation Breeding Specialist Group, SSC, IUCN

Sponsored by the
Regional Community Forestry Training Centre, Indian Institute for Forest Management
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* The contents of the Briefing Book are just examples of real things we do. It is not meant as a blueprint but as a set of tips or helpful hints. It is not a Manual, although it will do as such if you are conducting a CAMP Workshop. Since you may not conduct CAMP Workshops but will undoubtedly conduct other kinds of networking and workshops, the contents are meant to be inspirational rather than instructive. You may not understand fully, even, what some of the examples are, but if you comprehend the basic intent, the principle behind it will come to you when you are faced with a problem in your own workshop.
Section I.

Objectives of this Lecture Session with reference to the Training Course
What is a C.A.M.P. Workshop?
Different uses of C.A.M.P. Workshops (including biodiversity convention commitments)
Selected articles about C.A.M.P. about networking and about NGO's and government
Objectives of this Presentation and Briefing Book

The objectives of this presentation will suffer from a paucity of time. At least two days are required to communicate what we would like and we have two hours. Therefore, we have assembled this Briefing Book for further study and reference to familiarise you with the problems and protocol to be faced specifically in organising a CAMP Workshop and some of the technical aspects of the revised IUCN Red List Criteria. It contains other material which may be useful to you either in conducting a conservation assessment for selected species, or simply in working with the variety of human beings and organisations with which you have to contend.

To put this presentation into perspective, the Chart below serves both as a list of objectives and a key to how these objectives are correlated with your course objectives. Column I lists your course objectives and Column II lists how what we present is correlated to them.

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| Increase understanding on approaches and methods in implementing participatory forest resource assessment | Some basic tools for dealing with people and organisations. |

| Identify ways to apply strategies and approaches learned in the course back in participants own work situation. | Briefing Book of materials which would provide instruction, models and visual aids for conducting workshops yourselves. |

From Outline

| Tools and techniques for vegetation, tree and forest assessment | Illustration of Taxon Data Sheet and explanation of the IUCN Red List Criteria |

| Role of community in vegetation monitoring | Use of assessment techniques for monitoring vegetation over the long term – interactive discussion. |

| Community livelihood and biodiversity monitoring | How to link PRA, CAMP, inventory and monitoring – interactive discussion. |

| Sustainable tree and forest product management: use patterns, opportunities and constraints | How to link CAMP / PHYA / PRA to sustainable use – interactive discussion if time permits |
Whatever techniques we are discussing or using... whatever organisations we are dealing with... whatever actions we are taking, one primary objective is central -- the conservation of biodiversity.
Conservation Assessment and Management Plan Workshop Process

The CAMP process provides two unique items:

> an objective workshop environment and

> a neutral facilitation process

These make possible

> sharing of available information,

> reaching agreement on the issues and available information, and

> making useful and practical management recommendations for the taxon or region under consideration.

Goals of the CAMP are:

1) to assess threat using the new IUCN Red List criteria;

2) to make broad-based management recommendations; and

3) to recommend specific conservation-oriented research.
Example: CAMP Workshop for NTFPs to be held in Madhya Pradesh, June 1998

Conservation Assessment & Management Planning of NTFPs in Madhya Pradesh *

Background:
- NTFPs (largely plant) that are of economic importance
- Interest is in setting up sustainable enterprises - technology, marketing, institutional, ecology, business, harvesting, resource monitoring

Objectives:
- To assess the conservation status of a few NTFPs in M.P., through the CAMP process
- To assess the impact of NTFP collection on the status of each species
- To identify the lacunae of information on the ecology of each of the species
- To identify the key parameters to be monitored for sustainable harvest

Outputs:
- Identifying the lacunae of ecological information for the NTFP species
- Documentation of threats perceived to each species
- Documentation of impacts (direct and indirect) of harvesting of species
- Documentation of harvesting techniques
- Analysis of conservation status and threats to these NTFPs in the various forest divisions of Madhya Pradesh
- Guidelines for conservation management & sustainable harvest of NTFP species - if available
- Categorization of species into threat categories

Activities:
* Shortlisting of the species
* Formulation of the Datasheets
* Translation of CAMP manual into Hindi
* Shortlisting of participants (M.P. Forest Dept., MFP cooperatives, Researchers - TFRI, SFRI, GFRI, IFM, WI, BHU, PRI, NGOs - Action Aid, MP Vigyan Sabha)
* Fundraising (IFM + D.A)* Finalisation of Workshop themes (Trade, Research, Processing, Sustainable Management resource
* Briefing material
* Experts to be called
  # J. S. Singh - Deciduous forests
  # Murari, TERI - Ecological assessment & monitoring
  # Pr. Bhoring - NTFPS in an overview
  # Bisar - NTFPs
  # G.P. Mishra - Forest of Madhya Pradesh
  # Kolwal - General; overview
  # PCCF MFP Fed - Econ.IMP/issues in trade & conservation MP

Not later than the second week of June 1998
The C.A.M.P. Process -- a Dynamic Organising Force for Conservation
(adapted from a talk by Dr. U. S. Seal, Chairman, CBSG, SSC, IUCN, Meseew 1996)

A highly effective workshop processes developed by the Conservation Breeding Specialist Group is the Conservation Assessment and Management Plan or CAMP.

The CAMP process provides two unique items:

- an objective workshop environment and
- a neutral facilitator process

These make possible

- sharing of available information,
- reaching agreement on the issues and available information, and
- making useful and practical management recommendations for the taxon or region under consideration.

The proven heuristic value and constant refinement and expansion of the CAMP Workshop have made it one of the most imaginative and productive organising forces for species conservation today (Conway, 1995).

The CAMP process is a tool for bringing together stakeholders in the future of a taxon or region and for assembling information and setting conservation action priorities. Goals of the CAMP are:

1) to assess threat using the new IUCN Red List criteria;
2) to make broad-based management recommendations; and
3) to recommend specific conservation-oriented research.

Almost 50 CAMPs have been conducted since its inception in 1991. More than three hundred institutions from over 40 countries participated in these workshops. Nine CAMPs have been conducted in 1998 globally. Six CAMPs are planned for in 1997 for India alone.

The CAMP Report is not the final word for the evaluated species. The process and the information, as well as the documents, are constantly evolving. That is why we insist on calling it a "process" rather than a methodology or format. There have been many changes in the process since its inception. One of these changes is the use of the new definitions for IUCN Red List Categories of Threat. When the CAMP Workshops began, the Mace-Lande categories of threat described in 1991 were used. These categories were especially relevant for large vertebrates. The Mace-Lande categories were revised and expanded resulting in the adoption in December 1994 of a more comprehensive revision of the New IUCN Red List categories which we now use in all CAMP Workshops. These new categories provide a way of making comparisons across a wide range of taxa encompassing vertebrates, plants and invertebrates, based both on trends, population, and distribution criteria. These categories can be applied to any taxonomic unit at or below the species level.

Another recent change is the focus on a taxon data sheet to collect data instead of a summary spreadsheet. This enables the gathering of more complete information for each individual taxon considered during the workshop and includes a record of the sources of the information and the compilers of that particular data sheet. All of this information from the taxon data sheet will be incorporated into a computer program called "REGASP", for institutional, regional, and global collection planning, developed by the Australian Species Management Program. The program and this information will be distributed by the International Species Information System (ISIS) beginning in early 1996. This will permit distribution of CAMP information and recommendations to member institutions 3-4 times each year with the ISIS database.

In spite of all the changes made to the CAMP process over the years, the role of the Conservation Breeding Specialist Group (CBSG) and its regional networks such as CBSG, India has remained the same. CBSG and CBGS, India serves as a neutral facilitator of the process with all recommendations made by the workshop participants.
Determining the type of conservation attention needed is another goal of the CAMP. Based upon the information gathered and the status of the taxon, decisions must be made regarding the need for taxonomic and genetic studies, surveys, population monitoring, habitat management, management of factors limiting the population or research to determine what the limiting factors are, life history studies or translocation. Another recommendation to be considered during the CAMP is whether or not a PHVA workshop should be held for a taxon. The PHVA is designed to evaluate the factors affecting the population at risk of extinction and to develop a management strategy for minimizing that risk.

One of the valuable results that can come from a CAMP workshop is the focusing of our understanding not just of what we know but what we don't know. In most CAMPs a large percentage of all research recommendations made were for information gathering research: survey, monitoring and taxonomic studies. This is also true when cumulative data is scrutinized. Nearly half of all recommendations are for survey, monitoring and taxonomic studies.

Another category of recommendation to be considered in the CAMP process is that of captive management. The CBSG approach is that captive propagation be considered a support, not a substitute, for wild populations, and that programs should be developed in the country of origin of the taxa.

There are three levels of captive programs. Level I is the most intensive program with a goal of retaining 90% heterozygosity for 100 years and to be implemented immediately. Level 2 is similar to Level I but includes periodic supplementation of genetic material from the wild. Level 3 is used for taxa that are not recommended for captive programs for conservation purposes but for other important reasons such as education and research. If there is not enough information available at the time of the CAMP to determine if a captive program is required, a recommendation of "Pending" is assigned. Alternatively, no captive program may be needed.

For over half of the taxa considered in the CAMP process to date, no captive program has been recommended. It is important to note, however, that recommendations have been made for many taxa not currently held in captivity. Obviously the mission of CBSG is not to promote captive breeding to the exclusion of other options. The name change from Captive Breeding specialist Group to Conservation Breeding Specialist Group was a very appropriate move.

In every CAMP workshop issues important to a particular species or a group a species are discussed and short reports of the discussions are included in the documents produced from the workshop. Recommendations resulting from discussions at CAMP Workshops may include:

- Stop breeding subspecies hybrids.
- Develop a survey, census, and monitoring training program.
- Conduct disease surveys and outbreak investigations.
- Establish a species Genome Resource Bank etc.

One of the goals of the CAMP is to produce the draft workshop report at the meeting. The value of the report is greatly enhanced if it is published soon after the workshop has been conducted. A day or two has been added onto each workshop to give time to complete the draft report. The final report is generated within a couple of months and distributed to participants and key managers and policy makers. This provides reinforcement to the participants and puts management options into the hands of those who should implement them as soon as possible.

After some time, it may be felt that the conservation scenario has changed and requires revisiting so another CAMP Workshop may be held for the same group, or a smaller group on a more regional basis.
Box 9. Country Studies on Biological Diversity

A number of countries have prepared country studies on biological diversity. Facilitated by UNEP and by contributions from various donor countries, country studies are national assessments of biological diversity, as important to the national economy and the range of factors which threaten it. A country study collects "hard data" and could provide an important start for developing a national biodiversity strategy, as well as for plans and programmes developed from the strategy (see article 6(a) and Box 8).

It is not absolutely necessary to do a country study but, because it gives baseline information, its primary advantage is its extreme usefulness as a tool in monitoring a country's progress addressing biodiversity loss and moving towards sustainable use of the components of biodiversity. UNEP has prepared a synthesis of the experience gained up until April 1992. This focused on the 10 studies accomplished by that time for Bahamas, Canada, Costa Rica, Germany, Indonesia, Kenya, Nigeria, Poland, Thailand and Uganda.

UNEP has also prepared a detailed document -- Guidelines for country Studies on Biological Diversity -- which should be referred to for more specific information on preparing a biodiversity country study. In general some of the tasks involved with preparing a country study include:

* identifying the components of biodiversity important for conservation and sustainable use
* Collecting and evaluating data needed to effectively monitor the components of biological diversity
* identifying the processes and activities which threaten biological diversity
* evaluating the potential economic implications of conserving and sustainably using biological resources
* determining the economic value of biological and genetic resources, and
* suggesting priority actions for conserving and sustainably using biological diversity

The Guidelines also describe how the country study process can contribute to the implementation of the Convention on Biological Diversity. A country study may be useful in:

1. Gathering and analysing data to identify gaps and potential data conflicts (articles 6 & 7)
2. Formulating strategies and plans based on the data (articles 6, 10, 11, 12, 13 and 14)
3. Implementing strategies and plans (articles 6, 7, 8, 9, 10, 11, 12, 13 and 14).
4. Evaluating the effectiveness of action taken against targets set in plans (article 7(b) and
5. Reporting to the Conference of Parties on national measures taken (article 26).

Inventorying biological resources and assessing their conservation status and economic potential is an enormous and complex task. The Guidelines set out twenty guiding principles to assist countries in planning their country study. These stress that the initial country study should concentrate on readily available data, rather than attempting to achieve comprehensive coverage through new research. The very process of data-gathering will do much towards revealing gaps in knowledge which can be addressed later in the priorities assessment, strategic planning and action phases of the process. Step four indicates that the country study should be viewed as an on-going evolving process.

The UNEP Guidelines are not intended as an inflexible set of rules as a country may want to approach a study in its own way. The Guidelines are merely intended to assist countries to assess the status and value of biological resources found within their jurisdiction.
Anatomy of a Conservation Assessment and Management Plan (C.A.M.P.)

1. **CAMP Characteristics**
   - Expertise from active Field specialists (dirt on their boots, ticks in their armpits, leeches on their toes*)
   - **Group** of 12 – 30 specialists, not just one or two.
   - **Interactive** modus operandi (working group + plenary)
   - **Consensus** approach – agreement between experts (yes, it’s possible.)
   - **Use of IUCN Red List Criteria and Guidelines** central to exercise
   - **Ground Rules** for group interaction
   - Special Issue Working Groups and Action Plan Recommendations encouraged
   - Draft circulated for additions and comments by participants
   - Report belongs to Participants
   - Follow-up with Policy-makers part of process

2. **Uses of CAMP**
   - Rapid assessment of conservation status of any plant or animal groups : automatic “prioritisation”
   - For your own organisation’s strategic plans and conservation activities
   - For your state, country or region’s conservation Action Plans or for Biodiversity Inventory
   - For evaluating potential C.I.T.E.S. species
   - Means of involving entire conservation community in biodiversity activities

3. **CAMP workshop configurations**
   - Biological – a complete taxon group (All Indian bryophytes)
   - Geographical or biogeographical – taxon in a geographical region (Southern Indian medicinal plants; Orchids of the Western Ghats; Non-timber Forest Produce of Central India, etc.)
   - Political – taxon in a particular political region (Plants of Himachal Pradesh)
   - Status – pre-evaluated or pre-prioritised requiring reduction and refinement (FRLHI’s list of 300 species ; B.S.I., List of 300 species for Negative List of Exports)
   - Problem species (Species known to be in trade; High use species)
   - Ecological (Indian Mangrove species, Endemic Species of St. Helena’s Island)

4. **CAMP Organisers and Facilitators: Is there some secret knowledge ?**
   - The CAMP Workshop Process was developed by the Conservation Breeding Specialist Group, SSC, IUCN but there is no patent or copyright. There ARE standards, however, which we hope anyone organising a workshop they call a “CAMP” would follow.
   - Any group who wants to use CAMP modus operandi, Ground rules and Red List criteria in the conduct of a workshop could theoretically organise a CAMP workshop
   - Trained and/or experienced Facilitators are available with CBGS, CBG, India, FRLHI and other institutions. Not necessary to use these facilitators if you have some of your own who know the methodology. Good Facilitation can be equated with OBJECTIVITY and SENSITIVITY.
- Technical facilitators experienced in Red List Criteria highly desirable—anyone familiar with Redlist guidelines, procedure, background can do it, and anyone with an understanding of basic principles of conservation biology and an open mind can learn it.
- Organisations with experienced Organisers and Facilitators—CBSG, CBSC, India, FRLHT, Kew Conservation Unit are available on request. There are also other organisations such as BirdLife, International and World Conservation Monitoring Centre who are expert in the Red List Criteria use a different methodology of acquiring and checking information. See Appendices for addresses. Help is available but it will probably cost you.

5. Steps to doing it yourself
- Pay attention in this Workshop.
- Study this book and the CAMP Manual.
- Practice filling out Taxon Data Sheets for species you know.
- Gather a group of your colleagues from the same town together and practice as a group.
- Write down problems and questions and send them to experienced persons.
- Organise a small workshop and learn from your mistakes. Then try a country biodiversity inventory.

6. The Secret (yes, there is some secret knowledge— for the first time revealed here)
- The KEY to understanding CAMP Workshops and their uniqueness is to understand the 3 C’s of Conservation and the 3 E’s of Extinction.

- The Three C’s of Conservation are:
  Communication, Cooperation and Collaboration

- The Three E’s of Extinction are:
  Ego, Envy, Elitism.

CAMP Workshops promote the Three C’s of Conservation and prevent the Three E’s of Extinction. That’s the difference in CAMP’s and other Workshops and that’s the Secret. Think about it.

* Latter two expressions courtesy Dr. Madhav Gadgil.
Some Methods of using IUCN Red List Criteria by different organisations/Institutions

1. Interactive -- group of specialists assembled by objective organiser for purpose of assessment; use available field data and whatever sources can be found to derive a status for each species. E.g., CAMP Process - CBSG, CBSG, India, Kew Conservation Unit

2. Institutional -- Institution collects information from different sources until it feels sufficient has been amassed to derive a status. Derivation and major decisions about information may be done by one or two individuals. E.g., Bird Life, International.

3. Institutional - Individual -- Individual at an institution collects information from different sources until sufficient has been amassed to derive a status. Derivation and decisions about information done by one or two individual, or they may rely on status assigned by known biologists and/or organisations. E.g., World Conservation Monitoring Centre.

4. Institutional - expert -- Expert at an institution (or not) assigns a status based on his singular and superior field experience (or from a singular source) and intuition. Names withheld.
CONSERVATION ASSESSMENT AND MANAGEMENT PLAN (CAMP) 
FOR ENDEMIC MEDICINAL PLANTS OF INDIA

C.A.M.P. Philosophy and Procedure

By signing the Rio Convention, India agreed to prioritise its species and sites and develop strategies for conservation of biodiversity. In order to prioritise species, one needs a good idea of their status, distribution, rate of growth or decline, threats, etc. For many, many species, however, we don’t know much. We certainly don’t have the kind of information required to make a definite status statement. Many species have not been studied for years, decades, maybe even a century. What to do for this?

Ideally, all species should be surveyed systematically. Systematic surveys require manpower, money, time, etc. If we wait for systematic surveys, surely some of the species will become extinct while we wait. We need to make a start, at least.

Comprehensive taxon status reports in the past, such as Red Data Books, have been criticised for errors. Errors are bound to occur, particularly when one specialist or one institution attempts to collect status information about species by post, from museum specimens, from scattered and out-of-date literature... there are gaps in information, individual or institutional bias, etc. We need a method in which all individuals and institutions which are doing work on the taxa can be represented, and thereby share in the responsibility — both the responsibility for contributing to the Report as well as the responsibility for rectifying information gaps. Taxon status reports, whether they are Red Data books or some other method should reflect a consensus by specialists and other stakeholders in the country.

The CAMP Process was developed as a dynamic organising force for conservation to respond to this very need for basic information and consensus. It is the method which has been selected to prioritise species according to the new IUCN criteria for the Biodiversity Conservation Prioritisation Project.

The CAMP Process provides two unique items: 1. an objective workshop environment, 2. a neutral facilitation process.

The objective workshop environment is achieved by insuring that all individuals and institutions participating in the workshop have an equal chance to contribute and attempting to settle disagreements by conflict resolution and consensus. This is accomplished by facilitation. Trained and experienced facilitators will guide participants through the workshop so as to garner the most information in the time allotted. Facilitators are by definition persons who have no stake in the information supplied or generated in the workshop. Their role is to help resolve conflicts and keep the flow of information at a steady pace. The energy of specialists is kept free to contribute information and expertise to the working groups.

This approach makes possible 1) the sharing of available information, 2) reaching agreement on the issues and available information, and 3) making useful and practical management recommendations for the taxon or region under consideration.

Criticism of the CAMP Process:
The main criticism of the CAMP Process is that it forces figures when there is no systematic study. Again, we must ask: when there is no information, what to do? Order of magnitude "guessimates" by specialists are better than saying and doing nothing. In the IUCN Red List categories also, there is a Data Deficient category, when there is really and truly NO IDEA. The philosophy behind the Conservation Assessment and Management Plan workshop is that a start must be made regardless of anything else.

Good faith
When attempting to satisfy a commitment such as prioritising all species in an area so large as diverse as India in a short span of time, it is necessary to accept a principle of "best possible" in "good faith". The underlying principle is that we gather as many specialists as possible from as many agencies and institutions as possible to evaluate every bit of information and expertise to arrive at the best possible conclusion at this time in "good faith." A gathering of specialists who agree to set aside their personal agendas in the best interests of species has its own authority and power.

Process via a via Resolution
The CAMP Workshop is called a "process" because it is never complete. The CAMP workshop on medicinal plants which we are about to undertake is the first of many. Information will not be complete for many, perhaps most, species. Even if information was complete, in a very few years, the habitat, the habits of man, the general environment will have changed and also the status of many species. The CAMP workshop is a first cut or first attempt to define the problem and make strategic decisions for management of the most highly endangered species. In the conservation field, where time and resources are scarce, such decisions can make a big difference for species survival.
knowledge of many individuals and groups on a common ground, has unique power to guide difficult management decisions. Much of the information which typically is mobilized has never before been available to managers in useful form. The process is a useful means to improve management to minimize extinction risk and minimize regrets while awaiting improved information.

The process generates priorities for information we most need to know, and may suggest that particular or sharper focus should be drawn to planned data collection and research, whereas other data collecting activities may be found less important and can be de-emphasized.

So far, from more than 50 CAMP Workshops over the world, there always has been enough information resulting from the entire process to provide better guidance to managers than existed before. If this is not the case, the process produces clear priorities for data collection so that they can be carried out systematically.

Because changes and disturbances to the habitat, human and otherwise, do not stop while we may delay analysis or action in pursuit of more information, a decision not to proceed must be recognized as a decision with considerable consequences of its own. Again, the issue of "good faith" provides a foundation which should result in a feeling of trust in the process to improve our knowledge of the species and their status and, consequently, the ability to justify forging ahead.

Safety features

There are several "safety features" built into CAMP Workshops and their output.

1) In the Taxon Data Sheets where participants record information about individual species, there is a space for listing the names of the contributors of information so that everyone is credited for his input;

2) If an individual disagrees with the group opinion on an item or issue, he is permitted to write his dissenting opinion which, if it is signed, will be included in the Report;

3) CAMP Reports are circulated a few days after the workshop as Draft and participants are given an opportunity to correct mistakes, or even add bits of information as long as the information does not go against the group opinion;

4) CAMP Reports are not published in hardback editions as the "last word" on the status of a taxon. They are normally xeroxed with spiral in sufficient numbers for participants, policy makers and the implementing agency for wildlife conservation to be used for drafting management plans and action plans. This provides reinforcement to the participants and puts management options into the hands of those who should implement them as soon as possible.

5) It is taken for granted that CAMP workshops will find numerous information gaps which themselves can be used to generate management recommendations.

6) After some time, it may be felt that the conservation scenario has changed and requires revisiting so another CAMP Workshop may be held for the same group, or a smaller group on a more regional basis.

Special issues

In every CAMP workshop, participants can suggest issues important to a particular species or a group to be discussed and short reports of the discussions are included in the documents produced from the workshop.

Changes in the Process

The CAMP Workshop Process is dynamic ... it changes according to the needs of the conservation requirements of the users. Over the years that CAMPs have been held, a great many modifications have been done to it. These modifications evolved at workshops just like the one we will have in January and adopted as a better way by CBSG and the 40 countries in the world which have adopted this process for prioritizing their species.

Future CAMP Workshops

CAMP Workshops don't have to be for a large number of species on a country-wide basis such as this one. The first CAMPs to be held in India were for selected medicinal plants of southern India. Instead of assessing many species at one workshop, only 30 - 50 species were assessed every year over a period of three years. CAMP Workshops can also be held in other groupings, such as the one for all species on St. Helena's Island in 1993, the upcoming CAMP on Mangrove species to be held in India later this year, etc. If your institute or agency you may have a grouping that you want to assess. You can use the CAMP Process for this. Write to CBSG, India for more information.

CBSG, INDIA
CONSERVATION ASSESSMENT AND MANAGEMENT PLAN
-- C.A.M.P. -- WORKSHOPS ON MEDICINAL PLANTS IN JANUARY 1997

By the time this issue reaches readers, two CAMP Workshops for Medicinal Plants will have been held in the month of January 1997. Since 1995, CBGS, India has coordinated and facilitated four of these workshops, three of them held in a series with the Foundation for Revitalisation of Local Health Traditions, a conservation NGO working out of Bangalore with a mandate (at the present time) to coordinate the conservation and educational activities related to Southern India medicinal plants as an organiser, host and sponsor.

FRLHT CAMP Workshops
In the three workshops held in 1995, 1996 and 1997, a total of 36 + 44 + 53 medicinal plants of Southern India have been categorised according to the new IUCN Red List criteria by a group of expert field botanists. FRLHT has produced a number of educational items about these plants and catalysed conservation projects to protect, preserve and conserve them. In the next issue of ZOOS’ PRINT we will publish a Report on CAMP III for Selected Medicinal Plants of Southern India. In the next few years, FRLHT will continue categorising medicinal plants with a CAMP Workshop every six to nine months, taking up new plants every workshop but also perhaps reassessing those which were done previously if new information and field studies has become available.

The CAMP Workshops held with FRLHT have been regional and intensive with 53 the highest number of plants to be assessed in a single workshop. In the FRLHT CAMPs, about four working groups per over the Taxon Data Sheets filed by colleagues with a fine toothed comb, with each working group checking information given by a previous one. These workshops generally last three days, with the last day being devoted in large part to reporting and also special issue working groups, such as field study methodology, industrial use, education, etc.

A new component was added to the last FRLHT CAMP in the form of personal commitments by participants, wherein attendees commit themselves to carrying out some activity to assist in the conservation of a species deemed needful of further field study, promotion, or some other activity in order to save it.

A list of the plants to be assessed in the January 1997 CAMP is given in a chart on the following page. Fifty-two are new plants which have not been assessed while one Cleome burmanni was ranked as Data deficient in CAMP II. A summary of previous workshop conclusions will accompany it.

In previous years Dr. U. S. Seal of the Conservation Breeding Specialist Group, SSC, IUCN facilitated the workshop, and in 1996 Dr. Michael Maunder, Head of the Conservation Unit of Royal Botanic Gardens, Kew led the workshop. In keeping with the CBGS policy of empowerment of all regions to be able to use the conservation “tools” developed by it, the 1997 workshop will be conducted “in house,” with trained and experienced facilitators from CBGS, India as well as participants of previous workshops from FRLHT and other botanists will run the workshops.

If all the species which need assessment and categorisation are to get it, then empowerment of the continental regions, nations, regions within nations and even smaller units must become able to organise and conduct their own workshops. CBGS, India has been working towards this goal for some years. In 1995, the Dhariel PHA was conducted entirely “in country”. This year, experts from outside India were overcommitted and circumstance decided the time had come to launch the first “in country” CAMPs.

The 1997 Workshop will be held under the auspices of the Foundation for Revitalisation of Local Health Traditions, Conservation Breeding Specialist Group, India and the Medicinal Plants Specialist Group, SSC, IUCN.

BCPP CAMP workshops
The fourth CAMP workshop to be held in India will be under the auspices of the Biodiversity Conservation Prioritisation Project, WWF, India, CBGS, India and the Forest Department of Uttar Pradesh with assistance from several collaborators including the National Botanical Research Institute, Lucknow and Central Institute for Medicinal and Aromatic Plants, Lucknow and other many other agencies, departments and institutes which are sending representatives for the CAMP.

This CAMP Workshop will be different from FRLHT’s CAMPs in a variety of ways and for a variety of reasons.

The Endangered Species Prioritisation Component of the Biodiversity Conservation Prioritisation Project for India decided to use the new IUCN Red List Criteria applied with the help of the CAMP process to prioritise representative animal and plant groups of India. This decision could be taken on the basis of the written Reports of previous CAMP workshop conducted by FRLHT and CBGS, India. An overview of the BCPP ESPC is given elsewhere in this issue.

While we can think of attempting a first cut assessment of Indian mammals, reptiles, amphibians, and fresh water fish, some of the groups, plants being one (invertebrates another), are so speciose that a single CAMP could not possibly make a dent in their numbers. Since we have experience with medicinal plants from previous workshops and since FRLHT had taken up a programme to assess Southern India medicinal plants, and considering the importance and potential exploitation of medicinal plants we decided to use this group of plants as a model.

ZOOS’ PRINT
It rapidly emerged that the number of medicinal plants also is entirely too large to think of assessing in a single workshop. Covering perhaps seven of the important references for medicinal plants, we listed more than 4500. Some specialists say there are 7000 but there is some dispute whether these are "medicinal" as such or simply "ethnobotanical."

We have to further prioritise even before attempting an assessment and categorisation. Because we can't be absolutely sure who will surely attend the workshop until they are physically present, we have listed some options and strategies and will make the final decision on which groups of plants or which regions to cover by consensus at the workshop itself.

One possible option is to narrow the subject matter to Medicinal Plants of North and/or Northeast India (possibly endemic and in use). We have prepared a list of endemic species from several references. A listing of the most used species of medicinal plants by industry was prepared in 1979 by Dr. Kapoor and Mathur. This is currently being updated although it will not be available to us for use in the workshop.

In the workshop we will attempt to perfect a list of medicinal plants of all India. In the list we have compiled from several references there are a number of mistakes, e.g., plants that are not truly "medicinal", plants that do not occur in India, and misnomers. A special working group will be formed to work on this list in addition to the working groups to assess selected species.

We have taken great pains to inform all botanical and forest institutes which might have worked on medicinal plants and invite their field researchers to the workshop in order to have a report which reflects a consensus of the botanical and wildlife community of India.

While many of our readers are familiar with the CAMP process, some material follows to update and inform others about this methodology for assessment and categorisation of species. In our international, national, regional and local efforts to save the species and habitats which make up the

---

Red Data Book entry for Endangered Indian Plants

*Aconitum ferox* Wall. ex Ser.

**Status**: Vulnerable due to excessive collection for medicinal use

**Distribution**: Himachal Pradesh to Sikkim. Endemic

**Habitat and Ecology**: Temperate to alpine regions of Himalaya alt. 3300-5000 m.

**Conservation Measures taken**: None specifically for this species although some of its habitats fall within some National parks in the region

**Conservation Measures Proposed**: Collection of this species from wild in bulk quantities should be banned. The species may be tried for cultivation in order to obtain plant material in sufficient quantities for commercial exploitation.

**Biology and Potential Value**: Fls. and Fl.: July - November. It is a rare poisonous species, used for curing many diseases and also used as arrow poison. The so-called *'A. ferox'* of Indian commerce or 'Indian Aconite', now available is a mixture of *A. delphinium* and *A. baillouiri*.

**Cultivation**: Not known in cultivation.

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*References:*

*Material for this sheet supplied by H. J. Chowdhery, B.S.L., Dehradun.*

Red Data Book of Indian Plants
Edited by M. P. Nayar and A.R.K. Sastry

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Earth's biodiversity, perhaps the first and most basic step is simply to know what kind, how many and where they are. CAMP workshops represent a systematic attempt to answer those questions drawing upon the knowledge and attempting consensus of specialists.
List of Plants for CAMP III

1. Alpinia galanga
2. Amophophalus commutatus
3. Aphananthe polyacantha
4. Artocarpus heterophyllus
5. Bacopa monanetum
6. Calophyllum inophyllum
7. Canarium surculum
8. Celeus paniculatus
9. Chonemphora fragrans
10. Cinnamomum wightii
11. Cinnamomum sulzianum
12. Cinnamomum burmannicum
13. Curcuma pseudomontana
14. Curcuma zeodaria
15. Decalepis hamiltonii
16. Dendrocalamus javanicus
17. Diospyros candolleana
18. Diploandra indicus
19. Eleocarpus serratus
20. Embelia tajvetam-collam
21. Euphorbia nemenatae
22. Garia indica
23. Garia triloba
24. Gymnema montanum
25. Gymnema kandilense
26. Helminthostachys zeylanicus
27. Henarone candollei
28. Hibiscus homiloides
29. Hydrocotyle laurifolia
30. Luffa umbellata
31. Madhuca longifolia
32. Madhuca mabubanica
33. Michelia nilagirica
34. Murraya dactyloides
35. Persoonia edwardsiana
36. Pterospermum heymannianum
37. Pterospermum canescens
38. Raphidophora perlusta
39. Salacia oblonga
40. Salacia miticulata
41. Sandalum album
42. Sapindus trifoliatus
43. Semecarpus trivialis
44. Shorea tumbilgala
45. Smilax wightii
46. Smilax zeylanica
47. Sporodopsis pinata
48. Svetila lawii
49. Svetila cyanophylla
50. Terminalia arjuna
51. Trichosanthes anamalaiensis
52. Trichosanthes cucumerina
53. Cucumis hummari (Data deficient - CAMP II)

Taxon Data Sheet entry for Medicinal Plant assessed in CAMP I

Species (& synonyms): Octulmae ramosissima (Wallck. ex G. Don) R. Sridhar
Taxonomic status: Species
Habit: Tree
Habitat: Evergreen and along stream side
Distribution: Kerala - Pathanamthitta, Karnataka - Dakshin Kannada, T.N. Topsoil
- Range: km²: > 5,000
- Area occupied: km²: Yes
- Fragmentation (# subpopulations): Yes
Wild population: % Decline: > 50%
- Time/Rate (Yes/No): In 10 years; for scattered populations in Dakshin Kannada and Wyanad, Silent Valley, Anamalais. In 1989, 75 mature individuals recorded near Athirapally Medicinal Plant Conservation Areas of F.R.L.H.T. in situ conservation Programme
- # mature individuals
Data quality (Key, Source, Dates): General field study (2)
Field studies (Who & Dates, Ref.):
Threats (Key): Loss of habitat (L) and human interference (I)
Trade: Locally used

Status: IUCN (Revised): Vulnerable
- Criteria based on:
- Extent of occurrence: Not listed
Recommendations:
- PHQA: Yes
- Research management: Population monitoring
- Cultivation programme: Required
- Genetic management: Yes
- Cultivated population (Current Status, Location and Difficulty): Few individuals at TBGRI, stem cuttings established
- Botanic gardens
- Commercial (Domestic)
- Herbaria (or seed banks)
- Research institutions:

ZOOS' PRINT FEBRUARY 1997
WHAT MAKES A C.A.M.P. Workshop DIFFERENT FROM OTHER WORKSHOPS?

Problem: The Rio Convention requires that all nations prioritize their species for conservation action. Your country is a "hot spot" of biological diversity with thousands of species. Field biologists and other specialists are located all over the country from many different institutions.

Question: How do you do it before the species disappear?

Answer: Use the IUCN Red List Criteria to prioritize the species and create a report for each group of organisms in a CAMP workshop.

Question: How do you do THAT?

Answer: with a CBSG workshop process such as the Conservation Assessment and Management Plan.

THAT'S what makes process Workshops different.

Some VALUES of CBSG Process Workshops lie in their:

* bringing together all groups responsible for saving species
* building a consensus on actions needed for the recovery of species
* bringing together experts whose knowledge may assist rescue of species
* providing an objective assessment of the risk of extinction of species
* producing an objective report used as basis for policy & implementation action

HOW DO YOU MAKE DIFFERENT GROUPS & EXPERTS AGREE!

Some Principles of C.B.S.G. Workshops lie in

* Fear of loss but hope for recovery of the taxon
* Consensus among players on desired outcome
* Potential Win - Win strategy when stakeholder interests and agendas differ
* Complex problems with a need for diverse specialists
* Need for an agreement to pool information and resources and willingness to do so...
* Outsiders acceptable (and needed) as resources, analysts, facilitators...
The "three C's of Conservation"

1. COMMUNICATION
2. COOPERATION
3. COORDINATION

The "three E's" of Extinction

1. ELITISM
2. ENVY
3. EGOISM
NETWORK ENGINEERING*

as opposed to Network Organising
by Zoo Outreach Organisation / CBSG, India

Challenge: Arming people in regions of high biodiversity to save species and populations using the tools of recovery as developed by CBSG.

Strategy: Use CBSG as a device for Regional Networking with the objective of creating a national or regional Interactive Management Team.

Challenge: Urgency created by increased fragmentation of habitat -- increasing number of endangered species in small, isolated populations.

Strategy: Networks for catalytic change. Key: using pieces of a network already in place waiting to be connected.

Challenge: Locating skeletal system of potential regional or national network.

Strategy: Building a team, starting with activers and stakeholders in the conservation community and expanding it. "Profiling" of individuals and organisations is important.

I. Build from existing individuals and institutions/organisations --

A. Skeleton -- catalyst and substructure must fit "new organisation" profile, e.g. catalytic -- should not be inert; flat organisational structure; flexible, etc.

1. Individual Profile: personally and professionally autonomous; interested, innovative, self-motivated, self-supporting (can survive without salary from the network).

   Retired individuals
   Powerful professionals
   Influential personalities
   Mavericks

2. Organisation Profile: autonomous (ideally), infrastructure in place, some degree of flexibility, related sphere of activity/interest (stakeholder)

   Zoo Associations/Regional Association
   Professional Associations (Veterinary, Forestry, Wildlife, etc.)
   N.G.O. s
   I.U.C.N. Regional offices
   Business/industry
   Universities
   Autonomous semi-Governmental organisations
B. Body -- membership of individuals
3. Govt Departments -- Profile: should be direct stakeholder
   Wildlife Department or Wing
   Related and responsible departments, agencies, directorates
   e.g. Zoological, Botanical, Natural Resources...in charge of "wild"

4. Universities -- Teaching staff, Researchers, students
5. Related Professional Communities (vets, biologists, foresters,
   parks dept.) etc.
6. (Appropriate) Non-traditional partners (Farmers, Tribals,
   Press, Business community, etc.

C. Special interest groups -- members should be grouped according to
   their stated interest as well as according to profession for targeted
   information networking.

Challenge: Constructing the network
Strategy: Assembling building blocks for catalysing and coordinating

II. Assist with infrastructural needs for setting up office and staff.
   Donations of used equipment, xerox machines, typewriters, computers,
   seed money, etc.

Challenge: Nurturing Network
Strategy: Establish credibility, Enable, reinforce and expand the Network

III. Supply Tools and Training:
   A. Relevant literature in relevant manner and appropriate language
      Subject matter appropriate to individual community
      Supply freely according to level and need

      1. Entire network should receive "overview materials: CBSG
         NEWS, Regional Newsletters, brochures about ISIS, etc.

      2. Selected professional groups should receive detailed &
         specialised materials

     Example: Zoo/wildlife/research Community:
     First level: Basic animal care
     Second level: Information management
     Third level: Basic Small Population Biology "the message"
     Fourth level: About CBSG tools and processes, e.g.,
                   PHVAs, CAMPS, etc., including what (data,
                   biological information, etc.) is needed to
                   conduct them.

B. Training
   Precisely as above (levels of training)
Challenge: Networks Working Together

Strategy: Use all fields and disciplines, institutions and organisations, individuals and agencies -- integrate disparate groups and individuals

IV. Using means as ends -- Engineer, promote and exploit CBSG "Processes"
   A. Help conduct CAMPs, PHVA's, training etc. until network acquires sufficient credibility and legitimacy to stand alone
   B. Utilise the processes (PHVAs, CAMPs) as research, educational, promotional, and public relations tools
      1. Use CBSG processes to motivate stakeholders to clean up their science and prepare information
      2. Briefing books to be prepared in-country by stakeholders
      3. Invite practically everyone
      4. Publicise event
      5. Give detailed guidelines for in-country follow-up (including evaluation)

Challenge: Release or "graduate" Network; make it possible for networks to stand alone.

Strategy: Pull out human supports so that network players will utilise their skills

V. Empower / validate someone (or a team) to continue
   A. Provide advice and encouragement from a distance
      1. Maximum information
      2. Minimal financing
      3. Minimal outside expertise
   B. Help with P.R. with Government and Education of Policy makers so that in-country funding and sponsorship is forthcoming
   C. Encourage experimentation and clean up of failed processes; follow up

* Regional Network "Engineering" as opposed to organising is a methodology used when an extra "push" is required to get people to voluntarily associate and activate in a positive and constructive manner to address crucial conservation issues, responsibilities, tasks.

"Engineering" should be done from within the community, not imposed from outside. Regional Networks are for countries and regions that WANT them in addition to NEEDING them. The "engineer" should have contacts outside to provide material for fuel however. The above is a tested and true strategy based on experience.
A couple of years ago I was asked to give a talk at a course organised for forest officers at the Second Refresher Course for State Forest Service Officers, 1-12 February 1993, State Forest Service College, Coimbatore.

The topic given was 'The Role of NGO's in Forestry' and although I begged and pleaded and cried and coaxed to be allowed to talk about my own subjects, the organiser of this course absolutely would not relent. In the course of my trying to convince him to allow me to speak on zoos, small populations, or International cooperation, or something, he commented that he had heard I was "very critical" of the forest department and zoos and expected that it would be a good, e.g., exciting and controversial session. He was using me to baill the participants, like a baby buffalo in Gir Forest baits the lions.

The interesting thing about this interchange is that, although I DID have some differences with the forest department of a particular state long back, and, admittedly, I DID create a bit of a fuss, I learned that that was not an effective way to get things done and I have not been critical of the Forest Department for YEARS -- more one and a half decades. And I am NEVER critical of zoos. In fact it is one of the principles of Zoo Outreach Organisation that we do not criticise zoos -- we make members sign a form stating that they will only work in a positive and constructive manner. It was interesting to me that after so many years of 'good behaviour' I was still considered critical and controversial.

Reflecting on the dynamics of characteristics which govern the relationship between non-governmental and governmental organisations, I made a diagram of these dynamics. I used this diagram in my lecture as well as some Guidelines for NGO's working with the Forest Department, based on principles developed a few years ago as a result of my own experience working with governmental and non-governmental organisation. I also asked the participants what they did not like about NGO's and we made the list below.

Some months later I was asked to give a presentation for a group of NGO's and I showed the same diagram and asked the same question ... about government organisations. The NGO's came up with almost exactly the same list of things they didn't like about government officers that the government officers had made about them.

Many of the complaints from both sides were absolutely true. Some of the defects in both were due to the natural of human beings, but others were due to the characteristics of these two types of organisations, governmental and non-governmental.

For example, the NGO's criticised the government officers for being too caught up in what their superiors and the politicians thought. The GO's complained that NGO's were not accountable. This is a fact of life, however, that government servants are beholden to their superiors and to politicians. It is not a choice -- if they want to stay in service, they have to do a great deal of compromising. The NGO's don't have those kinds of constraints -- whatever they say or do, their job doesn't suffer. This makes them careless and naturally government officers working with them sometimes have to take the brunt of this.

What should happen is that both GO's and NGO's should recognise one others strengths and weaknesses and use the strengths of one to compensate the weaknesses of the other.

Fundamental tension.
There is a fundamental tension which exists between governmental departments and non-governmental organisations. This tension is practically inevitable in any governmental department but particularly so in the services, such as the Forest Service, or Animal Husbandry Department, etc. due to the following reasons:
Any government service is more like a community or a family which are defined by the bonds that hold its members together. Services become tradition-bound and these traditions, along with the bonds of loyalty, can result in stagnation.

As a result, almost any government department, agency or service acts as an agent for stability and continuity with a tendency to block or at least slow down change.

Organisations of this type are, by nature, inert. But Government is Government. Governments are alike all over the world. We can try to change the nature of government, but what will happen to the other things we need to do while we are trying. It may be more useful to try and change some of the distressing things in society and environment that government itself wants to change, but with all its power -- cannot.

According to Peter Drucker, however, "the non-profit (or voluntary) organisation exists to bring about a change - in individuals and in society."

An NGO is catalytic. It is a destabiliser. Its members normally consider it their duty to bring about change (sometimes even when it is not necessary or justified). Naturally there will be tension between government organisations and non-governmental organisations.

Bureaucracy by nature does battle with innovation. The stronger and more centralised a Bureaucracy, the more it seems to inhibit change.

Change, or innovation, is good however. Change is stimulating and creates a climate of creativity, excitement and enthusiasm.

In forestry, for example there was very little change for quite some decades - activity revolved around plantation and exploitation. NGO movements perhaps helped to catalyse progress towards involving people in forestry and also in giving protection to forests as habitats for a diversity of plants and animals.

In my own office, I am afflicted with 'occupational blindness': I can't see the dust under my own desk or understand that my employees are suffering. Someone from another office can see - because he is objective and uninvolved. If he is sufficiently caring and courageous to point these things out to me, and if I have the desire or at least the willingness, to improve, improvement in my office can take place.

NGO's can play the role of a visitor from another office, giving an objective appraisal of what is actually taking place.

A good NGO should be catalytic, but not necessarily critical. Suggesting new directions and providing assistance and re-inforcement for bringing change about can be far more effective than criticism. NGO's should establish their credentials by learning the problems of departments or services and helping to solve them by carrying out positive and constructive works. It is only then that they will get -- and deserve -- a hearing.

NGO's should not try to do the job of the government agency but should instead try to find out what jobs government agencies, with all their restrictions on action and funds, are unable to do for themselves.

NGO's should do for government what it cannot do for itself.

NGO's should use their assets, i.e. flexibility, mobility, non-accountability, freedom to help G.O.'s compensate for their liabilities, i.e. formalities, red tape, restrictions, political vulnerability, etc.

NGO's can act as catalysts to motivate governmental organisations to act. Individuals in government may want to act but cannot do so as a result of protocol, particularly bureau-
CHARACTERISTIC FEATURES OF ORGANISATIONS

LARGE ORGANISATION
(Government, big business, industry, international NGO)

Stability → Inertia
Continuity

SMALL ORGANISATION
(Local NGO, small business, cottage industry, etc.)

Flexibility → Innovation
Change

© [Signature]
NGO's can cut through protocol and initiate or instigate action.

G.O.'s can reciprocate by using their official status and infrastructure to help NGO's compensate for their liabilities, i.e., lack of resources, information, opportunity.

Motive is important. A good NGO should want to help the cause, first and foremost. Most NGOs and NGIs get into trouble because they want credit for everything they do and will not stay behind the scenes.

Governmental organisation persons sometimes get jealous because the NGO can get so much done while the government people are bogged down in red tape. They then deny NGO's the opportunity to participate simply out of bloody mindedness!

Time tested philosophical and ethical principles such as patience, charity, forgiveness, "do unto others as you would have them to unto you", are what are required to make a successful interaction between two very different types of organisations.

NGO's, if they are objective, can play a role in co-ordinating the activities of different governmental and non-governmental agencies. Listed below are some principles for NGO's and NGI's working with governments. Some of the apply to government officers themselves!

NGO's have to understand that Government has the power. If we want to participate in any meaningful way, we have to learn to cooperate with Government. Sometimes this means compromise but through compromise, cooperation and persistence, a good NGO can make a big difference.

In the chart below, the aspects GO's and NGO's did not like about one another are illustrated. Most of the are the same characteristics. Those which are different are connected by a dotted line with arrows. It should be clear that some of the characteristics of the government officers which NGO's do not like simply go with the territory. They result from the nature of government itself.

Therefore, a strategy of each group utilising the strengths of the other and compensating for the weaknesses can -- in theory -- produce a whole, effective organism. Let's try it.

<table>
<thead>
<tr>
<th>THINGS Governmental Officers do NOT like about N.G.O.'s. N.G.O.'s are</th>
<th>THINGS Non-governmental Individuals do not like about Government officials. G.O.'s are</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publicity - seeking-</td>
<td>Publicity - seeking-</td>
</tr>
<tr>
<td>Too critical -</td>
<td>Too critical -</td>
</tr>
<tr>
<td>Questionable objectivity -</td>
<td>Questionable objectivity -</td>
</tr>
<tr>
<td>Non-accountability &lt;-----------------------------------------</td>
<td>Too fearful - too obscurious -</td>
</tr>
<tr>
<td>Negative approach -</td>
<td>Negative approach -</td>
</tr>
<tr>
<td>Arrogance (Know-it-all-Ism) -</td>
<td>Arrogance (Know-it-all-Ism) -</td>
</tr>
<tr>
<td>Superior Attitude -</td>
<td>Superior Attitude -</td>
</tr>
<tr>
<td>Exaggerated response -</td>
<td>Exaggerated response -</td>
</tr>
<tr>
<td>Ulterior motives e.g. Acquisition of money, power, fame, property -</td>
<td>Ulterior motives e.g. Acquisition of money, power, fame, property -</td>
</tr>
<tr>
<td>Self-righteous attitude -</td>
<td>Self-righteous attitude -</td>
</tr>
<tr>
<td>Impractical politically &lt;-----------------------------------</td>
<td>Too much under politicians thumb -</td>
</tr>
<tr>
<td>Lack of awareness of political Implications &lt;---------------</td>
<td>Too much directed by political whims -</td>
</tr>
<tr>
<td>Misdirected energy &lt;----------------------------------------</td>
<td>Apathetic -</td>
</tr>
<tr>
<td>Make up work &lt;-----------------------------------------------</td>
<td>Don't do anything -</td>
</tr>
<tr>
<td>Technically not sound -</td>
<td>Don't know anything -</td>
</tr>
<tr>
<td>Lack of balance &lt;--------------------------------------------</td>
<td>Too uptight; too conservative -</td>
</tr>
</tbody>
</table>
Principles for People -- NGO's and NGI's working with Government Organisations

1. Make Yourself Useful. Provide solutions, not problems.

2. Passion is not knowledge. Love, interest, enthusiasm for wildlife, environment, animals, etc. -- however well meaning -- can be as destructive as hatred without knowledge. What you think is helpful may not be in the long run.

3. Do what is Do-Able. Concentrate on projects that you can do, beginning with simple straightforward ones. Accept ..., for the moment ..., the things you can't change and don't let frustration destroy your potential.

4. Establish your Credibility. Rack up some credits ... even for very simple projects and activities ..., before asking for big responsibilities.

5. Accept your Limitations. There are many things which you will not be able to do or change, at least overnight. Bad habits die hard. See this as a test of your creativity to work within that context and make the best of a bad situation.

6. Do something! Don't just sit around and complain ... .

7. Satisfaction in having done your duty can be sufficient reward. Don't worry if you don't get proper credit, or even if you could not complete your objective. Do as the Bhagavad Gita says: work for the fruit of your action but for the action itself.

8. Cooperate with others ... individuals and organisations.

9. Share freely with others ... work, knowledge and experience. There is enough work for everybody.

10. Charity goes a long way. Put yourself in the other man's place ... before you judge.

11. Mind your own business ... such as labour problems in an institution ... focus on your own tasks.

12. Don't tell tales ... you might not really know the inside story; inexperienced persons can grossly misinterpret things they don't understand.

13. Credit others ... you can make your own name by promoting other's activities.

14. Be glad for others' professional good fortune -- don't worry if a colleague gets some benefit. There is an infinite amount of good in the world. If someone else gets some, there is plenty left over for you.

15. Surrender to win ... If an institution is against a particular project you are doing, it may be more productive to just stop and do something else. Fighting is wasteful. Come back to it later and from another angle.

16. Positive is stronger than Negative. Positive and constructive activities and attitudes will achieve more than negativity. Don't criticise, utilise.

17. Be cool. People tend to become fanatical and hysterical about animals. Direct that energy into something productive that achieves a real result. Go for a product instead of a "production".
The CAMP Process & IUCN Red List Criteria
as a Tool for use in Participatory Forest Resource Assessment and Planning

Section II.

Organisation of a CAMP Workshops
Preparation – planning and organisation,
Venue requirements, etc.
Invitations and preparatory material
Briefing book – suggestions and model

Ground rules and Group roles
Facilitation and Working Groups

Plenaries and validation
Draft, Reports and follow-up
Organisation of a CAMP Workshop

Most of this Section is from our own experience in organising CAMP Workshops, but we learned first from the Conservation Breeding Specialist Group Workshops, their Facilitator Training Workshops and from the Process Design Manual written at the Facilitator Training Workshop (this is available from CBSG and is an excellent resource).

The organisational outline which follows is suggested steps only. Your workshop will have its own personality, of course. These guidelines are given as a sort of checklist of things that you may not want to forget.

Also, this set of suggestions is for one isolated CAMP Workshop. Guidelines and suggestions for organising a series of workshops in a national Biodiversity Inventory are also available.

Preparation -- planning and organisation

1. What kind of C.A.M.P. Workshop
   a. “One off” -- one workshop to satisfy a particular objective
   b. Series -- first of several to assess several groups or a larger community of plants
   c. Biodiversity inventory

2. Which kind and how many species -- many methodologies
   a. Cover large number for “first pass through” then do smaller and more detailed exercises later. Example: CBSG, India Biodiversity CAMPs.
   b. Cover small number in several workshops and do Review afterward. Ex. FRLHT Southern Indian Medicinal Plants CAMPs.
   c. Endemic only -- have advantage of being “non-controversial” -- always “global” and therefore fit without question into Red List Guidelines.

3. Funding amount and support will both determine and be determined by the type of workshop you select.

4. Selection and configuration of participants.
   a. Invite only active field biologists
   b. Invite active and retired field biologists
   c. Invite active and retired field biologists and others with some interest in the field
   (How diverse should stakeholder participation be? We regretted not having exporters and manufacturers represented in medicinal plants CAMPs. We invited them but they did not come). Local stakeholders (users, collectors, local traders) may have a lot of information if a means can be found to centralise it and to convince them to part with it.

5. Locating specialists
   a. collect mailing lists of other workshops, conferences, symposi bblocal members of SSC taxon based specialist groups
   b. Local SSC Specialist Group Members
   c. Government wildlife agency personnel, state and national
   (State Forest/Wildlife Service, government surveys, national institutes, national bureaus)
   d. University Zoology, Botany, Wildlife biology Departments; Wildlife institutions; departments
   e. Authors of articles on population and distribution in bibliographies and collections
We sent form letters and a form to about 1000 individuals, department and institution heads and government officers requesting nominations (See sample - blank and filled). You may think you know everyone who is working in your field, but you'd be surprised -- maybe.

5. **Convincing the specialists to come to your workshop and part with unpublished information**
   a. Send a series of very convincing letters on important - looking letterhead
   b. Choose collaborators carefully
   c. Your own organisational credibility as a fairminded, objective, dedicated, cooperative organisation. Letter should reflect this as not everyone may know you.

6. **Strategy for insuring credibility -- careful selection of host institutions and collaborators.**

7. **Organisational preparation**
   a. CBSG Process Manual an excellent guide -- can be copied on computer and your own workshop details written right into it (see example in VI Section Poupouri)
      *The CBSG Process Manual is copied on to the 3 x 5 floppy disk in your kit. You can just keep copying it and write your own notes in the different sections.*
   b. Fund- or in-kind raising attempts -- local organisations can help by sponsoring dinners, lunches, venue, etc.
   c. Etc.

**Invitations and Preparatory Materials**

1. **Keep chart/calendar of dates, activities to be done/completed, materials sent** (see example in Section VI)

2. **Several letters to participants** -- this builds up excitement, expectations, creates atmosphere of seriousness, sincerity and caring (examples in this briefing book)
   i. Invitation + CAMP description and some details; request for early confirmation; offer to write letter to institution head requesting their presence officially (this is extremely important).
   ii. Follow on letter - more information and Biological Information Sheets to be returned (ideally)
   iii. Warning letter (optional/situational) -- no time for tours, families, time off, etc.
   iv. Final letter requesting final confirmation and giving final instructions to bring field notes, references, etc.
   v. Personal letters to people who have crucial information
   vi. Letters to government agencies, general requesting they depute someone appropriate; they may not but the information will build up status and image of workshops and let them know it is happening.
   vii. Courtesy invitations to VIPs -- they won't come but the information will be useful to them and give credibility and promotion to workshop (as dese above)

3. **CAMP Manual**
   Sending CAMP Manual and Biological Information sheets with 2nd invitation provides some instruction and background for participants. Also creates interest as it gives them something they can do to prepare for the workshop. A CAMP Manual and a Taxon Data Sheet (same as a Biological Information Sheet) is in your kit.

4. **Briefing Book**
   A model cover and contents of a Briefing Book is included following this section. You may have to write to specialists requesting articles about the population and distribution of
the plants selected for assessment in the workshop. Other items to be included in the Briefing Book are the invitation from the host organisation, your credentials and something about all the collaborators. List of invoices, congratulatory letters from important persons in your community and well as international community, SSC literature and Subject Area Specialist Group materials (e.g. Reintroduction Specialist Group Guidelines, IUCN Policy Statement on Captive Breeding, etc.)

Every participant should get a Briefing Book. Make extras because the host organisation always wants to give them away to special guests, the press, etc. If you want to avoid giving away expensive Briefing books to the press, make up a special Press Packet using cover of Briefing book and Press Release and a few other essential items.

5. Venue requirements
Venue requirements are three:

i) Formal hall for Inauguration and Validictory if these are to be big events.
ii) Space for frequent and informal plenaries once the workshop starts where whole group can sit comfortably and discuss as a group (huge auditoriums are usually not so good for this; best is a medium sized room where microphone is not required and informal plenary sessions can be held at a moment’s notice.
iii) Spaces for small (from about 6 - 12 persons) working groups to sit around tables. Tables are very important to comfort of the group as they will be filling out forms and using books and other reference materials. Tables should be squarish for easy and informal discussion. Tables for Working Groups can be fixed in one large room, but sufficient space should be between tables so that disturbance from others is not a factor.

Best possible arrangement: A room large enough for plenary set up at one end and working group tables at the other.

6. Meals and coffee
Time is of the essence at a CAMP Workshop. Starting at the same time, not spending lots of time at coffee, etc. Therefore,

i) Offer all meals at Workshop Venue only. Breakfast will get participants there on time. Dinner will insure (usually) that they stay a couple of hours extra.
ii) Coffee/tea ad libitum. Rather than take formal breaks, offer coffee and tea all the time, or have it served around working group tables.

If these measures seem costly on the one hand and mean-minded on the other, just think how costly it would be to organise a workshop and not have sufficient time to complete the task. Participants don’t actually mind this, particularly if it is done with good humour and a “pep talk” now and then about the “cause.” In any case, it should be presented when you explain Groundrules and get the group’s agreement about how to run the workshop.

7. Inaugural Exercise -- to have or not to have -- formal or informal
The Inauguration and Validictory is usually 100% host’s responsibility, however it is most useful to them and their public relations and political needs, however...

We advise avoiding very important dignitaries for normally formal inaugural -- but this has an up side and a down side
Up side-- Workshop can start on time and save half the morning
Down side -- publicity and prestige suffers (may be worth it, however)

Organisers and facilitators may be asked to sit on the dias with dignitaries and also to say a few words about the process. After the Inaugural the actual CAMP Workshop begins:
Day one onwards -- Workshop basic agenda

1. Welcome and introductions -- participants tell name, institution and main interest
2. Description of CAMP Process
3. Overview of Conservation of Workshop subject area (arrange some senior participant or host org.). Also called “Problem Statement”. This should also be included in Briefing Book.
4. Role of IUCN, SSC, CBSG : values of cooperation, etc., CAMP History, History of Red Data books and IUCN categories
5. IUCN categories -- Part I
6. IUCN categories -- Part II (It is usually better to divide this explanation as it can be tedious)
7. Filling sample Taxon Data Sheet using overhead projector with whole group. Warning: this can take a very long time but it is an excellent exercise as everyone can come to understand the process together and in the same format.
8. Groundrules, Group rules, e.g. role of facilitators, recorders, researchers should be gone over with the entire workshop gathering in plenary. Use overheads in this section to explain Groundrules and group roles. We find it useful to get a show of hands on the Groundrules and schedule.
9. Whole group discussion -- selection of workshop and species priorities, goals of workshop. It is useful to do this ahead of time with the organizer and have a print-out ready for participants to refer and modify; otherwise this discussion can take a long time.
10. Form Working Groups
    See Working Groups configuration tally forms used to configure working groups and geographical areas in Section VI
11. Working groups get together at their Table. Even if it is late in the day, be sure the Working Groups form and meet, even if it is just to introduce themselves and decide on species to start with. Ideally, assess one or two species so that these can be checked before.
12. Plenary for those species before closing for Day one
13. Remainder of days -- working groups - plenary - working groups - plenary - working groups - plenary, etc. etc.
   After assessing a few species, the groups should assemble for plenary so that all species information can be read out and agreed by the Workshop as a whole. This is extremely important as different group members will definitely have information on species other than what their own group is assessing. Ideally, Taxon Data Sheets should be circulated to all groups before reading but sometimes this is a logistical impossibility. Also it is definitely NOT a good idea to wait till the last day to read out Taxon Data Sheet information -- it is tedious, boring and people just stop listening. Doing this a bit at a time also gives people a needed break from the concentrated attention of the Working Group.
14. Next to last afternoon or last day morning -- formation of Special Issue Working Groups
    Special Issue Working Groups can take up various issues that emerge during the Workshop. These can vary from taxonomic or nomenclatural problems to general conservation issues such as Trade, Education, etc. These groups should be run the same way as an assessment working group, e.g. with a Facilitator and a Recorder. Each group should produce a written report which is read out to the Plenary. The workshop participants should comment on the Report and agree to allow it as part of the Workshop Output.
15. End of workshop:
    Explain the procedure which will be used in correcting the Draft and distributing the final Report. Get consensus from participants that this is their wish. Essentially what will happen is that the facilitators will get the Taxon Data Sheet information typed up into a simple format and standardised. This will be sent to every participant and he will get a chance to fill in gaps of sources and other information he did not have access to during the workshop. Essentially, however, the facilitators will not entertain major changes to the Draft which were not agree upon by the entire workshop. Also other specialists and experts will not be permitted to correct or comment on the Draft. What was done at the Workshop is the output...
of the Participants who came and worked. Their work will remain as it is for the most part.

In some Workshops in which a very large number of species are done and there are questions about systematics, nomenclature, spelling, a senior person generally regarded as knowledgeable may be asked to sort out final questions after the corrected Drafts have come in and there are still anomalies.

Try and give every participant a DRAFT list of species covered, their status as derived by the Workshop, institutions represented at the workshop and a list of participants. This is very effective to show their boss and also for organisers to send around while the Draft is prepared, corrected, returned, and incorporated into the final Report.

It is also a good important to have at least a few key people stay back and help tie up loose ends regarding the species assessed, organise and count the Taxon Data Sheets, etc.

**DRAFTS and REPORTS**

1. A Draft Report consists of all Taxon Data Sheets, the Special Issue Working Group Reports and a list of participants. Drafts are posted to all Participants as soon as possible after the workshop. Facilitators/organisers get the Taxon Data Sheets typed and standardised. A Red List specialist checks the category to make sure that the conservation status has been derived in accordance with the information provided and the official Red List guidelines. Participants are asked to correct the Draft and return it to have their corrections and additions incorporated into the final Report.

2. The Report consists of an Executive summary, a more lengthy Report which includes analysis of the data and perhaps incorporation of the output in relation to some of the issues raised in the workshop Special Issue Working Groups. Summary Data Tables are compiled in different formats for ease of use and output Summary Charts are included. Usually a copy of the IUCN Red List Criteria and Guidelines is included in the Report as well as a description of the CAMP Process. The Special Issue Working Group Reports are included, names of participants, sponsors, etc.

3. When budgeting your Workshop, REMEMBER, it costs a LOT more (in time and money) to make and post a Draft and Report for 500 species than it does for 30 or 40 species. For large exercises, it may be worthwhile to explore alternatives to paper Drafts, e.g., computer disks.

4. Policy about circulating Draft and stick to it. Our policy is Drafts to participants only and only when ready. Specific pages in Drafts may be used in emergency (request from CITES committee) if user promises not to quote as final.

5. Distribution: Reports of Workshops in which a very large numbers of species are expensive and it is not possible to circulate them widely. A fee can be charged for the complete Report but people should know that a Report exists! Summary sheets and Summary Reports are also effective and may encourage people to order the Report on payment. Exceptions are the national government agencies -- they should get a copy of the Report regardless.

6. Ownership of document: We have maintained that the Report belongs to the Participants who are the authors. The facilitators or organisers are the Editors. The sponsoring agency is the Publisher. The host is credited as the organising institution. Generally the philosophy of CAMP Workshops is that the document "belongs" to the participants but it can be distributed freely in the interests of conservation. The kind of information and recommendations generated in a CAMP is of the greatest interest and utility to wildlife agency, wildlife managers, policy makers, etc. The purpose of the exercise is to save the species -- if the information is not shared, the entire project will come to nothing.
STAGE ONE: PRE-CONFERENCE ACTIVITIES

1.1 Objectives

1.1.1 Ensure that all the stakeholders have been identified and that their participation has been confirmed —

Plant → Host has confirmed; needs to contacted, preferably in person, or over phone
Lucknow

- PCGF and Ashok Singh needs to be contacted and discussed
- NBRI → has confirmed participation, provision of 20 rooms
- CIMAP → has been contacted but has not responded in
- CDRI → director not individually contacted — needs individual
- Lucknow Botanic Garden — need to be contacted
- R. S. Bhadauria → need to phone him
- Vinay Tandon → need discussion with him
- Sally needs to make a trip to Lucknow

1.1.2 Ensure that the necessary experts have been identified and participation has been confirmed.

- FRLHT — invites? Who is doing?
- Botanic gardens need to be sent mailings — get list — Sanjay
- Get lists of medicinal plants most in use by industries from CIMAP — Sally
- Mr. Dey commented something about that — Shekar Singh’s Report
- Sanjay needs to write to Herbal India, also compendium from Bus India
- Sally could write to Shankar Ranganathan about industries using plants
- Send list of “experts” to Rao, Nayar, Shastri? etc. and let them prioritise

1.1.3 NA

1.1.4 Ensure the collection of all available and pertinent information for inclusion in a Briefing Book.

- Rac has given some material
- T. N. Khosla — ask him for?
- Ask Suzie Ellis? Mike Maunor? Wendy Strohm? Tony Cunningham?
- Sanjay will put what we have into a file with pages devoted to ideas of things to have so a contents can be made
- Consult Shekar Singh and Shastri about meetings that might have been held
- Pre-prioritised list according to endemism and plants in trade
- Sanjay making comprehensive list
- Consultation with Rao, Nayar, Henry, Shastri?, Pandarangan
- 200 drug industries in India — write and get lists of species in use
- Also ask CDRI
- Also consult Shankar Ranganathan

1.1.5 Ensure that the Briefing Book is produced and ideally distributed prior to workshop onset.
CAMP Manual — produce in quantity — distribute before workshop — make template and insert animal or plant specific TDS’s when sending out. Should send out before workshop.

Specific BB — distribute at workshop
- Covers for briefing material ????
- Colour provided by FRLHT
- Black and white design for other workshop
  picture of condoments ???
  Picture of tribal or traditional healer ?

1.1.6 Ensure that consideration has been given to potential conflicts among participants.
- Get Shastri on our side
- Between Tandon and the world
- Between Ajith and us about the process design

1.1.7 Confirm all aspects of logistics (venue and its utilities, funding, fees, location, facilities).

Need to write plan for Bhadauria and Ashok Singh
- Venue — confirmed but require the following
  Shamiana
  Electrical connections — cords, extensions, Generators
  Table and chairs.
  Flip chart stands
  Area for food
  Clean up for conference hall
  Transportation to and from accommodation areas
  Phone/fax resource — who?

1.2 Tasks

1.2.1 Consult with the host wildlife authority (consider holding a brief meeting with a key person) to identify, invite, and initiate active participation in workshop preparation of those individuals. A protocol exists for PHVAs and CAMPS, that is available for local organizers. Natural questions:

- Mr. S. C. Dey, Kishore Rao, Dr. Subodh Singh?, Biodiversity person, ZSI/BSI person
- PCCF and CCF, Wildlife in Lucknow

1.2.1.1 who has the critical data
- Participants

1.2.1.2 who has the authority and/or experience to manage the species in situ;
CCFs in four states suggested by Mr. S. C. Dey
Forest Dept.; Social forestry schemes; ecodvelopment schemes; Forest Research Institutes;
1.2.1.3 who has the experience and/or authority to manage the species *ex situ*:

Forest department and associates; Botanic Gardens; some NGO's with projects (TBGRI; FRLHT; French Institute); agricultural universities; some industries

1.2.1.4 who are members of conservation or advocacy groups who are
invested in researching or protecting the particular species;

Forest Research Institutes ?; KFRI; FRLHT, TBGRI, French Institute.

1.2.1.5 who has expertise in the biology or population dynamics of this or
similar species;

selected participants for CAMP

1.2.1.6 who can provide information on the local human communities?
— Developmental Alternatives ; Ashish Ketari; Indian Institute for
Planning

Shekar Singh

1.2.2 Distribute initial invitations early (at least 6-12 weeks before the
workshop).

Dec. 1 = 6 weeks -- initial invitation
Dec. 10 = actual invitation

1.2.3 national — point people identify

1.2.4 Provide those individuals with a check-list of parameters and a format
useful for collating data in preparation for the workshop process.

Doing that with list of plants, TDS, etc.

1.2.5 Encourage those individuals to submit material (published and
unpublished data, distribution maps, papers, government briefs, action plans,
human demographic information, etc.) to be included in the Briefing Book.

Revisit -- ?????

1.2.6 Notify and invite representation from appropriate SSC Specialist
Groups, NGOs, and organized programs of the captive breeding community. CBSS
generally identifies two to four people with needed expertise to participate who are
independent of local interests.

Identified ; SSC plant group members in India — Sanjay

1.2.7 Provide participants information on workshop objectives, their possible
contributions, and expectations of what they will be required to do (i.e., their likely
contribution with respect to species-specific knowledge).

1st mailing, 2nd mailing; CAMP manual; detailed letter to actual
invitees after invitation goes out — Sally and Sanjay should draft

1.2.8 Communicate with key individuals and organization representatives regarding
participants’ expectations and views on the PHVA process and on the target taxa
to predict potential conflicts among participants.

Speak with Ajith

1.2.9 Produce the Briefing Book (refer to Briefing Book preparation notes).

1.2.10 Confirmation of logistics with details handled by the convener including:

1.2.10.1 Venue (size of meeting room, working group rooms, adequate power,
etc.). Room accommodations and catering need to be arranged. Support people
(to assist in photocopying, running errands, etc. during and immediately following
workshop).

1.2.10.2 Equipment (computers, printers, photocopiers, power cords,
projectors, flip-charts, stationery, microphone, telephone, fax, etc.). If possible,
visit the facilities in person to ensure adjustments can be made in advance (e.g.,
check to see if computers are compatible and if sufficient electrical outlets are
available). Video camera (for potential training film development). Computer over-
head projection unit for illustrating VORTEX. PHVA questionnaire production and
distribution.

1.2.10.3 Transport (national and international - make visa requirements explicit
early; additional letters of invitation may be needed by some participants).

1.2.10.4 Workshop funding.

1.2.10.5 Public relations (media) requirements. Prepare workshop press
releases and consider media relations before workshop onset.

1.2.11 Establish a reliable and inexpensive communications channel, e.g., e-mail.

VSNL email — Sanjay will get form

1.2.14 Prepare draft workshop agenda / timetable and consider using standard
project planning format.

Sally will prepare and Sanjay will see
Innovations in Indian BCPP CAMPs, CBSG, India

CBSG, India has made innovations in the CAMP process for the sake of the Biodiversity Conservation Prioritisation Project. Some were compulsory because there was no other choice, either from mandate of BCPP organisers or financial and time constraints, and some were because it was more appropriate for Indian and country-wide CAMP design, and some were because we found a better way for us.

These innovations may not be necessary or advisable for others but we share them to provide new information for other CAMPer and to convey the principle that it is o.k. with CBSG to innovate (sometimes we forget that I ) These are listed in the same order below.

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Reason</th>
<th>Problems &amp; How it worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitations to a great many persons, not necessarily the MOST knowledgeable</td>
<td>BCPP was particular that the process was participatory and all groups should be represented</td>
<td>In some workshops there were some complaints that not all could contribute, but not much.</td>
</tr>
<tr>
<td>In some instances, medicinal plants and soil invertebrates to be assessed were selected at the workshop itself from a very large list compiled by us before the workshop</td>
<td>We could not determine who would actually come and which species in which they were expert</td>
<td>It worked just fine for our purpose. However, there was no very specific theme or grouping for the species that were done except that they were from one group (medicinal plants &amp; soil invertebrates) and specific regions.</td>
</tr>
<tr>
<td>Very simple Briefing Book cover Black and white and used - same format for every workshop</td>
<td>Budget</td>
<td>Nobody complained</td>
</tr>
<tr>
<td>Drawing of generic animal to symbolise could — easily reproducible on stickers, books, letterhead, rubber stamps, etc.</td>
<td>(See example in this briefing book)</td>
<td>Easy to duplicate in Pagemaker — had template for BB cover, sticker, certificate, banner, etc., etc. Symbolic organisms were liked by everybody.</td>
</tr>
<tr>
<td>Selection of hosts from institutions and agencies who were completely unknown to us</td>
<td>- Mandate of BCPP that workshops had to be held in different places; - to insure some degree of credibility; - some of the subject areas (e.g. marine &amp; freshwater fish) were unfamiliar and we had no contacts</td>
<td>Amazingly successful — almost total cooperation and agreement. Many new friends in different fields and new collaborative projects. (ex. National Institute of Oceanography asked us to collaborate w. them in year of the Ocean w. CAMPs on Corals and Ornamental Fish)</td>
</tr>
<tr>
<td>Facilitation done by us (CBSG, India) without outside expertise</td>
<td>- BCPP mandate that all participation should be done in-country as much as possible. - Personal bias and fear of coordinator - Failure of invitee in first workshop to come!!! (Ironically, we had free flights for anyone from abroad for the entire workshop so finance was not a constraint)</td>
<td>- Total terror and dread before first workshop - Explanation of Red List categories most difficult - Some sticky moments of uncertainty on our part but we just made the specialists answer their own questions. - After that ... Who needs those guys anyway! - Participants truly felt they owned the workshop.</td>
</tr>
<tr>
<td>Detailed explanation of Red List categories (2 hours)</td>
<td>Nobody ever knew there was a 1994 revised Red List; everybody was back in Mace-Lande land</td>
<td>Difficult and tedious; still working on this. Participants able to work more effectively as a result.</td>
</tr>
<tr>
<td>Reports late* (not an innovation but a difference) see later innovation of &quot;Draft Summaries&quot;. Other short versions of Reports done to satisfy immediate need (e.g. Negative list committee.)</td>
<td>Unable to cope with work load</td>
<td>Missing some opportunities as a result. Other short versions of Report are working well. More on this later.</td>
</tr>
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<tr>
<td>Invitations have not gone out 6 months to one year in advance ... more like two - three month</td>
<td>- Failure of BCPP to approve project and disburse funds in time. - In some instances, delay in getting final approval of host and major collaborator (Forest Dept.)</td>
<td>- No complaints from participants - Criticism from collaborators of earlier CAMPSs that exercise suffered from lack of preparation (we don’t agree). - Field biologists have done the work already, even if given a year’s notice they will not do more field surveys for sake of a workshop.</td>
</tr>
<tr>
<td>Taking up larger and larger numbers of species per workshop</td>
<td>- Mandate of BCPP was to prioritize species on all-India basis. - Perhaps over-enthusiastic challenge issued by Facilitators - Discouraged that it could be done - Participants themselves became enthused to finish. - Exercise did not seem to suffer so we went on doing it.</td>
<td>- On the whole this seems a valid means of assessment - Big advantage in pushing participants — they don’t niggle over details - Performance of participants is enhanced by pressure (we think) - &quot;Rapid assessment&quot; of all species in a group has its own value.</td>
</tr>
<tr>
<td>&quot;Group” Briefing Books in addition to individual briefing books (five large books, one for each working group.</td>
<td>- Budgetary constraint - Time constraint - Abundance of species and material</td>
<td>Works just fine; could be done on a much wider scale with no complaints</td>
</tr>
<tr>
<td>Regional assessments within the country</td>
<td>Constraint of IUCN Guidelines regarding &quot;national&quot; assessments</td>
<td>OK in some cases; confusing in others — need national guidelines or advice on how to resolve this.</td>
</tr>
<tr>
<td>No special issue working groups for some workshops (Reptile, Medicinal plants)</td>
<td>Time constraint from doing so many species or other hinderance.</td>
<td>Special issues that came up not resolved; no vehicle for complaints and suggestions from group.</td>
</tr>
<tr>
<td>Five day CAMPs, sixteen hour days (not unusual for CBSG workshops)</td>
<td>Number of species to cover required five days.</td>
<td>Some people find it difficult to spare five days. Otherwise no problems; the days just fly by and nobody complains of boredom.</td>
</tr>
<tr>
<td>Research priorities evaluation sheet for workshops with too many species to assess (e.g. plants (did not do but should have done), invertebrates)</td>
<td>Southern India Soil Invertebrate workshop listed more than 1000 species. Assessments slow for invertebrates. Research priorities could be ascertained by filling this sheet which could be done quickly.</td>
<td>Worked well; no problems in filling the sheets (see sample in this book). Outcome of this will be included in Reports. Was not necessary in amphibians and reptile CAMPS as could complete all species (almost).</td>
</tr>
<tr>
<td>Working group composition forms</td>
<td>Participants and their area of specialization widely divergent and very complex. Forms assisted in ascertaining whether we had sufficient representation from particular region/species to form a group and how many groups there should be.</td>
<td>Worked very well. Tally of forms written on overhead sheet and used to interact with whole workshop participants to get consensus on how to form working groups. See sample sheets and tally in this book.</td>
</tr>
<tr>
<td>Innovation</td>
<td>Reason</td>
<td>Problems &amp; How it worked</td>
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<tr>
<td>---------------------------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------------------</td>
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<tr>
<td>Letter to participants requesting commitment not to send Report outside</td>
<td>Ownership / legality / security made an issue of CBBPP</td>
<td>This question is not settled</td>
</tr>
<tr>
<td>the country</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revision of Taxon Data Sheet</td>
<td>Taxon Group complaints</td>
<td>Agree and encourage them to develop their own, always come up with same thing.</td>
</tr>
<tr>
<td>Minor revisions in CAMP Manual — CBSG, India logo prominent; removal</td>
<td>- CBSG, India does everything (briefing materials, etc.) from India.</td>
<td>- No problems</td>
</tr>
<tr>
<td>of references to send material to CBSG central office = replaced with</td>
<td>- Indian Identity especially sensitive</td>
<td>Permission sought and given from CBSG office.</td>
</tr>
<tr>
<td>CBSG, India office. Examples of categories illustrated with Indian species</td>
<td>- Some contradictions (e.g. we included Taxon Data Sheets from our own</td>
<td></td>
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<tr>
<td></td>
<td>CAMPs (not birds), etc.</td>
<td></td>
</tr>
<tr>
<td>Distribution of CAMP Manual to every invitee ahead of CAMP (This later</td>
<td>- Paucity of copies of IUCN Red List criteria books</td>
<td>Material much appreciated</td>
</tr>
<tr>
<td>revised to every confirmed invitee to save money)</td>
<td>- CAMP process methodology (group dynamics) alien to Indian scientific</td>
<td>&gt; 2000 persons now have a copy of IUCN Red List guidelines.</td>
</tr>
<tr>
<td></td>
<td>community; need to familiarize people w. process</td>
<td></td>
</tr>
<tr>
<td>Workshop organizers pay for participants accommodation, food and local</td>
<td>- Expected as we are trying to get information from them</td>
<td>Made up for not providing T.A.</td>
</tr>
<tr>
<td>transport</td>
<td>- costs of those thing beyond budget of ordinary specialist</td>
<td>Sometimes hosts could provide cheap food and accommodation</td>
</tr>
<tr>
<td>Travel allowance requested from institution; special letters to heads</td>
<td>Budgetary constraints</td>
<td>Successful in many cases</td>
</tr>
<tr>
<td>of institutions (Normally a workshop like this pays travel)</td>
<td></td>
<td>Down-side - lost out on some important expertise</td>
</tr>
<tr>
<td>Draft Summary Status reports ready for participants to take home and</td>
<td>- Helpful to participants if they have an output to carry back</td>
<td>Very successful – useful to participants</td>
</tr>
<tr>
<td>for distribution to central wildlife agencies and selected institutional</td>
<td>- Helpful in informing agencies that such a workshop was held and the</td>
<td>Enabled use in negative list of exports, Wildlife Protection Act, etc.</td>
</tr>
<tr>
<td>heads</td>
<td>likely output (must stress that it is a Draft, however, as some categories</td>
<td>Helped in explaining what we are doing to subsequent CAMPs</td>
</tr>
<tr>
<td></td>
<td>may change after review</td>
<td>Good promotional vehicle</td>
</tr>
</tbody>
</table>
To

From Ajith Kumar, Ph.D., Project Coordinator
Endangered Species Project, BCPP
Scientist, Salim Ali Centre for Ornithology and Natural History

Dated 9 November 1996

Dear Colleague:

As Member of the Steering Committee of the Biodiversity Conservation Prioritisation Project (BCPP) and Endangered Species Project Coordinator I am pleased to inform you that an ambitious project is underway to fulfill India's commitment to the Rio Convention to assess sites and species and develop strategies for conservation of biodiversity. This is a USAID sponsored Project initiated by WWP, World Resources Institute and The Nature Conservancy. (See attached chart.)

An Endangered Species Prioritisation Working Group of the BCPP workshop held in May 1996 recognised the need to assess the status of all taxa in seven major groups: mammals, reptiles, amphibians, fresh water organisms, marine organisms, plants and invertebrates. This is the first step at a national assessment for each of these groups (or a reasonable segment of a group) which can later be followed up with assessments according to regional and other national groupings.

The Working Group decided the assessment could best be done using the New IUCN Red List criteria to categorise the species in a "group process" which was used in India in 1995 and 1996 for medicinal plants. This process is a Conservation Assessment and Management Plan (CAMP) which was developed by the Conservation Breeding Specialist Group, SSC, IUCN. The CAMP process was used successfully for assessing 80 species of medicinal plants in southern India and will cover remaining species at regularly organised workshops. CAMPs have been conducted all over the world in 40 countries for more than 100 animal and plant groups, and even for species of whole island habitats.

Zoo Outreach Organisation and Conservation Breeding Specialist Group, India who facilitated the medicinal plants workshops have been requested to organise the BCPP species assessment workshops in collaboration with other organisations. Sally Walker and Sanjay Molur of ZOO/CBSG, India will conduct the workshops along with experienced and expert conservation scientists at venues spread throughout India. This letter is to introduce them as they will be contacting you henceforward.

Documentation for all taxa is underway, however, a basic list of species for each group undertaken is most essential. Sally and Sanjay will be writing to you for listings of specific families for which you or your institution is known.

This is an initial and informational letter which will be followed by a more detailed description and an approach to you for collaboration and assistance with the assessments.

With best wishes,

Yours sincerely,

[Signature]

Ajith Kumar
To: Agencies, Institutes, Organisations and Individuals specialising in conservation

From: S. Walker and S. Molur, Organisers and Facilitators, BCPF

Date: 27th November 1996

Dear Colleague:

Earlier this month you would have received a letter from Dr. Ajith K. Species Project Coordinator of the Biodiversity Conservation Prioritisation Project. He has written to us as organisers and facilitators of the Workshops to assess plant and animal groups. This letter is to make individual contact with you and to ask your assistance in a major work.

In Ajith's letter you would have found a brief description of the Biodiversity Conservation Prioritisation Project under which we will assess and categorise all the mammals, reptiles, amphibians, and invertebrates, marine organisms, fresh water fishes, and plants. The assessment and categorisation will be done according to the new IUCN Red List criteria for endangerment using a workshop process called the Conservation Assessment and Management Plan or C.A.M.P.

The new IUCN Red List Criteria provide the best means available at the present time of categorising the level of threat to endangered species. The Red Data Books are internationally recognised and widely consulted. The former categories of Endangered, Threatened and Rare, used for about 30 years with only minor changes, were felt to be insufficiently precise to meet the needs of present-day conservation action planning. A revision process was undertaken involving many of the global conservation community's most astute biologists and statisticians which culminated after ten years in the new IUCN Red List Criteria which were approved by the IUCN General Assembly in 1994.

Categorising species according to an endangerment status listing focuses attention on those under greater threat so that timely conservation action can be taken. Assessing species for the correct categorisation was done by "one man in an office" checking out outdated references and writing letters to individual field researchers. Networking was not what it is today and there were many lacunae. This system also fostered geographical and taxonomic bias, ambiguity and lack of precision. Therefore, the aim of the new criteria is to provide an explicit, objective framework for the classification of species according to their extinction risk.

The new categories have the following characteristics:

* they can be applied consistently by different people
* they provide clear guidance on how to evaluate different factors which affect risk of extinction including comparisons across widely different taxa.
* they include Guidelines, including definitions of terms and quantitative criteria used for classification, (making it possible for users of the lists to comprehend how and why individual species were classified which is invaluable for action planning.)

However, the new IUCN Red List criteria, although much improved, remain merely a tool to be used by human beings. It is crucial to their effectiveness, therefore, that the process of
applying them provides for maximum information, objectivity, and interaction by the specialists working on particular taxa. There are bound to be differences of opinion, so a means has to be found of coming to a consensus over each species categorization, one that the conservation community can live with and use until a better answer is found. Finally, the number of species to be assessed is so vast and the time so short for some species that a systematic method of doing a first assessment has to be found.

For all these reasons, the BCPP-Project Design Workshop Endangered Species Sub-group identified the new IUCN criteria as the basic format for prioritization and the Conservation Assessment and Management Plan (CAMP) Workshop Process as the methodology for carrying out the work. Dr. Ajith Kumar of SACON as the coordinator of this sub-project has requested us at ZOO/CBSG, India to organize, facilitate and report on 6 - 8 taxon group CAMP workshops (as time and finance permits) which will be held at different venues all over India with a variety of collaborating institutions and organizations.

As CAMP Workshops are carried out all over the world, dozens and even hundreds of comments are recorded about difficulties and unclarities in applying the criteria. The new categories are not perfect and may encounter obstacles in different groups but by testing them and recording the lacunae, they can be improved.

The definitive document on the new criteria clearly states that the criteria are most useful when applied globally. As endemism is in itself one of the means of prioritising taxa, and will also make the lists of species "manageable" for CAMP, the BCPP CAMP workshops will focus primarily on endemics.

Our first job has been to document the list of species in the seven taxon groups. This we have done by intensive library work and consultation with a few specialists. Our next job is to supplement our list with species which might have been overlooked and also to select species which are endemiotic to India for assessment in the workshops.

For this, and also for collecting additional information required for the workshop and for making final selection of specialists for the workshop, we need your help. Although we have a long list of naturalists and researchers in India, we know that we do not have all the names of individuals who have conducted research relevant to conservation, specifically survey, census and distribution, field studies as well as taxonomic studies. We need to contact these individuals to collect specific information about as many species in the seven groups as possible.

We will be grateful if you review the enclosed Taxon Data Sheet and circulate it in your department or institute or even among your friends in the wildlife community and try to pull out name of persons who have done studies of species in particular areas who could provide hard data or at least "informed estimates."

We also require recommendations from you of persons who have a very wide knowledge of many species over one or several important geographic ranges.

Assessing the status of so many animal and plant groups throughout India is a mammoth task. This project will attempt a "first cut" with the idea that specific knowledge of what is not known is almost as valuable as what is known. If we can pinpoint the gaps, then required status surveys and census activities can be planned more rationally in future. Also, the CAMP Workshop is an ongoing process. The definitive document for the new IUCN Red List criteria specifies only in Point 12, that "Reevaluation of taxa against the criteria should be carried out at appropriate intervals." Therefore, this is not the "last word" in assessment of endangered species in India. On the contrary, for the new IUCN Red List Criteria at least, it is just the first! Keep an open mind, and help us out!

Enclosed is a form for your use in recommending yourself, your institute colleagues and other species specialists for various taxon groups. If you can recommend more individual specialists than there is room on the form, please attach an additional sheet.

With best wishes,

[Signatures]
Dear

On behalf of the Forest Department of Uttar Pradesh, local host and collaborators, it is our pleasure to invite you to participate in a Conservation Assessment and Management Plan (CAMP) Workshop for Medicinal Plants of India under the auspices of the Endangered Species component of the Biodiversity Conservation Prioritisation Project. The Workshop is being hosted by the Forest Department of Uttar Pradesh in Lucknow, U.P. from 21-25 January. The Workshop Venue is at Kukrail, just outside Lucknow, a beautiful sylvan setting away from distractions. The workshop will begin at 9:30 a.m. on Tuesday, 21 January 1997, and run for a full five days, up to Saturday evening, 25 January.

This Workshop is being organised in collaboration with the BCPP, WWF, India, SACON, and Zoo Outreach Organisation/ CBSG, India. Two local botanical institutes, National Botanical Research Institute, NBRI and Central Institute of Medicinal and Aromatic Plants, CIMAP as well as the Forest Department of U.P. have kindly agreed to provide accommodation and other help as well as sending their representatives. The goal of the CAMP Workshop will be to categorise species of Indian Medicinal Plants in order to facilitate an integrated approach to their management for conservation. Each taxon in the group will be examined and categorised one by one, so that strategic guidance for the application of intensive management techniques that are increasingly required for survival and recovery of threatened taxa can be provided. Enclosed please find background information that explains the process in more detail as well as an Attendance form.

We have a list of about 3,500 plants described as "medicinal" which is currently being scrutinised for endemic plants. We are likely to further prioritise according to usage and trade but the final list will still be very large relative to the number of species normally assessed in a workshop of this type. Therefore, we will have to work very quickly and for long hours. The CAMP Process is a Workshop in the strictest sense of the word -- there will be very few presentations, most of those few dealing with the IUCN Red List and CAMP Process itself. Most of the work will be done in small working groups with periodic meetings of plenary to clarify questions and assess the progress of the groups. The sessions will follow the format given in the enclosed Agenda with minor adjustments as the daily situation requires. We will provide accommodation for you either at NBRI, CIMAP or some other Institute. Meals will be provided at the Workshop Venue.

Regrettably, our budget cannot be stretched to cover your travel to and from Lucknow. If you require a special letter to your institution or some other agency which might cover your travel please let us know the particulars.

If you feel you can attend, kindly return the enclosed form so that we can get some idea of attendance. It will be useful also if you would return the Field Study Questionnaire so we can get an idea of what plants you have studied in the last decade. We will be grateful if you return it by speedpost or courier. We will reimburse this expense.

With best wishes,

Yours sincerely,

Ajith Kumar, Coordinator, E.S.P. / BCPP
Sally Walker, Coordinator, CAMP/BCPP
Sanjay Mohur, Coordinator, CAMP/BCPP

Enclosures: Attendance form
Agenda
CAMP literature
**Note:**

this is a SAMPLE Taxon Data Sheet for Mammals just to give an idea of what kind of information we need for the CAMP and categorisation exercise. These sheets will be filled out by Working Groups at the CAMP after having a thorough review of how these informations are to be supplied to support assignment to the IUCN Red List categories.

Each taxon group will have a slightly different Taxon Data Sheet as the terminology and requirements for each differs according to the biology and behaviour, habit and habitat of the organism.

Also some of the terminology may be modified for a clearer understanding of what is required. Therefore, do not take this form as having been cast in stone.

*Sally and Sanjay*
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>09:30 AM</td>
<td>Welcome, introductions, and opening remarks</td>
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<tr>
<td>08:30 AM</td>
<td>Plenary session discussion and working group reports</td>
</tr>
<tr>
<td>Tuesday, 21 January 1997</td>
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</tr>
<tr>
<td>09:30 AM - 1:30 PM</td>
<td>Objectives of Biodiversity Conservation Prioritisation Project</td>
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<td>08:30 AM - 1:30 PM</td>
<td>Overview of conservation and status of Medicinal Plants of India</td>
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<td>08:30 AM - 1:30 PM</td>
<td>Presentation and review of target taxon list</td>
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<tr>
<td>08:30 AM - 1:30 PM</td>
<td>Introduction to the CAMP process and IUCN Red List Criteria</td>
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<td>08:30 AM - 1:30 PM</td>
<td>Session on Group Dynamics</td>
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<td>08:30 AM - 1:30 PM</td>
<td>Organization of working groups</td>
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<td>08:30 AM - 1:30 PM</td>
<td>Working Group Sessions</td>
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<td>08:30 AM - 1:30 PM</td>
<td>8:30 PM - Dinner and disband for day</td>
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<td>Wednesday, 22 January 1997</td>
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<td>09:00 AM</td>
<td>Plenary session discussion and working group reports</td>
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<td>01:30 - 2:30 PM</td>
<td>Continuation of Working Groups</td>
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<td>01:30 - 2:30 PM</td>
<td>Lunch</td>
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<td>01:30 - 2:30 PM</td>
<td>Continuation of Working Groups and Plenary as required</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Formation of additional working groups for special issues and tasks</td>
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<td>01:30 - 2:30 PM</td>
<td>8:30 PM - Dinner and disband</td>
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<td>Thursday, 23 January 1997</td>
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<td>Continuation of Working Groups and Plenary as required</td>
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<td>08:30 AM</td>
<td>Continuation of Working Groups</td>
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<td>Lunch</td>
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<tr>
<td>08:30 AM</td>
<td>Continuation of Working Groups and Plenary as required</td>
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<tr>
<td>08:30 AM</td>
<td>Formation of additional working groups for special issues and tasks</td>
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<td>08:30 AM</td>
<td>8:30 PM - Dinner and disband</td>
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<tr>
<td>Saturday, 25 January 1997</td>
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<tr>
<td>08:30 AM</td>
<td>Plenary session discussion and working group reports</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Continuation of Working Groups and preparation for final Reporting</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Lunch</td>
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<td>01:30 - 2:30 PM</td>
<td>Working Group Reports</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Wrap-up discussion</td>
</tr>
<tr>
<td>01:30 - 2:30 PM</td>
<td>Commitments to conservation action by individual participants</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Formation of special Editing team for Report.</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>Closing function</td>
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<tr>
<td>01:30 - 2:30 PM</td>
<td>8:30 PM - Dinner and disband for home (except for Editing Team)</td>
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<td>01:30 - 2:30 PM</td>
<td>Note: Tea and coffee will be provided ad libitum.</td>
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<td>01:30 - 2:30 PM</td>
<td>* If you think you can stay to help edit the Report please make travel arrangements accordingly. Facilitators will stay two days after the Workshop to avail editing assistance from participants.</td>
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</tbody>
</table>
Conservation Assessment and Management Plan (CAMP) Workshop Process
Reference Manual
2nd Indian Edition
Revised for Indian B.C.P.P.
Endangered Species Prioritisation Project

1997

CBSG, INDIA

Edited by
Susie Ellis and Ulysses S. Seal, CBSG, SSC, IUCN
Minneapolis, Minnesota, USA

Revised for India by
Sally Walker and Sanjay Molur, CBSG, India
Coimbatore, Tamil Nadu, India

Contains a complete copy of the definitive guidelines
to the revised IUCN Red List Categories, 1994,
Prepared by IUCN Species Survival Commission
CONSERVATION ASSESSMENT & MANAGEMENT PLAN (C.A.M.P.)
A process for prioritisation of endangered species under Biodiversity Conservation Prioritisation Project

Participation Interest * Return Form

For Mammal CAMP
IISc, Bangalore: 25 - 29 August 1997

Name: SINGHA, DR. YADUNATH PRASAD

Address: Zoological Survey of India, Gangetic Plains Regional Station, Handloom Bhavan, 4th Floor, Rajendra Nagar,

City: PATNA Ph: 800.016 Ph: 670.686 Fax: 670.686

Organisation and address: Same as above

City: __________________________ Ph: __________________________ Fax: __________________________

Dear CAMP organisers:

I will ✗ will-not ✗ be able to attend the All-India Mammals CAMP workshop from 25-29 August 1997 at Bangalore.

I need ✗ do-not-need ✗ a letter addressed to the head of my institution requesting that he depute a representative to the workshop.

Letter to be addressed to: Dr. J.R.R. Alfred, Director, Zoological Survey of India, M. Block, New Alipore

City: CALCUTTA Ph: 700.053 Ph: 479-6893 Fax: 033-4688595

Please return the form immediately to:

BCPP CAMP Organisers
c/o Z.O.O. / CBSG, India
PB 1683, Peelamedu
Coimbatore 641 004

Note: We will send another form closer to the workshop requesting your travel information and accommodation preference.

* CAMP Workshops work better with a small number of specialists. For mammals, about 50 people would be the maximum workable number. If we get a great many applications, we may have to select NOT on "first come first served" basis but according to species and area specialty. Please do not be offended if we cannot include you; it is not reflection on your expertise but only that your area duplicated that of someone else.
Please shade the grids for the geographical areas you have worked in. Please do not mind the scale or incorrect state boundaries. This is to help us prioritise the list of participants for the workshop.

Please also indicate the mammal(s) you have studied in the "grid" as shown in the example above.

Return this sheet along with the participation confirmation form to
BCPP CAMP for Mammals of India
CBSG, India/ Zoo Outreach Organisation
(PB 1663), 79, Bharathi Colony, Peelamedu
Coimbatore 641 004
<table>
<thead>
<tr>
<th>Invitation 1</th>
<th>VIP letters</th>
<th>Warning letter</th>
<th>Invitation 2</th>
<th>Invitation 3</th>
<th>Institution req. A, B</th>
<th>Other ... Misc</th>
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<td>Invitation</td>
<td>&quot;Lovely Goa&quot; - or other &quot;warning letter&quot;</td>
<td>2nd notice and request for information:</td>
<td>3rd final communication</td>
<td>A. Individual letter to participant's institution</td>
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<tr>
<td>+ Confirmation of interest and request for letter to Director</td>
<td>+ Biological Info Sheet</td>
<td>+ Final travel form</td>
<td>B. Letter to Directors of Institutes req. their institute to depute a rep. - gen.</td>
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<td>CAMP Philosophy and procedure</td>
<td>+ other relevant forms if required</td>
<td>Travel, climate, venue information for participants</td>
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<tr>
<td>4th June - one batch</td>
<td>18th June - another batch</td>
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*When planning many workshops with multiple mailings, a chart such as this helps your office and when.*
CONSERVATION ASSESSMENT & MANAGEMENT PLAN (C.A.M.P.) WORKSHOPS
A process for prioritisation of endangered species under the
Biodiversity Conservation Prioritisation Network (BCPN)

Recommendations for Taxon Group Specialists

Please list specialists for any one or several of the groups listed below, or whatever knowledge of your colleagues' and acquaintances' expertise.

1. Medicinal Plants
2. Reptiles
3. Amphibians
4. Soil (or "surface active") Invertebrates of S. India
5. Mammals
6. Mangrove
7. Freshwater

<table>
<thead>
<tr>
<th>Name, institution, and address of specialist</th>
<th>Field of expertise (1, 2, 3, 4, 5, 6, 7)</th>
<th>Area of expertise (field study, ex-situ taxonomic, etc.)</th>
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<tr>
<td>Josephus Joshua</td>
<td>2, 3, 5</td>
<td>Field Study, Ecology, Reptilia, Amphibia, Large mammals</td>
</tr>
<tr>
<td>Lalit Karan Singh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H.R. Bat</td>
<td>5</td>
<td>Field Study, Taxonomy</td>
</tr>
<tr>
<td>P.C. Bhat</td>
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<tr>
<td>P.S. Pillai</td>
<td>3</td>
<td>Taxonomy, Field Study</td>
</tr>
<tr>
<td>Joanna van Hougen</td>
<td>5</td>
<td>Field Study, Large mammals</td>
</tr>
<tr>
<td>Anuradha Choudhary</td>
<td>2, 3, 5</td>
<td>Field Study, Mammals, especially</td>
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<td>R.C. Sahu</td>
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<tr>
<td>Neera Manjerekar</td>
<td>5</td>
<td>Ecology, Mountain Langurida</td>
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<tr>
<td>Pelchana Pandey</td>
<td>5</td>
<td>Field Study, Central India, Mamme</td>
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<tr>
<td>Valmik Jeevan</td>
<td>5</td>
<td>Field Study, Large Mammal Carvin</td>
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ZOO/CBSG, INDIA BCPP CAMP Workshops
Box 1683, Peelamedu, Coimbatore 641 004

PLEASE RETURN A.S.A.P. TO:
in the enclosed self-addressed cover.
CONSERVATION ASSESSMENT & MANAGEMENT PLAN (C.A.M.P.) WORKSHOPS
A process for prioritisation of endangered species under the
Biodiversity Conservation Prioritisation Project

Recommendations for Taxon Group Specialists

Please list specialists for any one or several of the groups listed below according to your
knowledge of your colleagues' and acquaintances' expertise. You can nominate yourself also.

1. Medicinal Plants
2. Reptiles
3. Amphibians
4. Soil (or "surface active")
   Invertebrates of S. India
5. Mammals
6. Mangrove species
7. Fresh water fishes and molluscs

<table>
<thead>
<tr>
<th>Name, institution, and address of specialist</th>
<th>Field of expertise [1,2,3,4,5,6,7]</th>
<th>Area of expertise (field study, ecology, taxonomy, etc.)</th>
<th>Species/order expertise (Ex. Boida, felidae, elephant, bats, molluscs, Rauwolfia, Gramineae, etc.)</th>
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PLEASE RETURN A.S.A.P. TO:
in the enclosed self-addressed cover.

ZOOCBSG, INDIA BCPP CAMP TIP
For large country CAMPs finding specialists and also
being participatory may be
difficult. "Nomination
forms" send to different
institutions and individuals
helped with this task.

CBSG, India
CAMP TIP
Box 1683, Peelamedu, Coimbatore 641 004
SPECIAL INTEREST QUESTIONNAIRE

Name: Dr. T.C. Narendran,
Occupation: Professor of Zoology,
Address for communication: University of Calicut,
Kerala, India 673 635.

1. Is any research in your department related to invertebrates specifically to phyla:
   - [ ] Coelenterates - Sponges, Corals
   - [ ] Annelids - Earthworm
   - [X] Arthropods - Insects & Arachnids
   - [ ] Molluscs - Snails
   - [ ] Echinoderms - Marine

2. Please list projects:
   
   
   
   
   
   
   
   

3. Is there any phylum of invertebrates on which your department has a focus: INSECTS
   
   
   
   

4. Is any of your research specifically related to conservation?
   - [ ] Yes
   - [X] No

5. Do you know any invertebrate conservation projects in India or abroad (if yes, please list):
   
   
   
   
   

CBSG, India
Special Interest Group
Networks
help in finding specialists for unfamiliar
animal groups, such as amphibians and
invertebrates
<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td>Name</td>
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<tr>
<td>Organisation</td>
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<tr>
<td>Address for correspondence</td>
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<tr>
<td>City</td>
<td></td>
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<tr>
<td>Pin</td>
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<tr>
<td>Scientific Name of the taxon for which this sheet is being filled</td>
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<tr>
<td>Synonyms</td>
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<tr>
<td>Order</td>
<td></td>
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<tr>
<td>Family</td>
<td></td>
</tr>
<tr>
<td>Common name(s)</td>
<td></td>
</tr>
<tr>
<td>Geographic area of study</td>
<td></td>
</tr>
<tr>
<td>Habitat of the taxon</td>
<td></td>
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<tr>
<td>Habitat specificity (niche)</td>
<td></td>
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<tr>
<td>Date of study (approx.)</td>
<td></td>
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<tr>
<td>Approximate EXTENT OF OCCURRENCE of the taxon in area of study/sighting</td>
<td></td>
</tr>
<tr>
<td>collected as the area enclosed within the shortest continuous</td>
<td></td>
</tr>
<tr>
<td>imaginary boundary encompassing all known or inferred areas of</td>
<td></td>
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<tr>
<td>the taxon; (check any)</td>
<td></td>
</tr>
<tr>
<td>&lt; 100 sq. km.</td>
<td></td>
</tr>
<tr>
<td>101 - 5,000 sq. km.</td>
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<tr>
<td>5,001 - 20,000 sq. km.</td>
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<tr>
<td>20,001 - 50,000 sq. km.</td>
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<tr>
<td>50,01 - 200,000 sq. km.</td>
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<tr>
<td>200,01 - 1,000,000 sq. km.</td>
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<tr>
<td>1,000,01 - 10,000,000 sq. km.</td>
<td></td>
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<tr>
<td>&gt; 10,000,000 sq. km.</td>
<td></td>
</tr>
<tr>
<td>Approximate AREA OF OCCUPANCY of the taxon in area of study/sighting/</td>
<td></td>
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<tr>
<td>collected as the area occupied by the taxon within the extent</td>
<td></td>
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<tr>
<td>of occurrence; (check any)</td>
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<tr>
<td>&lt; 10 sq. km.</td>
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<tr>
<td>11 - 500 sq. km.</td>
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<tr>
<td>501 - 2,000 sq. km.</td>
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<tr>
<td>&gt; 2,000,000 sq. km.</td>
<td></td>
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<tr>
<td>Number of Locations or Populations in which the taxon is distributed</td>
<td></td>
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<tr>
<td>Contiguous</td>
<td></td>
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<tr>
<td>Fragmented</td>
<td></td>
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<tr>
<td>Number of Mature Individuals (in all populations):</td>
<td></td>
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<tr>
<td>&lt; 50</td>
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<tr>
<td>50 - 250</td>
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<tr>
<td>&gt; 250</td>
<td></td>
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<tr>
<td>&gt; 2,500</td>
<td></td>
</tr>
<tr>
<td>Habitat structure</td>
<td></td>
</tr>
<tr>
<td>Is there any change in the habitat where the taxon occurs?</td>
<td>Yes</td>
</tr>
<tr>
<td>Increase</td>
<td>No</td>
</tr>
<tr>
<td>Stable</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
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<tr>
<td>If decreasing, what has been the decrease in habitat</td>
<td></td>
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<tr>
<td>(approximately, in percent) over years?</td>
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<tr>
<td>&lt; 20%</td>
<td></td>
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<tr>
<td>&gt; 20%</td>
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<tr>
<td>&gt; 50%</td>
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<tr>
<td>&gt; 80%</td>
<td></td>
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<tr>
<td>In the last _______ years</td>
<td></td>
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<tr>
<td>If stable or unknown, do you predict a decline in habitat</td>
<td></td>
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<tr>
<td>(approximately, in percent) over years?</td>
<td></td>
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<tr>
<td>&lt; 20%</td>
<td></td>
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<tr>
<td>&gt; 20%</td>
<td></td>
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<tr>
<td>&gt; 50%</td>
<td></td>
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<tr>
<td>&gt; 80%</td>
<td></td>
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<tr>
<td>In the next _______ years</td>
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<tr>
<td>Threats</td>
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<tr>
<td>Past</td>
<td>Present</td>
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<tr>
<td>Future (predicted)</td>
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<tr>
<td>Disease</td>
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<tr>
<td>Disease</td>
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<tr>
<td>Flooding</td>
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<tr>
<td>Human interference</td>
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<tr>
<td>Loss of habitat</td>
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<tr>
<td>Hunting</td>
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<td>Hybridisation</td>
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<td>Habitat fragmentation</td>
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<tr>
<td>Trade</td>
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<tr>
<td>Decline in prey species</td>
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<tr>
<td>Catastrophic events</td>
<td></td>
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<tr>
<td>Interspecific competition</td>
<td></td>
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<tr>
<td>Competition from exotics</td>
<td></td>
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<tr>
<td>Others, please specify</td>
<td></td>
</tr>
<tr>
<td>Are these threats resulting in (perceived or inferred) or may result</td>
<td>Yes</td>
</tr>
<tr>
<td>in (predicted) population decline?</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
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<tr>
<td>Is the taxon in trade</td>
<td></td>
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<tr>
<td>No</td>
<td></td>
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<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td></td>
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<tr>
<td>Local</td>
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<tr>
<td>Domestic</td>
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<td>Commercial</td>
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<td>Organs</td>
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<td>Products</td>
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<tr>
<td>Meat</td>
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<tr>
<td>Taxidermy models</td>
<td></td>
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<tr>
<td>Live animal</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Others, please specify</td>
<td></td>
</tr>
<tr>
<td>Is trade (in any form) resulting in (perceived or inferred) population</td>
<td>Yes</td>
</tr>
<tr>
<td>decline?</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
16. Population trends:
16A. Is the population size/numbers of the taxon:
☐ Declining ☐ Increasing ☐ Stable ☐ Unknown

16B. If Declining, what has been the decline in population (perceived or inferred in percent due to habitat loss, threats, trade, etc.) over years:
☐ < 20% ☐ > 20% ☐ > 50% ☐ > 80% in the last ______ years

16C. If Stable or Unknown, do you predict a decline in population (due to factors such as habitat loss, threats, trade, etc.) over years:
☐ < 20% ☐ > 20% ☐ > 50% ☐ > 80% in the next ______ years

17. Data Quality:
17A. Are the above perceived, inferred, predicted educated/qualified estimates based on:
☐ Census or monitoring ☐ General field study ☐ Informal field sighting ☐ Museum/records/literature
☐ Indirect information such as from trade, etc. ☐ Hearsay/popular belief

18. Is/are Research recommended for the taxon:
☐ Yes ☐ No
☐ Survey ☐ Monitoring ☐ Genetic studies ☐ Taxonomic studies
☐ Life history studies ☐ Limiting factor research ☐ Limiting factor management ☐ Habitat management
☐ Others (taxon specific):

19. Is Captive breeding required for the taxon:
☐ Yes ☐ No
☐ In situ conservation ☐ Ex situ conservation ☐ Education ☐ Research
☐ Husbandry ☐ Reintroduction ☐ Sustainable utilisation ☐ Entertainment

20. Does Captive breeding already exist:
☐ Yes ☐ No
Names of facilities:

21. Level of understanding of captive breeding of the taxon:
☐ Techniques known for taxon or similar taxa
☐ Some techniques known for taxon or similar taxa ☐ Techniques not known at all

22. Is the taxon listed under:
☐ CITES ☐ Indian WLP(A)(1972, 1991)
☐ Indian Red Data Book ☐ International Red Data Book (latest revisions)

23. Other comments you wish to make related to trade, status and conservation of the species:

Information provided here will help in objective assessment of the taxon for its conservation status. Information may be extracted from this sheet during the group process at the ICIMP.

Unpublished information provided in the Biological Information Sheet will be credited duly. (e.g. Kishen, P. (1997): Unpublished Biological Information Sheet)

Signature

Use one sheet for one taxon. Use photocopies of this sheet to provide information for other taxa.

Please send filled-up sheets to Z.O.C., CBSG, India, PB 1683, Perumalpet, Coimbatore 641 004, T.N.
Qualifications of the Proposed Facilitating Organisation

NAME:
Zoo Outreach Organisation/CBSG, India

HISTORY
Zoo Outreach Organisation was founded in 1985 with a grant from the then Department of Environment. In 1991 ZOO organised an Indian regional network of the Conservation Breeding Specialist Group of SSC, IUCN. CBSG, India is an activity of Zoo Outreach Organisation in conjunction with it.

ADMINISTRATIVE OFFICE
PB 1683, No. 65, Bharathi Colony,
Peelamedu, Coimbatore 641 004, T.N., India
Phone 422 571 087 Fax 422 573 269

OFFICERS
Sally Walker, Founder/Secretary, ZOO/CBSG, India
Sanjay Mohur - Programme Officer, ZOO/CBSG, India

PROJECTS
CONSERVATION ASSESSMENT WORKSHOPS
1992
Population and Habitat Viability Assessment (P.H.V.A.) Workshop for the Manipur Brow-antlered Deer, Sangail, Mysore Zoo, October, 1992

1993
P.H.V.A. Workshop for Lion-tailed Macaque, Forest Department of Tamil Nadu, Madras Zoo, October, 1993.

P.H.V.A. Workshop for Asian Lion, Baroda Municipality Corporation and Baroda Zoo, October, 1993

P.H.V.A. Workshop for Indian One-horned Rhinoceros, Forest Department of West Bengal, Jaldapara Wildlife Sanctuary, December 1993.

1994

1995
P.H.V.A. Workshop for Indian Gharial, with Jiwaji University and Ministry of Environment and Forests, Jiwaji University, Gwalior, January, 1995.


P.H.V.A. Workshop for Barasingha, with Central Zoo Authority, Wildlife Institute of India, Dehra Dun, July, 1995.

1996

TRAINING WORKSHOPS
1992
Veterinary and Husbandry Workshop with special reference to Manipur Deer, Mysore Zoo, October, 1992.

1993
Veterinary Workshops with special reference to reproductive physiology in felids, Zoos at Baroda, Ahmedabad, Bombay and Patna, October, 1993.

1995
Small Population Biology Tools and Processes Training, Wildlife Institute of India, Dehra Dun, July 1995

CONSERVATION ASSESSMENT REPORTS
Report of P.H.V.A. Workshop for Lion-tailed Macaque, Ajith Kumar, Sanjay Molur and Sally Walker, Eds., 1995
Report of the P.H.V.A. for Barasingha, Qamar Quereshi, V.P. Singh, Ravi Shankaran, U.S. Seal, Sally Walker, Sanjay Molur, August 1996.

SPECIAL INTEREST GROUPS OF CBSG, INDIA AND SOME ACTIVITIES

Invertebrate Special Interest Group – Members 55 +
- Networking of invertebrate Researchers in India
- Compilation of Handbook on Butterflies listed in the Schedules of the Wildlife Protection Act, 1992
- Compilation of a Directory of Invertebrate Researchers in India
- Educational projects and publications on invertebrates
- Five two-day workshops on Invertebrate Conservation in Zoos at Calicut, Coimbatore, Mysore, Madras and Hyderabad zoos, October 1995

Amphibian Special Interest Group – Members 70
- Networking of Amphibian Field Researchers in South Asia
- Compiling a Directory of Amphibian Researchers in South Asia
- Compilation of species information and distribution of Amphibians in South Asia and publishing a Handbook of the same

Elephant Special Interest Group
- Assisting the Mahout Training Course being conducted by the Elephant Welfare Association, Kerala Forest Department, etc.
- Compilation of information on Kerala and other styles of Elephant Management in India
- Organisation of a Training Course for Zoo Mahouts, upcoming in December.

Rare Plants Special Interest Group – Members 26
- Organisation of two CAMP workshops on Selected Species, FRLHT, Bangalore, 1995 and 1996
- Three one-day workshops on Botanic Education in Zoos and Thiruvananthapuram, November 1995

CBSG, India - CAMP TIP

Make an Organisation C.V. for your group, listing the activities you have completed and some of your projects. This is more effective than a brochure.
Veterinary Workshops with special reference to reproductive physiology in felids, Zoos at Baroda, Ahmedabad, Bombay and Patna, October, 1993.

1995
Small Population Biology Tools and Processes Training, Wildlife Institute of India, Dehra Dun, July 1995

CONSERVATION ASSESSMENT REPORTS

Report of P.H.V.A. Workshop for Lion-tailed Macaque, Ajith Kumar, Sanjay Molur and Sally Walker, Eds., 1995


Report of the P.H.V.A. for Barasingha, Qamar Qureshi, V. P. Singh, Ravi Shankaran, U.S. Seal, Sally Walker, Sanjay Molur, August 1996.


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- Organisation of a Training Course for Zoo Mahouts, upcoming in December.

Rare Plants Special Interest Group — Members 25
- Organisation of two CAMP workshops on Selected Species of Rare Plants, FRLHT, Bangalore, 1995 and 1996
- Three one-day workshops on Botanic Education in Zoos and Thiruvananthapuram, November 1995

CBSG, India - CAMP TIP

Make an Organisation C.V. for your group, listing the activities you have completed and some of your projects.

This is more effective in a funding proposal than a brochure.
<table>
<thead>
<tr>
<th>Participants</th>
<th>TA/req.</th>
<th>Field &amp; Area of expertise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashraf, Dr., N.V.K. Coimbatore Zoological Park 'Pioneer House', Peelamedu 641 004, Tamil Nadu</td>
<td></td>
<td>Flying squirrels, small carnivores, (Civets, marten, s.t. Fly. sq.), Antelope (Blackbuck, Chinkara, Nilgai) Areas: Parts of Kerala, Karnataka &amp; TN</td>
</tr>
<tr>
<td>Bahuguna, Mr., N.C., Director PNHZ Park Darjeeling 734 101</td>
<td></td>
<td>Elephant, Red Panda, Snow Leopard</td>
</tr>
<tr>
<td>Bhatnagar, Yash Veer Wildlife Institute of India P.O. Box 18, Dehradun 248 001 Uttar Pradesh</td>
<td></td>
<td>Snow leopard, Ibex, Bharal, some small mammals Areas: Eastern part of Himachal Pradesh</td>
</tr>
<tr>
<td>Bohra, Dr., H.G. Sr. Scientist, Central Arid Zone Res. Inst. Jodhpur 342 003 Rajasthan</td>
<td></td>
<td>Blackbuck chinkara</td>
</tr>
<tr>
<td>Borges, Dr., Renee. M. 104/c, Aradhana, G.D. Ambedkar Road Naigaum, Mumbai 400 014</td>
<td></td>
<td>Done Preliminary studies for Grizzled Giant Squirrel and Malabar Giant Squirrel in Eastern and western ghats Part of WG of Maharashtra &amp; Karnataka</td>
</tr>
<tr>
<td>Chakravarthy, Dr., A.K. University of Agricultural Sciences GKV College, Dept., of Zoology Bangalore 560 065</td>
<td></td>
<td>Rodents, Cats, Wild boar, Small mammals, Birds, Medium and Large mammals, Goats etc.</td>
</tr>
<tr>
<td>Chakraborty, Dr., Sujit Zoological Survey of India M' Block, New Alipore Road Calcutta 700 053, W. Bengal</td>
<td></td>
<td>Lion, Blackbuck, Nilgai, Pouncy spotted cat, Black bear, Hangul, Rhesus Macaque, Sihoth bear, Tiger, Snowleopard Muskdeer, Hoollock Gibbon, Snow leopard, Elephant, Chital, LTM, etc., Parts of Kerala, AP, Orissa, Gujarat, WB, Bihar, Assam, J&amp;K, H.P., A.P., TN.</td>
</tr>
<tr>
<td>Chandrasekharan, Professor Jawaharlal Nehru Centre for Adv. Sci. Res. Jakkur P.O., Bangalore 560 064</td>
<td></td>
<td>Elephant and other mammals</td>
</tr>
<tr>
<td>Christopher, Research Scholar Wildlife Biology Division Kerala Forest Research Institute Peechi, Thrissur 680 653 Kerala</td>
<td></td>
<td>Elephant Assam, Arunachal Pradesh. Parts of NE India, Orissa, WB, Bihar</td>
</tr>
<tr>
<td>Choudhury, D.K. Lahiri 45 Suhesina Ganguly Sarani Calcutta 700 025, W. Bengal</td>
<td>need TA/1/2 airfare</td>
<td></td>
</tr>
<tr>
<td>Daniel, J.C. 16/186, Chandhar Nivas Sion (East) Mumbai 400 022</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Easa, Dr., P.S. Head, Wildlife Biology KFRI, Peechi, Thrissur 680 653 Kerala</td>
<td>need TA</td>
<td></td>
</tr>
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<td></td>
<td>Yes 2nd class</td>
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</tbody>
</table>

CB5G, India - CAMP TIP
Maintaining a Table of this type helps in monitoring type and quality of expertise to be expected and enables you to make informed decisions about who to offer TA (Travel allowance) from your budget.
Conservation Assessment & Management Plan (C.A.M.P.) Workshops
A process for prioritisation of endangered species under the Biodiversity Conservation Prioritisation Project

To: Invitees to BCPP C.A.M.P. Workshop on Med. Pl.
From: Sally Walker and Sanjay Mohor, Facilitators
Date: 1 January 1997

Dear Colleagues,

This is a final communication before the BCPP CAMP Workshop, scheduled to take place in Kukrail in Lucknow from 21 - 26 Jan, good number of commitments to attend. Going by these, as well you and also discussions held with eminent botanists recently, we concentrate on a couple of regions rather than the whole of India, great to assess in one workshop. It is necessary to pre-prioritise the list, reducing a reasonable number of plants which can be assessed and categorised within the time frame of five days.

Southern Indian medicinal plants assessment is being done routinely every year by F.R.L.H.T. and even this year in January, CAMP III on 50 more species is being done. Also because of the location of the workshop and the concentration of eminent botanists in and near Lucknow, we are likely to have a majority of botanists more familiar with Northern and Northeast Indian species. We are going to wait until we have collected all participants at the workshop, decide the precise theme or area and select appropriate plants for assessment by consensus. The method is to fill in Taxon Data Sheets which are similar to the sheets botanists have filled for Red Data books in the past. We hope to assign and arrange to IUCN Red List categories a group of at least 300 plants at the workshop.

We have several choices of prioritisation, e.g., by region, such as Northern or North East India, by endemism, and by use. You may like to think on this and perhaps contribute other ideas for scaling down the list of possibly 7000 plants.

Another task we will undertake at the workshop is to come up with the best possible list of medicinal plants which has been done to date, compiling from the best references and utilising the expertise of our group of assembled botanists to note anomalies or questions in nomenclature, plants that are wrongly classified as "medicinal," and plants that are wrongly classified as Indian.

Special issue sub-groups will be formed to discuss problems in medicinal plant conservation and making working plans to address them. Some of these special issues could be trade, sites prioritisation, monitoring highly used plants, etc.

If you have special materials and books which you feel will be helpful to us in the workshop in carrying out these tasks, please bring them along. We are particularly interested in field studies so come with your notes. Please come prepared to work long hours as well.

Regarding arrangements for the workshop, please cooperate with us in saving time, petrol and general aggravation by making your own way to the National Botanic Research Institute Guest House, Rama Pratap Marg, Lucknow. It will be useful if you inform Dr. R. R. Rao as well as us of your intended arrival. His contact numbers are 0522 271 031 (5) phone; 0522 82 849 fax. The Inaugural function will be simple and brief, held at Kukrail Auditorium outside Lucknow on Tuesday morning at 10 a.m. You will be informed about transport at NBRI when you arrive.

Hoping to see you at Lucknow.
SELECTED MEDICINAL PLANTS OF INDIA

Prioritisation of endangered species under the Biodiversity Conservation Prioritisation Project (B.C.P.P.)

21 - 25 January 1997
Kukrail Park, Lucknow

Forest Department of Uttar Pradesh
National Botanical Research Institute
Central Institute for Aromatic and Medicinal Plants
World Wide Fund for Nature, India
World Resources Institute
The Nature Conservancy
USAID
Saltim Ali Course for Ornithology and Natural History
Zoo Outreach Organisation/CBSG, India

Aconitum ferox Wall. ex Ser.

Status: Vulnerable due to excessive collection for medicinal use

Distribution: Himachal Pradesh to Sikkim.

Endemic (RDB 1990)
CONSERVATION ASSESSMENT AND MANAGEMENT PLAN
(C.A.M.P.) WORKSHOP for the
DIVERSITY CONSERVATION PRIORITISATION PROJECT

FOR SELECTED SPECIES OF MEDICINAL PLANTS OF INDIA

Kukrail Park, Lucknow
21 - 25 January 1997
Contents

I. Introductory Material

Agenda

Introduction

Biodiversity Conservation Prioritisation Project (India) — adapted from working document

CAMP Workshops on Medicinal Plants in 1997 and 1996

Invitation and follow up letter

List of Invitees

Endemic Medicinal Plants of India

Draft List of Medicinal Plants of India (with Additions)

What makes a CAMP different ... Three "C"'s of Conservation

II. Related Articles

How Plants become threatened or Extinct, in: Principles and Practice of Plant Conservation, David B. Given

Endangered Species: Problems of Assessment and Conservation, R. R. Rao

"Hot Spots" of Endemic Plants of India, Nepal and Bhutan, M. P. Nayar

Medicinal Plants and Conservation Issues of Concern for Consideration for SSC (SSC Document)

Indian Region provides Treasure House of Wild Plant Genetic Resources, R. K. Arora

The Panorama of Indian Forests: a Reservoir of Plant and Animal Wealth, K. N. Subramanian and K. R. Sridharan

Marine Coastal Biodiversity Benefits from Conservation of Mangrove Ecosystems, A. B. Damania and S. Deshmukh

India Uniquely Positioned to Capitalise on Abundant Medicinal Plant Heritage, J. Holly and J. T. Williams

Medicinal Plants Conservation provides Communities with Health and Wealth, Vinay Tandon

Miscellaneous Newspaper clippings

In situ Conservation and its Implementation in the Indian Context, A. B. Damania

Trade and the Biodiversity Convention, Daniel M. Puttermann

Indian Subcontinent Plants Specialist Group, Manju Sharma and C. R. Babu

Medicinal Plants Specialist Group, A. B. Cunningham and Uwe Schippmann

Plant Conservation Subcommittee, Wendy Strahm

Background of Medicinal Plant Specialist Group

CBSG, SSC and CBSG, India
AGENDA

Biodiversity Conservation Prioritisation Project
Conservation Assessment and Management Plan (C.A.M.P.)
for Endemic Medicinal Plants of India

Tuesday, 21 January 1997

9:30 a.m. Inaugral

10:30 a.m. Tea

11:00 a.m. Welcome, introductions, remarks, Ajith Kumar

Objectives of Biodiversity Conservation Prioritisation Project – A.R.K. Sharma

Informal Overview of Conservation Assessment of Medicinal Plants of India – Nayar and R.R. Rao

Using the CAMP Process for Medicinal Plants of southern India, FRLHT's experience – Nayar and R.R. Rao

Introduction to CBSG, SSC, IUCN, CAMP background and Review of Briefing Book, Sally Walker

1:30 - 2:30 PM - Lunch

Endangered Species Subgroup of BCPP, Ajith Kumar

IUCN Red List Categories – Sanjay Molur

Introduction of List(s) and discussion to finalise target group; and description of task to create comprehensive list.

Tea

Using the CAMP Taxon Data Sheet, Sanjay Molur

Ground Rules and Group Dynamics, Sally Walker

Organization of working groups

First Working Group Session

Tea

Working Group Session

8:30 PM - Dinner and disband for day
Wednesday, 22 January 1997

08:30 AM

Plenary session -- Discussion and questions on Taxon Data Sheets and Working Group logistics. Some preliminary reports. Re-organisation of working groups if necessary.

Working Groups continue on their own till lunch

01:30 - 2:30 -- Lunch

Continuation of Working Groups and Plenary discussions as required

8:30 PM = Dinner and disband for the day

Thursday, 23 January 1997

08:30 AM   Plenary session discussion and working group reports

Continuation of Working Groups

01:30 - 2:30 -- Lunch

Continuation of Working Groups and Plenary as required

8:30 PM = Dinner and disband for the day

Friday, 24 January 1997

08:30 AM

Plenary session discussion and working group reports

Continuation of Working Groups

01:30 - 2:30 -- Lunch

Continuation of Working Groups and Plenary

Formation of additional working groups for Special issues and tasks as they arise

8:30 PM = Dinner and disband
Saturday, 25 January 1997

08:30 AM

Plenary session discussion and working group Reports

Working Groups finalise preparation for final Reporting

01:30 - 2:30 - Lunch

Taxon Data Sheet Reports and discussion

Special Issues Working Group Reports and discussion

Commitments to conservation action by individual participants

Formation of special Editing team* for Report.

Closing

6:00 PM - Dinner and disband for home (except for Editing Team)

Note: Tea and coffee will be provided *ad libitum*.

* If you think you can stay to help edit the Report please make travel arrangements accordingly. Facilitators will stay a day after the Workshop to avoid editing assistance from participants.
CAMP. Description and Information for Presentations

Conservation Assessment and Management Plan
C.A.M.P.
A CBSG Process Workshop

Evolution of CAMP Workshops -

Impetus:
- Sir Peter Scott, Chairman, SSC, asked Dr. U. S. Patel, Chairman, CBSG to find a method of predicting species for in situ conservation.

Early experience:
- Global level CAMPs for large taxa groups, e.g. Primates, Felidae, Amphibians of the world

Developments:
- Use of CAMPs in other ways
  - St. Helena’s Island CAMP
  - Central Indian Freshwater Fish CAMP
  - Marine Turtle CAMP
  - Indian B.C.P.P.
  - Hawaiian Coralline Algae CAMP
  - Regional, National, special problem, e.g. cockroach CAMP

IUCN
World Conservation Union

It consists of 6 management commissions of which one is the
Species Survival Commission - SSC

- Species specialist groups
  - IUCN Criteria, Group
- Subject area specialist groups
  - Bat, Poisonous snakes, Invasive species

Conservation Breeding Specialist Group
C.B.S.G.

CAMP Workshops

Developed to aid prioritisation of conservation activities

- A group of species on a region or taxonomic group
- Available data on population size, trends, habitat status and threats
- IUCN Red List criteria to assign conservation status

Recommendations for research, management, information gathering, public awareness, and legislative activities

Group recommendation from most BCPP CAMPs:

Hold another CAMP in about 3 years after filling information gaps discovered in present CAMP

This is the result we want.

This presentation by Sally Walker, ZOO/CBSG, India
CBSG is an empowering organisation

- Facilitation workshops train others to conduct CBSG
- Process workshops
- Flexibility of approach
- Trust in good intentions of others
- Provision of technical advice and support
- Tolerance of well-intentioned mistakes
- Respect for cultural individuality of range countries
- Etc., etc., etc...

Just can't say enough about this!

CBSG has conducted

- 60 CAMP's
- 35 countries

Value as rapid assessment tool has been demonstrated in India, Costa Rica, Panama, Indonesia, Thailand, and other countries

CAMP workshops

- Multiple issue
- Use available data to assess threat
- Use IUCN Red List Criteria
- Priorities species for action - aids in decision making for
  - captive breeding
  - research
  - legislation
  - management
  - education

The Overheads in the section on Groundrules and facilitation are also in your packet on a 3 X 5 Floppy disk. File name GROUND.ppt

This presentation by Sally Walker, IUC/CSI, India
IUCN Red List History and some explanation for Presentations

**IUCN Red List criteria revisions**

The revisions to the IUCN Red List criteria are the result of more than five years of work by IUCN committees and several revisions before "finalisation" in its present form. The revisions aimed to:

1. provide a system that could be used consistently by different persons,
2. be more objectively by providing clear guidance on how to evaluate different factors which affect risk of extinction,
3. include components of widely different species, and
4. provide people using the listing a better understanding of how individual species were categorised.

**The Old IUCN Threatened Species Categories:**

- Extinct (EX)
- Endangered (EN)
- Vulnerable (VU)
- Rare (R)
- Indeterminate (I)
- Insufficiently known (K)

**1991 - Version 1.0 - Mace-Lande Criteria introduced**

Numerical criteria were introduced for the first time, but these were applicable only for large vertebrates.

**1992 - Version 2.0 - Mace et al.**

This version included numerical criteria for *all* organisms (almost!). The "non-threatened" categories were also introduced in 2.0.

**1993 - Version 2.1 - IUCN**

This version contained:

- more details
- fuller explanation of basic principles
- more explicit structure for non-threatened categories

Still, the conservation community was not completely satisfied. 

**1994 - Version 2.2 - Mace and Stuart**

After preliminary approval by IUCN, further refinement and precautionary instructions about the use of the system were added by Dr. Georgina Mace, Institute of Zoology, Z.S.L., and Dr. Simon Stuart, Executive Director, Species Survival Commission, IUCN.

This presentation by Sally Walker, ZOO/CBSG, India with help from Jonathan Baillie and Sanjay Molar
December 1994 - at last! the "Final"* version adopted by IUCN

*Final means until it has been improved. More on this later.

A word of wisdom:

Don’t fret if the IUCN categories do not seem to give an exact reflection of the current scenario as perceived by you.

The revised version categories present the "big picture": They may be more predictive of future trends than of present realities, because ....

If a species is Critically endangered today, it may be already TOO LATE.

The revised IUCN Red List Criteria

Threatened
+ Critically endangered
+ Endangered
+ Vulnerable

Non-threatened
+ Lower Risk
   Conservation dependent
   Near-threatened
   Least-concern

... other categories

+ Extinct *
+ Extinct in the Wild
+ Data Deficient
+ Not Evaluated

The old criteria were mostly for assessing the status of mammals.

You can assess almost any living thing (except micro-organisms) with the revised criteria, however.

In the BCPP CAMPs so far we have used these criteria to assess
+ 75 taxa plants of northern & central India
+ 60 taxa plants of mangrove forests
+ 23 taxa algae
+ 96 taxa soil invertebrates of s. India
+ 41 taxa mangrove invertebrates
+ 206 taxa amphibians
+ 469 taxa reptiles
+ 52 taxa marine fish

> 1014 spp.

This presentation by Sally Walker, ZOO/CBSG, India with help from Jonathan Balllee and Sanjay Mehar
IUCN Red List criteria revisions

- Five years in process
- 350 specialists from throughout the world
- Several revisions before acceptance at 1994 UN General Assembly in the present form.

We are testing for the first time for many groups - complaints, criticism, communique.

welcome

The aims of the revisions were:

1. To provide a system that could be used consistently by different persons.
2. To improve objectivity by providing clear guidance on how to evaluate different factors which affect risk of extinction.
3. To facilitate comparisons of vastly different species.
4. To provide people using the listing a better understanding of how individual species were categorised.

Population Decline

<table>
<thead>
<tr>
<th>Line</th>
<th>100's</th>
<th>Amphib</th>
<th>1 000,000,000's</th>
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</thead>
<tbody>
<tr>
<td>time</td>
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<td>time</td>
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<tr>
<td>100's</td>
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</tr>
<tr>
<td>CR</td>
<td></td>
<td>VU</td>
<td></td>
</tr>
</tbody>
</table>

Merits of Quantification

- Numbers provide
  - MORE objectivity
  - LESS ambiguity
  - MORE comparability
  - BETTER communications
  - BETTER management

- Action Plans need numbers...
  A numerical objective for population sizes and distribution is required for effective implementation.

QUANTITATIVE CRITERIA FOR THREAT CATEGORISATION

A. Population reduction
B. Extent of occurrence
C. Population estimate
D. Number of mature individuals
E. Probability of extinction

IUCN Criteria are based on:

- A. Population reduction
- B. Extent of occurrence
- C. Population estimate
- D. Number of mature individuals
- E. Probability of extinction

- Each taxon MUST be evaluated against ALL criteria.
- A given taxon should NOT be expected to meet all the criteria.
- Meeting any ONE criterion is sufficient for threat category listing.

This presentation by Sally Walker, ZOOG/CSG, India with help from Jonathan Balllee and Sanjay Moyer
A. Criterion -- Declining population
a) Direct observations
b) An index of abundance appropriate for the taxon
c) A decline in area of occupancy, extent of occurrence
   and/or quality of habitat
d) Actual or potential level of exploitation
e) The effects of introduced taxa, hybridization, pathogens,
   parasites, competitors or parasites

Vulnerable: 20%
Endangered: 50%
Critically endangered: 30%

B. Criterion
Restricted distribution
Continuing decline
Severe fragmentation or few locations
Extreme fluctuation

B1. Severe fragmentation or few locations
Severely fragmented

Few locations
CR 1
EN 5
VU 10

B2. Continuing decline
a) Extent of occurrence
b) Area of occupancy
c) Area, extent and/or quality of habitat
d) Number of locations or subpopulations
e) Number of mature individuals

This presentation by Sally Walker, ZOO/CBSG, India with help from Jonathan Bilton and Sanjay Molur
B3. Extreme fluctuation in

- Extent of occurrence
- Area of occupancy
- Number of occurrences or subpopulations
- Number of mature individuals

IUCN Red List criteria revisions

- represent more than five years work
- by more than 350 specialists
- and several revisions
- before "finalisation" in present form

IUCN Red List criteria revisions

The revisions aimed to:

1. To provide a system that could be used consistently by different persons.
2. To improve objectivity by providing clear guidance on how to evaluate different factors which affect risk of extinction.
3. To facilitate comparisons of widely different species, and
4. To provide progress on the listing of new individual species when categorized.
CONVENTION ON BIOLOGICAL DIVERSITY

In-Situ and Ex-Situ Linkage

CONVENTION OVERVIEW

- Character of Convention
- Origin and History
- Issues Covered by the Convention
  - National Sovereignty and Common Concern
  - Conservation and Sustainable Use
  - Access and Benefit Sharing
  - Funding
- Implementation

CONVENTION CHARACTERISTICS

- National Level Decision Making
- National Strategies, Plans, & Programs
- National Rights to Own Resources
- Common Concern of Humankind
- Targets Set by States
- Lists of Sites or Species Prepared by States

Conservation and Sustainable Use

- Identify Components Needing Conservation
- Identify Priorities for Special Measures
- Identify Activities with Adverse Effects
- Emphasis on In-situ Conservation
- Manage for Conservation & Sustainable Use
- Role of Indigenous and Local Communities

Obligations for Sustainable Use

- Linkage between Conservation and Sustainable Use
- Individual Biological Resources
  - Ecosystems, Species, & Genetic
- Broad Obligations with Distinctions Based upon Country's Resources
- Focus on National Action - not Global

IMPLEMENTATION OF CONVENTION

- Will of Parties
- Infrastructure Development
- Financial Mechanism & Access
- Meet Agreed Incremental Costs
- Use Available Expertise
- Link with other Conventions
- Role of NGOs Important

This presentation by Dr. U. S. Seul, CBSG, SSC, IUCN
## ARTICLES OF CONVENTION 1

- 1. Objective
- 2. Use of Terms
- 3. Principle
- 4. Jurisdictional Scope
- 5. Cooperation
- 6. General Measures for Conservation and Sustainable Use

## ARTICLES OF CONVENTION 2

- 7. Identification and Monitoring
- 8. In-situ Conservation
- 9. Ex-situ Conservation
- 10. Sustainable Use of Components of Biological Diversity
- 11. Incentive Measures
- 12. Research and Training

## ARTICLES OF CONVENTION 3

- 13. Public Education and Awareness
- 14. Impact Assessment and Minimizing Adverse Impacts
- 15. Access to Genetic Resources
- 16. Access to and Transfer of Technology
- 17. Exchange of Information
- 18. Technical and Scientific Cooperation

## ARTICLES OF CONVENTION 4

- 19. Handling of Biotechnology and Distribution of its Benefits
- 20. Financial Resources
- 21. Financial Mechanism
- 22. Relationship with Other International Conventions
- 23. Conference of the Parties
- 24-42. Procedures and Protocols

### 1. Objective

The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

### 2. Use of Terms - 1

“Biological diversity” means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

This presentation by Dr. U. S. Sekal, CBSG, SSC, IUCN
2. Use of Terms - 2

- "In situ conservation" means the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.

2. Use of Terms - 3

- "Ex-situ conservation" means the conservation of components of biological diversity outside their natural habitats.
- "Genetic material" means any material of plant, animal, microbial or other origin containing functional units of heredity.

2. Use of Terms - 4

- "Sustainable use" means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.

IUCN Protected Area Management Categories

- I. Strict Protection
- II. Ecosystem Conservation and Tourism
- III. Conservation of Natural Features
- IV. Conservation through Active Management
- V. Landscape/Seascape Conservation and Recreation
- VI. Sustainable Use of Natural Ecosystems

3. Principle

- States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

6. General Measures - 1

- a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt ... and
- b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans ...

- Identify areas for action
- Identify obstacles
- Identify relevant government sectors and affected constituencies
- Identify cost-effective solutions
- Make specific recommendations
- Assign tasks

9. Ex-situ Conservation - 1

- Adopt measures for the ex-situ conservation of biological diversity, preferably in the country of origin of such components.
- Establish and maintain facilities for ex-situ conservation of and research on plants, animals and micro-organisms, preferably in the country of origin of genetic resources.

9. Ex-situ Conservation - 2

- Adopt measures for the recovery and rehabilitation of threatened species and for their reproduction into their natural habitats under appropriate conditions.
- Regulate and manage collection of biological resources from natural habitats for ex-situ conservation purposes so as not to threaten ecosystems and in situ populations of species, except where special temporary ex-situ measures are required as above.

10. Sustainable Use of Components

- Integrate consideration of the conservation and sustainable use of biological resources into national decision-making.
- Adopt measures relating to the use of biological resources to avoid or minimize adverse impacts on biological diversity.
- Support local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced.

10. Sustainable Use Of Components

- Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.
- Encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.

7. Identification and Monitoring - 1

- Identify components of biological diversity important for its conservation and sustainable use.
- Monitor, through sampling and other techniques, the components of biological diversity identified, paying particular attention to those requiring urgent conservation measures and those which offer the greatest potential for sustainable use.
7. Identification and Monitoring - 2
- Identify processes and categories of activities which have or are likely to have significant adverse impacts on conservation and sustainable use of biological diversity, and monitor effects.
- Maintain and organize, by any mechanism, data derived from above identification and monitoring activities.

ANNEX 1: Identification and Monitoring - 1
- Ecosystems and habitats: containing high diversity, large numbers of endemic or threatened species, or wilderness, required by migratory species, of social, economic, cultural or scientific importance; or which are representative, unique or associated with key evolutionary or biological processes.

ANNEX 1: Identification and Monitoring - 2
- Species and communities which are threatened, wild relatives of domesticated or cultivated species, of medicinal, agricultural or other economic value, or social, scientific or cultural importance; or importance for research into the conservation and sustainable use of biological diversity, such as indicator species.
- Described genomes and genes of social, scientific or economic importance.

8. In-situ Conservation
- Establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity.
- Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures need to be taken to conserve biological diversity.

8. In-situ Conservation - 2
- Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use.
- Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings.

This presentation by Dr. U. S. Seol, CBSG, SSC, IUCN
8. In-situ Conservation - 3
- Promote environmentally sound and sustainable development in areas adjacent to protected areas with a view to furthering protection of these areas.
- Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, *in situ*, through the development and implementation of plans or other management strategies.

8. In-situ Conservation - 4
- Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health.

8. In-situ Conservation - 5
- Prevent the introduction of, or control or eradicate, those alien species which threaten ecosystems, habitats or species.
- Endeavour to provide the conditions needed for compatibility between present uses and the conservation of biological diversity and the sustainable use of its components.

8. In-situ Conservation - 6
- Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

8. In-situ Conservation - 7
- Develop or maintain necessary legislation and/or other regulatory provisions for the protection of threatened species and populations.
- Where a significant adverse effect on biological diversity has been determined, regulate or manage the relevant processes and categories of activities.
- Cooperate in providing financial and other support for *in situ* conservation outlined above, particularly to developing countries.

12. Research and Training - 1
- Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries.
12. Research and Training - 2

- Promote and encourage research which contributes to the conservation and sustainable use of biological diversity, particularly in developing countries.
- ... Promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources.
Groundrules for Group Interaction

- Everyone participates and no one dominates
- Set aside all special agendas except conserving the species
- Assume good intent of all participants. Stick to schedule ... be on time
- Agreements / recommendations are reached by group consensus
- The primary work will be done in working groups
- Taxon Data Sheets for all species to be completed and reviewed by group by end of meeting
- Be flexible. We adjust the process and schedule as needed to achieve our goals.
- Facilitators can call "time out" when discussions reach an impasse or stray too far off topic.

This presentation by Sally Walker, ZOO/CBSG, India.
Working Groups’ Facilitator

- Facilitator is responsible for keeping the group on topic and on time.
- Facilitator can guide the group to an appropriate response by asking questions.
- Facilitator - like a traffic cop … keeps discussion moving in the right direction.
- Facilitator should not be the person with the most technical information to share.
- Facilitator should insure that Recorder captures ALL information on Taxon Data Sheet legibly.
- Facilitator is responsible for calling Workshop Facilitators if group becomes unmanageable.

This presentation by Sally Walker, ZOO/CBSG, India

For making overheads, cover this message and reduce to about 75%. Overheads should not have word that “hang” outside the lighted area.
Working Groups’ Recorder

- **Recorded** is responsible for recording all information on Taxon Data Sheets.
- Recorder is responsible for insuring details (Group name, species, date, compilers) is recorded on Taxon Data sheet.
- Recorder is like a Court Reporter when the Group is Judge — he just records what the Group says without bias.
- Recorder is responsible for seeing that Workshop Facilitators get all Taxon Data sheets at the appropriate time.
- Recorder should *not* be the person with the most technical information to share.
- Recorder is responsible for calling Workshop Facilitators if Group Facilitator becomes unmanageable.

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This presentation by Sally Walker, ZOO/CBSG, India

For making overheads, cover this message and reduce to about 75%. Overheads should not have word that “hang” outside the lighted area.
Working Groups' Researcher

- Researcher is responsible for looking for bits of information needed by the group in provided reference material.

- Researcher is responsible for "table hopping" to find other working group members who can contribute to a species being assessed.

- Researcher responsible for checking sources and insuring they are complete and in correct format.

- Can also be sent for tea, coffee, etc.

This presentation by Sally Walker, ZOO/CBSG, India

For making overheads, cover this message and reduce to about 75%. Overheads should not have word that "hang" outside the lighted area.
GROUP FACILITATION SKILLS FOR MANAGERS

FRANCES WESTLEY  McGill University, Montreal
JAMES A. WATERS  Boston College, Massachusetts

ABSTRACT
Increasingly, managers are required to work in groups, and overall managerial effectiveness increasingly depends on an individual's ability to facilitate group work. This article offers an introduction to group facilitation skills for managers. It describes a framework which will help managers to recognize group process problems, to diagnose the underlying causes of the most common group problems, and, most importantly, to consider how they might act to help a group get past in problems and work productively.

INTRODUCTION
Imagine yourself in the following situations:

- You are a plant manager and a problem has arisen on the assembly line. You don't know whether it is a problem with raw materials, operations or maintenance so you call an emergency meeting with relevant people from each area. The meeting starts with one foreman making a blanket accusation that maintenance is always uncooperative and unreliable. The meeting rapidly degenerates into open warfare between production and maintenance and in the process your problem remains unsolved.

- You have been appointed to a task force to explore a problem which has turned up in a survey of employees in your organization. The problem is defined as one of reducing bureaucracy within the organization and each functional department is represented on the task force. In the first meeting, a great many ideas are mentioned, but they seem to lead in different directions. People are attached to their own positions and the meeting fails to produce any consensus about what the problem is or how to address it. The group has a deadline to meet, and you feel a sense of despair when you think about the second meeting, scheduled for next week.

- You are a middle manager who has been included in one of the quality circles which your organization has instituted. For several months, you have been attending meetings, but you are losing interest. One or two
people seem to talk at every meeting. They have their ideas, which you
don’t agree with, and simply ignore the occasional input from others. You
feel pressured to continue attending, but in your opinion, it is a waste of
time.

While these situations are all different, they have several features in common.
First, they all involve informal or collaborative structures. Unlike the most
familiar organisational situations, authority is not clearly designated. The
task must be accomplished not through following orders, but through collabor-
arion among peers, or at least within unstructured groups where authority
relationships are much less clear than in traditional or formal organisational
structures.

Second, in all three examples, team work is required if the optimal outcome
is to be achieved. The problems require the input of a number of people
and functional perspectives in order to be solved; and unless all individuals
feel they own the ultimate solution, and had a hand in shaping it, they are
unlikely to act on it after the meeting. The effort will be wasted if a good
solution is not developed or it is not implemented.

Third, in all three examples, certain process problems intervene to hinder
progress toward task accomplishment. These problems cannot be solved
by traditional directive measures because there is no formal authority and
because ‘ownership’ is an important element.

Finally, these kinds of situations are increasingly more commonly faced by
managers as teamwork becomes a way of life in many contemporary
organisations. The need for quick organisational response to competition
and environmental change, and the need for the enhanced motivation that
inclusion in decision-making provides, have inclined many top-managers
to streamline their organisations, flatten their structures and emphasise
participation. The variety of such teamwork situations is endless, but all
require a new response in terms of management. The ability to facilitate
meetings and groups, helping and enabling them to solve complex prob-
lems, to resolve conflicts and accomplish group tasks, creatively, is an
increasingly necessary skill and a demanding one for any modern manager.

However, effective facilitation and teamwork does not come naturally to
many individuals or groups. For example, one company found that while
they had managed to initiate many successful participatory programmes on
the shop floor, their middle management group felt increasingly alienated.
Exploration of this problem indicated that managers felt excluded from the
‘big picture’, from the information about the future of the company which
would provide the context for their day-to-day operations. The executive
committee decided that they should attempt to involve this group in the
strategic decision-making of the company. This provided a real challenge
however. One manager noted that he had to spend two days with his direct
reports, essentially starting from scratch to provide the financial picture
which set out the parameters for possible action, allowing them to 'buy into' this picture, and develop, analyse and select among strategic options. This particular manager, who had spent his life in traditional organisations but was generally considered to have good 'people skills', found the process exhausting and confessed it was a struggle to keep his temper as various individuals at times refused to co-operate with others or became entrenched in their own particular point of view. The ultimate result was a high level of motivation among his direct reports, but the manager felt somewhat pessimistic about whether the inclusion process could be duplicated across the organisation (and down through the ranks) without considerable training in facilitation skills.

The purpose of this article is to describe what is meant by facilitation skills and then to discuss some common problems that frequently block groups from accomplishing their work. The focus throughout is on the skills that the individual manager needs to add to his or her repertoire of managerial skills. Group facilitation skills are certainly learned only from repeated experiences with groups. However, the article is intended to establish a framework for thinking about group facilitation so that the process of learning from experience can be more effective.

WHAT IS FACILITATION?
Facilitation is the complex skill of enabling, or empowering, a group of people to complete a task. To be a facilitator is to act as a human catalyst, sparking the chemistry which turns a collection of separate individuals into a working team. Facilitation can be a formal role within a group or it can be a skill which a manager or a group member can master and contribute to the group. In the former case, the facilitator is often someone trained in this role who is brought in to help the group but remains uninvolved in the task itself. In the latter case, facilitation becomes more of a juggling act - the individual team member must move back and forth from participant in content (i.e. what the group is working on) to observer and designer of process (i.e. how the group is doing the work).

Much process design work can and should take place before the start of a meeting. The creation of an agenda (so that participants have a common idea of the work to be accomplished), the ordering of items on the agenda (so that issues are addressed in a proper problem-solving sequence), or the planning of sub-group discussion times (to collect ideas, ensure participation and energise members), are all examples of how process design choices can be made before a meeting begins.

However, for any manager who works in groups, another perspective is also important. This concerns coping with group process problems as they occur. Even the most carefully designed meetings will frequently run into unanticipated problems, and the ability to make effective interventions to get a work group back on track is at the heart of group facilitation skills for managers. These 'on-line' interventions are the focus of our discussion.
GROUP FACILITATION SKILLS FOR MANAGERS

FACILITATIVE INTERVENTIONS
Such interventions can be considered as taking place in three stages:
- Recognition of symptoms of process problems
- Diagnosis of underlying patterns of syndromes
- Making an intervention

RECOGNITION OF SYMPTOMS OF PROCESS PROBLEMS
A group can be said to be having process problems when it acts unproductively for extended periods, i.e. when it is not getting its work done. Our own feelings — of boredom, anxiety, tension or irritation — are often the first clues to process problems. While as a group member we may often tie these emotional reactions to content issues (e.g. we are strongly opposed to a particular proposition), as a facilitator we should also be aware that these responses may be triggered by process problems (e.g. individuals repeating themselves endlessly).

Another set of clues to process problems is the behavior of group members. Abrupt changes in body language such as people moving away from the group or the table, or slumping in their chairs may signal anger, withdrawal or depression. Enduring changes in speech patterns such as general silences, everybody talking at once or dominance by one or two individuals may signal lack of clarity about the task or about ways to approach a problem.

Whether problem recognition is triggered by internal or external cues, the next step is to scan these cues for patterns. A single silence falling on a group obviously doesn’t mean much in itself. It becomes significant if it is repeated, or prolonged, or if it follows on the heels of an emotional interchange. Similarly, internal cues may have little bearing on the content or process of the meeting itself; they may have to do with a distracted state of mind, personal problems and worries or even with a personal dislike of another member. All cues must be interpreted as part of a pattern, placing them in the context of private feelings, meeting dynamics, and group history.

DIAGNOSIS OF UNDERLYING PATTERNS
Once a symptom has been recognized and placed in the context of a pattern representing a problem for the meeting, the next step is to make a diagnosis of possible causes. Here again an infinite variety of problems can manifest themselves. Some are short-term process problems, and others are tied to longer-term group dynamics; some are accidental in the sense that no one is deliberately trying to obstruct the work of the group and others are deliberate attempts to sabotage the work of the the group (as when a particular solution has political ramifications). To complicate matters, a finite number of presenting problems can have a multiplicity of causes.
<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Possible Causes</th>
<th>Possible Design Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multi-Headed Beast</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digressions</td>
<td>No agreement on agenda</td>
<td>Suggest round robin to clarify task</td>
</tr>
<tr>
<td>Interruptions</td>
<td>No process design</td>
<td>Facilitator lists parcellations of task</td>
</tr>
<tr>
<td>Multiple topics</td>
<td>Mixing problem-solving stages</td>
<td>Facilitator seeks synthesis (rephrase, find continuities, categories)</td>
</tr>
<tr>
<td>No listening</td>
<td></td>
<td>Formulates/reformulates agenda</td>
</tr>
<tr>
<td>No integration of ideas</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feeding Factions Syndrome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetitious arguments</td>
<td>Hidden agendas/power struggles</td>
<td>Stop action: ‘we’re having difficulty agreeing on a solution…’</td>
</tr>
<tr>
<td>Open attacks, anger</td>
<td>Fear of change</td>
<td>Allow individual to privately list criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>List criteria independently of alternatives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Measure alternatives against criteria</td>
</tr>
<tr>
<td><strong>Dominant Species Syndrome</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Plaps’</td>
<td>Dominance: not heard, frustrated</td>
<td>Direct: question/poll</td>
</tr>
<tr>
<td>‘Unequal airtime’</td>
<td>Withdrawn: afraid, frustrated, insulated</td>
<td>underparticipants: thank/ limit overparticipants</td>
</tr>
<tr>
<td>Passive/aggressive</td>
<td></td>
<td>Interpretive: At end of meeting, share perceptions on levels of participation</td>
</tr>
<tr>
<td>body language</td>
<td></td>
<td>- self rating</td>
</tr>
<tr>
<td>Withdrawal, etc.</td>
<td></td>
<td>- round robin on views</td>
</tr>
<tr>
<td><strong>Recycling Syndrome</strong></td>
<td></td>
<td>Introduce/reintroduce</td>
</tr>
<tr>
<td>‘Broken record’/behaviour</td>
<td>Ideas not being recorded</td>
<td>problem-solving steps</td>
</tr>
</tbody>
</table>
GROUP FACILITATION SKILLS FOR MANAGERS

| Irritation with lack of progress | Confusion about problem-solving process | Identify which issues belong to which steps |
| Failure to gain consensus | Identify ‘Where we are, where we’ve been, where we’re going’ |

Sleeping Meeting Syndrome
Long silences Fear of volatile issue
Absence of energy/ideas Hostility
Withdrawal Depression Fatigue

Describe observation — ‘blocked condition of meeting’
Suggest moodcheck

Then:
- take a break
- address underlying problem
- decide on action plan to rectify and/or
- return to task while allotting time to address problem at end of meeting

However, this variety and complexity need not be overwhelming. For practical purposes, the kinds of problems that managers will typically face will be unintended or unconscious rather than of the sabotage variety. Moreover, as is true of many other interpersonal situations, a limited number of what we term generic syndromes can be used to diagnose a great proportion of the problems experienced in group work. Table 1 provides a concise summary of five common generic syndromes, their symptoms, possible causes and possible design interventions. An appreciation of these five syndromes will help any manager to respond to many if not most situations in which groups are not accomplishing productive work.

THE MULTI-HEADED BEAST SYNDROME
This is characterised by people talking past each other as if everyone has a different idea of why they are there. People may talk at the same time, interruptions and non-significant digressions may be frequent, and little listening behaviour is evident. The problem is often lack of clarity or agreement about the agenda or premature discussion of solutions, i.e. before agreement is reached about the nature of the problem.

THE FEUDING Factions SYNDROME
This syndrome frequently has the appearance of entrenched warfare. Unproductive conflict emerges as individuals or sub-groups simply repeat their
SIX STEPS
TO EFFECTIVE COLLABORATION

Guidelines for Collaborating Effectively

Step 1: Agree on the Definition of the Conflict

Think of the conflict as a "we versus the problem" situation. It is a problem that both are you are committed to finding a win-win solution to. It is not a fight between two people but two people working together to solve a common problem.

Make it plain that you are committed to finding a win-win solution to the conflict and to spending the necessary time to work toward such a solution.

Describe the collaborative problem-solving process, agree on the steps you will follow in finding a solution.

Step 2: Define the Problem in Terms of Needs, Not Solutions

Identify what each of you want, rather than how you want to get it.

Try to find out why each of you wants the solution you initially proposed. Once you understand the advantages the solution has, you can discover the "need".

Focus on the ends you want to achieve, rather that the means to those ends.

For example, rather than saying "I need the car and you need the car", say "I need transportation and you need transportation". The first has no win-win solution (if there is only one car), the second has many win-win solutions.

This step requires that you understand what is important to you; what the fundamental issue is and how important it is to you, as well as how important to you the relationship with the other person is.
Step 3: Communicate Effectively

Describe each other's actions without labelling or insulting each other.

Focus on the problem, not the person. Don't evaluate. Fight over issues, not personalities.

Be specific, don't use the words "always" or "never". Describe what the other person did, don't attempt to infer his or her motives.

Describe how you feel in response to the other person's behaviour or to the situation.
Be flexible, be open to the other person's point of view. Accept the other person's feelings and observations as valid. Don't be defensive.

Listen carefully, paraphrase what the other person has said to make sure you understand. Check to ensure that you are understood.

Step 4: Explore Possible Solutions

Explore similarities; options which would meet both parties' needs.

Remember the rules for brainstorming:

No idea is too far out.
Build on previous ideas. Listen to each other.
Don't evaluate

Step 5: Choose a Solution That Will Best Meet Both Parties' Needs

Ask what proposed alternatives the other person favours.

State the alternatives that look best to you.

See which choices coincide.

Jointly decide on one of the alternatives.

Step 6: Agree on Who will do What, Where, and by When.
WORKING GROUP FACILITATORS AND RECORDERS

NOTES FOR FACILITATORS

In the course of this PHVA there will be several meetings of different small "Working Groups" on different subject areas.

Each Working Group should have a Facilitator. The Facilitator SHOULD NOT be a key content resource. The Facilitator SHOULD NOT be the person who knows the most but the one who will say the least! The Facilitator SHOULD NOT be a leader but a mediator.

It is the Facilitator's responsibility to

1. Be a neutral servant of the group
2. Refrain from evaluating or contributing ideas
3. Help surface what problem the group wishes to work on
4. Help surface what methods the group can best use to reach problem resolution
5. Keep the group energy focused on a common task
6. Suggest alternative methods and procedures when the group gets bogged down
7. Protect individuals and their ideas from attack
8. Encourage equal participation
9. Help the group to build consensus
10. Encourage the group to produce their result in a timely fashion.

NOTES FOR RECORDERS

Sometimes it is good to have a separate Recorder to write down what different people say, particularly in large groups. In small groups the facilitator can handle this.

Try and use the flip-chart or paper pinned on the wall to record ideas so that everyone can see. The act of writing down ideas is not meant to be an attempt to control the group but only to represent and facilitate the flow of ideas. Also to help the group remember what people said.

As Recorder you should:

1. Listen for key words used by each individual and record them
2. Try to capture basic ideas, the essence
3. Don't write down every word
4. Write legibly and large
5. Don't be afraid to misspell and use abbreviations
6. Circle, star, underline key ideas, statements or decisions
7. Number and hang up each sheet where they can be seen by the group
8. Remember that all contributions have equal weight; write down everyone's contribution
9. Remember that writing a statement doesn't commit the group to do it or keep it always --- this is for encouraging ideas
There are 5 STAGES OF GROUP DEVELOPMENT

FORMING
STORMING
NORMING
PERFORMING
ADJOURNING

TUCKMAN, 1965

There is a pattern
to the group structure:
the way members interact & relate
content
task activity development
how the task is carried out

e.g.
This influences
or, in other words
that is to say
Stage 1 -- FORMING

GROUP STRUCTURE: TESTING AND DEPENDENCE

* members depend on roles developed outside the group

* members may relate to powerful group member or facilitator in dependent way - look to him/her for guidance and support in new unstructured setting

* may show early concentration on issues not relevant to the task

* rules are to keep things simple and avoid controversy

TASK ACTIVITY DEVELOPMENT: ORIENTATION TO THE TASK & PERSONAL REALMS

* impersonal

* members orient to the task and approach to be used

* group identifies task and how it is to be accomplished

* discovery of "ground rules"
Stage 2: STORMING

GROUP STRUCTURE: INTRA-GROUP CONFLICT

* competition and conflict

* group members become hostile to one another or to the facilitator as a means of expressing their individuality and resisting formation of group structure

* characteristic key issues polarize the group

TASK ACTIVITY DEVELOPMENT:
EMOTIONAL RESPONSE TO TASK DEMANDS

* group members react emotionally to the task as a form of resistance to the demands of the task on the individual

* questions arise as to who will be responsible for what, what rules are, etc.

MOST IMPORTANT TRAIT IN HELPING GROUPS MOVE ON TO NEXT STAGE SEEMS TO BE LISTENING
Stage 3 -- NORMING

GROUP STRUCTURE: DEVELOPMENT OF GROUP COHESION

* cohesion, harmony
* group members accept the group and idiosyncrasies of fellow members
* active acknowledgement of all members' contributions
* sense of "groupness"
* leadership shared, cliques dissolve
* establishment of group-generated norms to ensure group's existence
* harmony of maximum importance

TASK ACTIVITY DEVELOPMENT: OPEN EXCHANGE OF RELEVANT INTERPRETATIONS

* data flow and feedback
* characterized by openness to other group members on both personal and task level
* asking for and giving opinions/data
Stage 4: PERFORMING

GROUP STRUCTURE: -- FUNCTIONAL
ROLE RELATEDNESS

* sense of unity
* group becomes a problem-solving instrument
* members can work singly, in subgroups, or as a total unit with equal effect.
* members have learned to relate to one another as social entities
* group becomes a “sounding board” of which the task is played

TASK ACTIVITY DEVELOPMENT: EMERGENCE OF SOLUTIONS

* constructive attempts at successful task completion
* emphasis on constructive action
* group becomes very task-oriented

Stage 5: ADJOURNING

GROUP STRUCTURE: DISENGAGEMENT

* disengagement from relations

TASK ACTIVITY DEVELOPMENT: TERMINATION OF TASK BEHAVIOR

* termination of task behavior

PLANNED CONCLUSION IN WORKSHOP SETTING USUALLY INCLUDES:

* recognition for participation and achievement
* thank you's to host
* opportunity for members to say personal goodbyes
Four Sources of Interpersonal Conflict

I. Personal Differences
   - in values, expectations, perceptions
   - are difficult to resolve because there is NO RIGHT value or perception; all are equally valid.

II. Informational Deficiency
   - is missing information, misunderstanding
   - is easy to resolve once the FACTS are uncovered

III. Interdependent Tasks with Role Incompatibility
   - different roles (e.g., production, marketing) place different emphases on goals (efficiency, service)
   - resolution often requires the mediation of a higher authority

IV. Environmentally induced stress
   - resource scarcity, uncertainty (information scarcity)
   - conflicts are resolved IF stress goes away.
GROUP MEMBER ROLES

TASK ROLES: GETTING THE JOB DONE

* initiator/contributor
* information seeker
* opinion seeker
* information giver
* recorder
* elaborator
* coordinator
* evaluator/critic
* orienter
* energizer
* procedural technician
* recorder

BUILDING AND MAINTENANCE ROLES: HOW THE TASKS ARE DONE

* encourager/supporter
* harmonizer/mediator
* compromiser
* gate-keeper & expeditor
* standard setter
* group observer
* follower

DISRUPTIVE INDIVIDUAL ROLES:

* aggressor
* blocker
* recognition-seeker
* self-confessor
* playboy
* dominator
* help-seeker
* self-interest pleader

Benne & Sheats, 1948
Mangrove ecosystem CAMP, Goa ---
Invertebrate Working Group

CBSG, India - CAMP TIP

Get a categories chart painted on a cloth banner for easy reference even across the room by participants.

It is very effective and much appreciated. (People like to have their photo taken next to it also.)
1. Name: P. T. Cherian

2. Geographic area in India in which you have done field studies and with which you are most familiar (please rate: 1 - very familiar; 2 - familiar; 3 somewhat familiar)

<table>
<thead>
<tr>
<th>North</th>
<th>Northeast</th>
<th>Northwest</th>
<th>Central</th>
<th>South</th>
<th>Andamans</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

3. List any particular areas within these general regions with which you are most familiar (ex. Western Ghats).

4. Family / Families of reptiles in which you are specialist. Please list.

- Bâloâgueâdae 3
- Agamidae
- Gekkonidae
- Scincidae
- Lampropeltidae
- Viperidae
- Colubridae

Continue on back if necessary
<table>
<thead>
<tr>
<th>N</th>
<th>NE</th>
<th>NW</th>
<th>C</th>
<th>S</th>
<th>A</th>
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<td>1</td>
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<td>5</td>
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<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

**NIL - No # given**

- **Southern India**
  - Families: Western, Eastern, and Others
  - Most of S. India

- **Central India, Maharashtra, and Others**

- **Northern India**

**CBSO, India - CAMP TIP**

When conducting country CAMPS, it is not always possible to predict the configuration of your specialists before the workshop. Once they reach, a form -- modified appropriately to reflect the geographic areas (or even species) with which people are most familiar, can be given to each person. Making a tally of these on an overhead can make forming Working Groups an effective participatory exercise.
CAMP TIP:
AN EASY WAY TO DIVIDE UNKNOWN PEOPLE INTO WORKING GROUPS

Working Group Configuration Figuration Information for Mangrove ecosystem CAMP

1. Name: _A. H. PARULEKAR_

2. Geographic area in India in which you have done field studies and with which you are most familiar (please rate: 1 - very familiar; 2 - familiar; 3 - somewhat familiar):

<table>
<thead>
<tr>
<th>East Coast</th>
<th>Andamans</th>
<th>W. Bengal</th>
<th>Orissa</th>
<th>Andhra Pradesh</th>
<th>Tamil Nadu</th>
</tr>
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<tbody>
<tr>
<td>Kerala</td>
<td>2</td>
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<td>3</td>
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</tbody>
</table>

West Coast

<table>
<thead>
<tr>
<th>Kerala</th>
<th>Karnataka</th>
<th>Goa</th>
<th>Maharashtra</th>
<th>Gujarat</th>
<th>Lakshadweep</th>
</tr>
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<td>2</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
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</tr>
</tbody>
</table>

3. List any animal and plant species or group (excluding micro-organisms) with which you have expertise (direct or indirect information), particularly in its population trends:

ZOORENTHES

Continue on back if necessary

Working Group Configuration Figuration Information for Mangrove Ecosystem CAMP

1. Name: _D. LEELA BHOSALE_

2. Geographic area in India in which you have done field studies and with which you are most familiar (please rate: 1 - very familiar; 2 - familiar; 3 - somewhat familiar):

<table>
<thead>
<tr>
<th>East Coast</th>
<th>Andamans</th>
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</tr>
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<tbody>
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<td>1</td>
<td>1</td>
<td>3</td>
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</table>

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<table>
<thead>
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<td>2</td>
</tr>
</tbody>
</table>

3. List any animal and plant species or group (excluding micro-organisms) with which you have expertise (direct or indirect information), particularly in its population trends:

MANGROVE ECO

Continue on back if necessary
CAMP TIP, cont.:
TALLY YOUR FIGURES AND THE GROUP CONFIGURATION EMERGES LOUD AND CLEAR

**TALLY - STATES - GENERAL (ALL LEVELS)**

<table>
<thead>
<tr>
<th>EAST</th>
<th>ANDAMAN</th>
<th>W. BENGAL</th>
<th>ORISSA</th>
<th>ANDHRA PRADESH</th>
<th>TAMIL NADU</th>
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</table>

| WEST          | KERALA | KARNATAKA | GOPA   | MAHARASHTRA    | GUJARAT | LANKASHM 
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**TALLY - 1 VERY FAMILIAR**

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<tr>
<th>AND.</th>
<th>W.B.</th>
<th>ORISSA</th>
<th>ANDHRA PRADESH</th>
<th>T.N.</th>
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**TALLY - 2 - FAMILIAR**

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<th>AND.</th>
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<th>OR.</th>
<th>AP</th>
<th>TN</th>
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<th>MAHA</th>
<th>GUJ</th>
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<tr>
<td>1</td>
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**TALLY - 3 - SOMEWHAT FAM. +**

<table>
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<th>TN</th>
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CBSG, India - CAMP TIP

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<table>
<thead>
<tr>
<th>Species</th>
<th>1. Apps. year spp.</th>
<th>2. NO study done after discovery and description</th>
<th>3. NO studies done in past ten years</th>
<th>4. Little or NO biocology or population known</th>
<th>5. Is there any change in its habitat since discovery?</th>
<th>Is it Endemic to India?</th>
<th>Is it comm. exploited?</th>
<th>Rating for (conservation) res. priority?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macrochlamys vallicola Pfr.</td>
<td>1853</td>
<td>1912</td>
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<td>Yes</td>
<td>Yes</td>
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<td>1857</td>
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**Note:** Questions have been formulated so that YES is equivalent to HIGH priority rating and NO is equivalent to LOW priority rating. Please be conscious of somewhat awkward wording in 2, 3, and 4.

**Rating Scale for Research Priorities and Biodiversity Funding**

**CBSG, India - CAMP TIP**

When listing more species than you can assess in one workshop (or maybe a lifetime) and when you want to give some direction to future studies and funding a "res-parch priorities rating scale" such as this can be easily filled by passing it around to different specialists who will fill for groups they know. While not a conservation assessment it is a "locusce assessment" and provides a basis for planning.
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</table>

To be sent along with the draft.

Sally Walker  
Coordinator, BCPP CAMP Workshops for India  
CBSG India  
65 Bharati Colony  
P.O. Box 1683  
Peelamedu  
Coimbatore 4  
India

Dear Dr. Walker:

I was very pleased to learn of the Conservation Assessment and Management Plan Workshop focusing on mangrove ecosystems of India to be held under the auspices of the Biodiversity Conservation Prioritisation Project coordinated by WWF India, the Salim Ali Centre for Ornithology, and ZOO/CBSG India.

In light of the fragility as well as the ecological and socioeconomic significance of mangrove swamps, and the paucity of information about these ecosystems, this workshop is clearly an important and exciting step. An effort such as this can only be successfully accomplished with the support and input of local government agencies and conservation organizations. The participation of the Mangrove Society of India, the Forest Department of Goa, and the National Institute of Oceanography as host, is therefore quite propitious.

On behalf of the SSC I offer best wishes for a productive meeting.

Sincerely,

David Brackett  
Chair
To    Dr. A. G. Ponniiah, National Bureau of Fish Genetic Resources
      Dr. D. Kapoor, National Bureau of Fish Genetic Resources
      Ms. Sally Walker, CBSG, India
      Dr. Ajith Kumar, Endangered Species Sub-group, BCPP
      Mr. Sanjay Molur, Programme Officer, CBSG, India

From   Dr. U. S. Seal

Dear Dr. Ponniiah, Dr. Kapoor, Sally, Ajith and Sanjay:

It gives me great satisfaction to learn that six of the seven CAMP workshops for the Biodiversity Conservation Prioritization Project have been completed. I have seen the summary reports of status assessments for medicinal plants, soil invertebrates, amphibians, reptiles, mangrove species, and mammals and I look forward to reading the reports.

I understand that the Freshwater Fish CAMP is impending and would like to wish you all success. Freshwater ecosystems all over the world are of great concern. Fish, of all kinds - both marine and fresh water - have been too little studied from a conservation point of view.

India is setting an excellent example by undertaking to satisfy the Rio Convention Agreements to prioritise species and sites. The revised IUCN Red List criteria represent years of collaborative work, testing and revision. Clearly there will be further refinement required and your workshops, held on such a vast array of plant and animal groups, will provide valuable material for such refinement. Please record any difficulties you find with the criteria and/or Taxon Data Sheets so that we can consider your experience in the constant process of evolution we undertake in relation to the CAMP process.

I am delighted that you have the support of the so many specialists and institutions. The Conservation Breeding Specialist Group joins them in supporting and encouraging the efforts of your vital and vibrant conservation community in India.

Best wishes,

Ulysses S. Seal
To Participants of CAMP III for Medicinal Plants of S. India

From Sally Walker and Sanjay Molur, CBSG, India

Date 8 February 1997

Dear Colleagues:

We have completed the first Draft of Taxon Data Sheets and are ready for further corrections. You should make your corrections and return them no later than 16 March 1997.

Unlike previous years, we have included questions we have about various information and also instructions for adding particular information. These questions are in boldface (the plant name is also in boldface type but it is not a question). You must supply an answer to the questions this time. These instructions are not accepted. Please check every Taxon Data Sheet for gaps in information that are appropriate or known. Four species have categorised tentatively as Data Deficient. More information is needed (given in the sheet) to justify this categorisation.

Having done three CAMPs it is clear that everyone is quite experienced and should add all the information which might have been missed out in the final plenary. Below you will find some additional points to keep in mind while correcting the DRAFT.

Points and reminders to ponder when correcting the DRAFT

Recent field studies can include those conducted only after 1990 and do not include literature search and herbarium study. Earlier studies should be included in Data Quality.

Recent Field Study must include complete names of the researcher, area of study and actual year of the study (not the date of publication).

Species with no Recent Field Studies are likely to be categorised Data Deficient for want of justification as categories cannot be given for data collected before 1990.

Sources should include all (available) references in full. Author names (all), year, title, journal or book title (with all authors or editors), volume and issue numbers and page numbers.

You will note that in a couple of cases the category has been changed from what was read out in Plenary and reasons have been given for this.

The other part of the Report will be as usual.

Thank you for having us at the workshop and for correcting the DRAFT Report.

With best wishes,
DRAFT

Report of the CAMP Workshop for Medicinal Plants of Central, NW and NE India

Biodiversity Conservation Prioritisation Project

To be returned corrected by 1 March 1997

Return to

Sanjay Molur
CBSG, India
P. O. Box 1683
Peelamedu
Coimbatore
641 004
Species (& synonyms): Calophyllum apetalum

Taxonomic status: Species

Habitat: Along the banks of rivers and streams in evergreen and semi-evergreen forests. T.N. and Kerala

Original Distribution: Endemic to W. Ghats, Maharashtra, Karnataka

Current Distribution:
- Elevation: Up to 1300 m
- Range (km²): 6
- Area Occupied (km²): 6
- Number of locations: Many

Population Trends - % change in years or gens: 10%
- % Decline: 10% / 0 - Time / Rate (Yrs or gen)
- No. of Mature Individuals:

Global Population:
Regional Population:

Data Quality (Key, sources, dates):

Recent Field Studies (Who, dates, ref.):
- Dr. A.G. Pandurangan - (Dhekki, distr C8002)
- MPCA's S. Subramanya, Meenakshi, Dornagare (Common)

Threats (Key):
- HM, fruit traded

Trade: Yes (families)

Other Comments:

Status:
- IUCN: LR = LC
- CITES: Criteria based on:

IWPA (1972, 91):

Recommendations
- Research management: Genetic management & cultivation
- P.H.V.A:

Cultivation program recommendations
- Cultivation: Yes
- Level of difficulty: No

Existing Cultivations:

Names of facilities:

Sources: Literature & personal observation

Compilers: Group 4

[Signature] 17.1.97
TAXON DATA SHEET

Species (& synonyms):
Calophyllum salatum Willd.
- C. decaplanum Wight
- C. wightianum Wall. ex Planchon & Triane

Family: Clusiaceae

Habit: Tree
Habitat: Along the banks of rivers and streams in evergreen and semi-evergreen forests

Original Global Distribution:
ENDEMIC to Western Ghats.

Current Regional Distribution:
Maharashtra, Karnataka, Tamil Nadu and Kerala
Up to 1,300 m.

Population Trends:
- % change: > 20%
- Time / Rate (yr or gens): 3 generations
- No. of Mature Individuals: Not known

Global Population:
Declining

Data Quality:
General field study and indirect information

Recent Field Studies:
A.G. Pandurangan in Idukki dist.; Mangalore University Botany dept., 1995 in Subramanya, Charmadi, Devimane MPCAs; Keshava Murthy, 1996 in Anshigahat and Patodi; S. Armougame, 1997 collected in Palamalai, Palakkad dist.; M.D. Subash Chandran, ongoing studies all over Uttara Kannada

Threats:
Harvest for medicine; Trade; Harvest for timber; Loss of habitat

Trade:
Domestic; Commercial

Other Comments:
Common throughout southern districts of Kerala (A.E. Shanaawaz Khan). Fruits trade and wood for timber industry

Status:
VULNERABLE
Population reduction (A1a, 1c, 1d); Extent of occurrence (B1, 2c, 2e)

Recommendations:
- Research management:
- IUCN:
- Criteria based on:
- CITES:
- IWPA (1972, 91):

Cultivation Program Recommendations:
- Cultivation:
- Level of difficulty:

Existing Cultivations:
- Names of facilities:

Sources:
Personal observations/comments: A.G. Pandurangan, Keshava Murthy, S. Armougame, M.D. Subash Chandran, A.E. Shanaawaz Khan.
Mohanan, M. & A.N. Henry. Flora of Thiruvananthapuram

Compiler:
Dr. B.V. Shetty, Mr. Prurushethan Singh, Dr. S.R. Ramash, Dr. Ravi Kumar, Dr. A.G. Pandurangan, Dr. Ellis, Dr. K.R. Geetha, Ms. Lalith
REPORT
Conservation Assessment and Management Plan Workshop
for Selected Species of Medicinal Plants of Southern India
Number III in a series -- Bangalore, 16 - 18 January 1997
REPORT

Conservation Assessment and Management Plan Workshop
(C.A.M.P. III)
for Selected Species of Medicinal Plants of Southern India
Bangalore, 16 - 18 January 1997

Produced by the Participants
Edited by Sanjay Molur and Sally Walker


June 1997

Foundation for Revitalisation of Local Health Traditions
ZOO/ Conservation Breeding Specialist Group, India
Medicinal Plants Specialist Group, SSC, IUCN
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Taxon Data Sheets
IUCN Guidelines
Executive Summary

The Convention on Biological Diversity signed by 150 states in Rio de Janeiro in 1992 calls on signatories to identify and components of their state biodiversity and prioritise ecosystems and habitats, species and communities and genomes of social, scientific and economic value.

The new IUCN Red List criteria have been revised by IUCN to reflect the need for greater objectivity and precision when categorising species for conservation action. The CAMP process, developed by the Conservation Breeding Specialist Group, has emerged as an effective, flexible, participatory and scientific methodology for conducting species prioritisation exercises using the IUCN criteria.

Since 1995, the Foundation for Revitalisation of Local Health Traditions has been conducting CAMP Workshops for one of the major groups of conservation concern, medicinal plants. The present workshop is the third in a series which has assessed 139 pre-selected taxa. These pioneering exercises by FRLHT led to the CAMP process and IUCN Red List Categories being selected by the Endangered Species Subgroup for use in the species prioritisation component of the Biodiversity Conservation Prioritisation Project for India. The first of a series of seven workshops took up selected north, north east, central, and north western medicinal plants for assessment. The combined output of xxx plants assessed in the three workshops of FRLHT and the one workshop under BCPP were noted and used to propose a revised Negative List of Exports, a revised list of species for inclusion on the Wildlife Protection Act and to suggest other conservation measures at the state level.

Therefore, the FRLHT CAMP workshops have -- in a very short time -- made an extremely significant impact, not only on the conservation of medicinal plants in the southern states which has been to date the mandate of FRLHT, but on the whole country.

The Conservation Action and Management Plan Workshop was developed by CBSG for the purpose of prioritising species for conservation action. Over the last decade, CBSG has conducted dozens of CAMP workshops for literally thousands of species, using (and thereby testing) whatever was the current iteration of the IUCN Red List Categories as the basic methodology to glean a status ranking.

CAMP Workshops bring together a variety of specialists and enthusiasts from academic, government, managerial, and even the commercial sector to evaluate taxa for setting priorities for conservation action. The fear of loss and hope of recovery of species drives CAMP Workshops. Individuals part with unpublished information in order to contribute to a body of information which will provide strategic guidance for application of intensive management and information gathering. CAMP Workshops results are, or should be, dynamic, leading to specific conservation activities in forest, market, classroom, courtyard -- locally and nationally as well as on the international stage.

Medicinal plants are receiving an enormous amount of attention today. The resurgence of interest in natural systems of medicine, in indigenous peoples and practices, the increasing use of parts or extracts or compounds made from medicinal plants, the realisation of the potential loss through both domestic and foreign trade, and the publicity engendered by the
"Convention on Biodiversity and GATT Treaty have combined to form a movement "movement" for medicinal plants.

FRLHT is a non-governmental organisation which was launched to preserve and promote India's traditional medical legacy. Its primary objective is to enhance understanding and awareness of the need for conservation and stress the importance of medicinal plants in primary health care. FRLHT utilises the output of the CAMP Workshop to carry out its objectives of conservation, research and education. Some of the ways CAMP species have been used are: assembling a data base (including line drawings, photos, information, maps; initiating a Genome Resource Banking programme; producing and distributing thousands of attractive posters and handouts; setting up conservation parks and demonstration gardens.

A Conservation Action and Management Plan (C.A.M.P.) Workshop for selected species of Medicinal Plants of southern India was held in Bangalore, India from 16 - 18 January 1997, organised by the Foundation for Revitalisation of Local Health Traditions (F.R.L.H.T.). This Workshop was the third in a series of workshops on selected species of rare Southern Indian medicinal plants conducted in 1995, 1996, and 1997. Southern Indian Medicinal Plants CAMP, 1997 was a landmark exercise in that it was the first time a Conservation Action and Management Plan Workshop had been carried out exclusively for plants and also on a country-regional basis. The two follow-up workshops, Southern Indian Medicinal Plants CAMPs (1996 and 1997), to assess additional species, many of them recommended by participants of previous workshops, was also an innovative use of the CAMP process.

The goals of the CAMP Workshop were:
1. To use populations, habitat and threat parameters to assess the conservation status and assign an IUCN Red List ranking to 64 species of Southern Indian Medicinal Plants selected by workshop participants of CAMP 1996 and FRLHT.

2. To provide information about the species which would be useful in drawing up Action Plans and Management Plans, including recommendations for in situ and ex situ management, research, survey and monitoring; cultivation; investigation of limiting factors; taxonomic and other specific research; education and activism.

3. To produce a Conservation Assessment and Management Plan Report for the 64 species, which after review and comment by workshop participants, would be distributed to all parties interested in medicinal plants conservation.

Thirty-six species of medicinal plants were assessed in CAMP I in 1995, 44 in CAMP II in 1996 and 64 in CAMP III, 1997 using the revised IUCN categories of threat. The 64 plans were divided into four groups of 16 each and each participant was assigned to one of four Working Groups. These were then passed around to all the other groups for additions and corrections. Plenary sessions to review the assessments and discuss controversial points were held from time to time. Results of this carefully guided group process were:

Of the 64 species considered, 35 are endemic to the region, 29 are non-endemic native species extending throughout India or to Southeast Asia or Africa. The endemics were

Southern Indian Medicinal Plants CAMP III, 16 - 18 January 1997, Bangalore

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<td><em>Humboldtia valianca</em> Wight</td>
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<td><em>Cleome burnamii</em> Wight &amp; Arn.</td>
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*Southern Indian Medicinal Plants CAMP III, 16 - 18 January 1997, Bangalore*
Hippocrateaceae  
Salacia oblonga Wallich ex Wight & Arn.

Hippocrateaceae  
Salacia reticulata Wight

Lamiaceae  
Plectranthus nilgherriesis Benth.

Laureaceae  
Cinnamomum maleatam (Burm.f.) Blume.
  = C. macrocarpum Hook.f.

Laureaceae  
Cinnamomum sulphuratum Nees.

Laureaceae  
Cinnamomum wightii Meissner

Laureaceae  
Persea macrantha (Nees) Kosterm.
  = Machilus macrantha Nees

Liliaceae  
Smilax zeyleanica L.
  = S. macrophylla Wight

Loganiaceae  
Styrchnos aorica A.W. Hill
  = S. rheedia Brandis

Magnoliaceae  
Michelia nilagirica Zent.

Meliaceae  
Aphananxias polystachya (Wallich) Parker
  = Aglaia polystachya Wallich
  = Anacropa rohniica (Roxb.) Wight & Arn.
  = Andersonia rohniica Roxb.

Meliaceae  
Dysoxylum malabaricum Beddome ex Hem

Moraceae  
Artiocarpus hirsutus Lam.

Myristicaceae  
Knema attenuata (Wallich ex Hook.f. & Thomson) Warb.
  = Myristica attenuata Wallich ex Hook.f. & Thomson

Myristicaceae  
Myristica dactyloides Gaertner
  = M. beddomei King
  = M. contorta Warb.

Myrsinaceae  
Eombokia iseriain-cottam (Roemer & Schuetz) DC.
  = E. robusta aurea, non Roxb.

Ophioglossaceae  
Helminthostachys zeylanica (L.) Hook.
  = H. daulis Kaulf.

Orchidaceae  
Dendrobium ovatum (Willd.) Kranzl.

Orchidaceae  
Eulophia euleni (Wight) Blume

Orchidaceae  
Eulophia ramontemcru Lindl. ex Wight
  = E. proteus Lindl.

Periplocaae  
Dodecatheon hamiltonii Wight & Arn.

Santalaceae  
Santalum album L.

Sapindaceae  
Sapindus laurifolia Vahl
  = S. trifoliatus sensu Hem. non L.

Sapotaceae  
Madhuca longifolia var. longifolia (Koering) Macbr.
  = Bastia longifolia Koering

Sapotaceae  
Madhuca nherfolia (Moon) H.J. Lam.
  = Bastia nherfolia Beddome

Sterculiaceae  
Pterospermium xillocarpum (Gaertner) Santapau & Wagh
  = P. heynemani Wallich ex Wight & Arn.

Valerianaceae  
Valeriana leucophylla DC.

Verbenaceae  
Vitex trifolia L.

Zingiberaceae  
Alpinia galanga Sw.
  = A. rheedia Wight

Zingiberaceae  
Curcuma pseudomontana Graham
  = C. ranseuli Prain
  = C. montana sensu Baker

Zingiberaceae  
Curcuma zedoaria (Christm.) Rose
  = C. zedoaria Roxb.

* arranged alphabetically according to family

Southern Indian Medicinal Plants CAMP III, 16 - 18 January 1997, Bangalore
CONSERVATION STATUS ASSESSMENT OF MEDICINAL PLANTS
categorised with new IUCN Red List Criteria
under the Biodiversity Conservation Prioritisation Project
WWF, India, ZOO/CBSG, India, U.P. Forest Department
21-25 January 1997, Kakrail Park, Lucknow - DRAFT

CRITICAL
Aconitum bailloni - NW
Aconitum densobolum - NW
Aconitum falconeri - NW
Aconitum sphenophyllum - NW
Aconitum viscosum - NW
Angelica glauca - NW
Aquilaria malaccensis - NE
Arnebia hemprichii - NW
Astyanax amethyst - NW
Berberis Kashmeera - NW
Berberis multiplex - NW
Cupressus iotia - NE
Creosotrigina plantaginea - CR - CEN
Cynara ovaria - CR - CEN
Daucobalanus latigera - R - NW
Delphinium denudata - N - NW
Discorea deloides - R - NW
Fradarris roylei - R - NW
Gentiana kurroa - NW
Gonolobus longiflorus - NE
Indra racemosa - N - NW
Ilex kasturi - NE
Lavanga scabra - N - NE
Meconopsis aculeata - R - NE
Nardostachys jaunansi - NW
Nepenthes khasiana - NE
Panax pseudoginseng - N - NE
Peperusian tocepinoides - N - NE
& NW
Presidential tanganica - R - NE
Stenolera costae - R - NW
Stenolera gossypifera - R - NW
Sweevia chirayita - R - NW
Taxus wallichiana - R - NE
Valeriana jatamansi - R - NE

VULNERABLE
Acacia calandiva - R - NE
Berberis ciliata - NW
Berberis elata - NW
Clerodendrum olebrockii - NW - NE
Clerodendrum variatum - R - CEN
Cordyceps officinalis - R - CEN
Dodonaea indica - R - CEN
Gymnema sylvestre - R - CEN
Hedyotis speciosa - NW
Kochinasia tuberculata - R - CEN
Liriodendron tulipifera - R - NW
Rhus artemisia - R - NW
Rhus heterophylla - R - NW
Thalictrum foliosum - R - NW
Tylophora indica - R - CEN

LOW RISK - NEAR THREATENED
Balasia sylvatica - R - CEN
Celastrus paniculatus - R - CEN
Cinnamomum amboin - NW
Cordia rotundifolia - R - CEN
Curcuma angustifolia - R - CEN
Euphorbia alata - R - CEN
Jasminum officinale - NW

DATA DEFICIENT
Datura metel - R - NW
Cuscuta hirca - NW - NE

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<th>Endemic</th>
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NE = North East; NW = North West; CEN = Central India

Institutions and Organisations represented Medicinal Plants CAMP for
Selected Plants of Northeast, Northwest and Central India, Lucknow, 1997

(A) Plants Research Division, C.C.R.A.S., Regional Res. Centre, Mandi
Botany Department, Calcutta University
Botanical Survey of India, Calcutta
Central Institute of Medicinal and Aromatic Plants, Lucknow
Central Drug Research Institute, Lucknow
CCCRAS, Govt. of India, Tarikhet
Conservation Breeding Specialist Group, India, Coimbatore
Environment and Forest Department, Almatti, Mysore
Forest Dept. of Uttar Pradesh, Lucknow
Foundation for Revitalisation of Local Health Traditions, Bangalore
Herbal Research and Development Institute, Gopeshwar
Indian Institute of Forest Management, Bhopal
IUCN Invasive Species Specialist Group
National Botanic Research Institute, Lucknow
National Bureau of Plant Genetic Resources, New Delhi
National Bureau of Fish Genetic Resources, Lucknow (observers)
Department of Botany, Bahirpur College, Orissa
Regional Research Laboratory CSIR, Jammu
Salin Ali Centre for Ornithology and Natural History, Coimbatore
World Wide Fund for Nature, India, New Delhi
Wildlife Institute of India, Dehra Dun
Zoo Outreach Organisation, Coimbatore

DRAFT STATUS SUMMARY REPORT - RCCP CAMP - Medicinal Plants 21-25 January, 1997, Lucknow
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<td>Terminalia arjuna</td>
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<td>MDF to SEF</td>
<td>D</td>
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<td>NK</td>
<td>&lt;20%</td>
<td>3 gen.</td>
<td>NK</td>
<td>2</td>
<td>Ht, Tp, Hrm</td>
<td>LRnt.-R</td>
<td>N/A</td>
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<td>Clusiaceae</td>
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<td>Calophyllum apetalum</td>
<td>Tree</td>
<td>SEF and EF along river and stream bank</td>
<td>C</td>
<td>C</td>
<td>Many F</td>
<td>&gt; 20%</td>
<td>3 gen.</td>
<td>NK</td>
<td>2, 4</td>
<td>L, Ht, Hm, T</td>
<td>VU</td>
<td>PR</td>
<td>EO</td>
<td>G, M</td>
<td>1</td>
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The CAMP Process & IUCN Red List Criteria
as a Tool for use in Participatory Forest Resource Assessment and Planning

Section III.

Technical aspects
Biological Information Sheets
Taxon Data Sheets
IUCN Red List Criteria
Case Studies
IUCN Red List Categories

Prepared by IUCN Species Survival Commission
Assigning New IUCN Red List Categories:

Each taxa reviewed during the CAMP process is assigned a New IUCN Red List Category of Threat. The process of assigning a taxa to a category of threat relies heavily on the data concerning threats, population numbers, trends, and distribution. CAMP participants should read the paper by Mace and Stuart (1994) in Section 4 of this Manual before beginning this process. The steps in making these evaluations is illustrated in Figure 1. For taxa suspected to be threatened (Critical, Endangered, or Vulnerable), criteria listed Table 1 are used to make the assignment to a threat category. The criteria used to make the assessment (e.g., A1a, B1, D, etc.) should be recorded on the Taxon Data Sheet under “Criteria based on.”

IUCN: Status according to New IUCN Red List criteria:

EXTINCT (EX) A taxa is Extinct when there is no reasonable doubt that its last individual has died. Example — Indian cheetah

EXTINCT IN THE WILD (EW) A taxa is Extinct in the Wild when it is known only to survive in cultivation, in captivity, or as a naturalized population (or population) well outside the past range. Example: some species of Parthenia snails.

CRITICALLY ENDANGERED (CR) A taxa 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 listed in Table 1. Example — Maripé Brow-arched deer (Sangal) Cervus elaphus marni

ENDANGERED (EN) A taxa is Endangered when it is not Critical but is facing a very high risk of extinction in the wild in the near future, as defined in the criteria listed in Table 1. Example — Myristica Swamp tree, Myristica malaisiana

VULNERABLE (VU) A taxa is Vulnerable when it is not Critical or Endangered but is facing a high risk of extinction in the wild in the medium term future, as defined by the criteria listed in Table 1. Example — Wild black pepper, Piper nigrum
LOWER RISK (LR) A taxon is Lower Risk when it has been evaluated and does not qualify for any of the categories – Critical, Endangered, Vulnerable, or Data Deficient. Example – Black buck, Antilope cervicapra

Conservation Dependent (CD) Taxa which do not currently qualify under any of the categories above may be classified as Conservation Dependent. To be considered Conservation Dependent, a taxon must be the focus of a continuing taxon-specific or habitat-specific conservation program which directly affects the taxon in question. The cessation of this program would result in the taxon qualifying for one of the threatened categories above. Example – Gharial, Gavialis gangeticus

Near Threatened (NT) A taxon is Near Threatened when it is not Critical, Endangered, Vulnerable and is not able to be termed Lower Risk, but is facing a risk of being threatened.

Least concern (LC) A taxon is Least concern when it is not Threatened, Conservation Dependent or Near Threatened. Example – Common crow, Corvus splendens

DATA DEFICIENT (DD) 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. Example – Indian Seven-spotted cockroach

NOT EVALUATED (NE) A taxon is Not Evaluated when it has not yet been assessed against the criteria. Example – Lantana camara
Figure 1. The IUCN Red List categories used to evaluate the threatened status of species for inclusion in the IUCN Red List of Threatened Animals.

The categories
Species are evaluated for inclusion in the Red List using a system of categories and criteria (IUCN Species Survival Commission 1994; Mace et al. 1992; Mace & Lande 1991). The categories provide 'boxes' into which taxa can be placed on the basis of how threatened they are believed to be. There are eight categories in all, ranging from 'Not Evaluated' to 'Critically Endangered'. The three categories of threat are 'Critically Endangered', 'Endangered' and 'Vulnerable'. The Category 'Lower Risk' contains three optional sub-categories, which are 'Least Concern', 'Conservation Dependent' and 'Near Threatened'. There is a category 'Data Deficient' for cases where the available data have been evaluated, but it is considered that there is not enough information to make a classification. 'Not Evaluated' includes all species for which known information has not been compiled and contrasted against the criteria and categories. The structure of the categories is shown below.

Structure of the Red List Categories
Figure 2: The criteria
The level of threat faced by a species is evaluated using a set of criteria (IUCN Species Survival Commission, 1994). There are five criteria (A to E) which are designed to pick up different symptoms of threat in a wide range of species. They correspond with the declining population and small population paradigms of conservation biology identified by Caughley (1994). When a species is being evaluated, it is considered against all five criteria. However, only one of these criteria needs to be met for a classification to be made. The five criteria are shown in below. The criteria contain quantitative thresholds which relate to the three categories of threat.

Criteria for Determining the Categories of Threat

A. Population Reduction
B. Small Distribution & Decline or Fluctuation
C. Small Population Size & Decline
D. Very Small or Restricted
E. Quantitative Analysis
**Conservation Assessment Management Plan -- Taxon Data Sheet**

**PART ONE**

1. **Scientific Name (With authority and date):**

2A. **Synonyms:**

2B. **Family:**

2C. **Common name(s) with language:**

2D. **Taxonomic level of assessment:**
   - Species
   - Sub species
   - Variety

2. **Distribution of the taxon**

2A. **Habit or life form (e.g., plants):**

2B. **Habitat of the taxon:**

2C. **Habitat specificity (niche, elevation, etc.):**

2D. **Historical distribution (Global -- in past 100 years described by country):**

2E. **Current distribution (listed by country):**

2F. **Current regional distribution (country/ biogeographic region of assessment):**

2G. **Concentrated migration regions:**

3. **Approximate EXTENT OF OCCURRENCE** of the taxon in and around the area of study/ sighting/ collection (Extent of occurrence is defined as the area contained within the shortest continuous imaginary boundary encompassing all known, inferred or projected sites of present occurrence of the taxon); (tick appropriate box)
   - $< 100$ sq.km.
   - $101 - 5,000$ sq.km.
   - $5,001 - 20,000$ sq.km.
   - $> 20,001$ sq.km.

4. **Approximate AREA OF OCCUPANCY** of the taxon in and around the area of study/ sighting/ collection (Area of occupancy is defined as the area occupied by the taxon within the 'extent of occurrence'); (tick appropriate box)
   - $< 10$ sq.km.
   - $11 - 500$ sq.km.
   - $601 - 2,000$ sq.km.
   - $> 2,001$ sq.km.

5. **Number of Locations or Subpopulations in which the taxon is distributed:**

6A. **Are the locations or populations:**
   - Contiguous
   - Fragmented

6. **Habitat status:**

6A. **Is there any change in the habitat where the taxon occurs:**
   - Yes
   - No
   - If yes, is it a
     - Decrease in area
     - Increase in area
     - Stable in area
     - Unknown

6B. **If decreasing, what has been the decrease in habitat (approximately, in percent) over years:**
   - $< 20\%$
   - $> 20\%$
   - $> 50\%$
   - $> 80\%$
   - in the last ______ years

6C. **If stable or unknown, do you predict a decline in habitat (approximately, in percent) over years:**
   - $< 20\%$
   - $> 20\%$
   - $> 50\%$
   - $> 80\%$
   - in the next ______ years

6D. **State primary cause of change:**

6E. **Is there any change in the quality of habitat where the taxon occurs:**
   - Yes
   - No
   - If yes,
     - Decrease in quality
     - Increase in quality
     - Stable in quality
     - Unknown

6F. **State primary cause of change:**
7. Threats:

7A. What are the threats to the taxon? (Circle present [P] or future (predicted) [F] threats below):

<table>
<thead>
<tr>
<th>Human interference [P] [F]</th>
<th>Pollution [P] [F]</th>
<th>Interspecific competition from livestock [P] [F]</th>
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</thead>
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<tr>
<td>Aircraft [P] [F]</td>
<td>Powerlines [P] [F]</td>
<td>Nutritional disorders [P] [F]</td>
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<td>Artificial lighting [P] [F]</td>
<td>Road kills [P] [F]</td>
<td>Predation [P] [F]</td>
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<td>Daming [P] [F]</td>
<td>Trade for market or medicine [P] [F]</td>
<td>Predation by exotics [P] [F]</td>
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<tr>
<td>Destructive fishing [P] [F]</td>
<td>Trade of parts [P] [F]</td>
<td>Siltation [P] [F]</td>
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<td>Fishing [P] [F]</td>
<td>Trampling [P] [F]</td>
<td>Natural Man induced threats [P] [F]</td>
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<td>Grazing [P] [F]</td>
<td>War [P] [F]</td>
<td>Drought [P] [F]</td>
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<tr>
<td>Harvest/ Hunting [P] [F]</td>
<td>Natural Man induced threats [P] [F]</td>
<td>El Nino [P] [F]</td>
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<tr>
<td>Harvest for medicine [P] [F]</td>
<td>Climate [P] [F]</td>
<td>Fire [F] [F]</td>
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<tr>
<td>Harvest for food [P] [F]</td>
<td>Disease [P] [F]</td>
<td>Hurricane [P] [F]</td>
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<tr>
<td>Harvest for timber [P] [F]</td>
<td>Decline in prey species [P] [F]</td>
<td>Landslide [P] [F]</td>
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<td>Loss of habitat [P] [F]</td>
<td>Drowning [P] [F]</td>
<td>Tsunami [P] [F]</td>
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<td>Habitat fragmentation [P] [F]</td>
<td>Hybridization [P] [F]</td>
<td>Volcano [P] [F]</td>
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<tr>
<td>Habitat loss due to exotic animals [P] [F]</td>
<td>Interspecific competition [P] [F]</td>
<td>Others (please specify):</td>
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<tr>
<td>Habitat loss due to exotic plants [P] [F]</td>
<td>Interspecific competition from exotics [P] [F]</td>
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</tbody>
</table>

7B. Are these threats resulting in (perceived or inferred) or may result in (predicted) population decline?; □ Yes □ No

8. Trade:

8A. Is the taxon in trade?; □ Yes □ No If yes, is it:

□ Local □ Domestic □ Commercial □ International

8B. Parts in trade:

□ Skin □ Bones □ Fur
□ Hair □ Horn □ Glands
□ Meat □ Taxidermy models □ Live animal
□ Other, please specify:

8C. Which form of trade (specified form) is resulting in a perceived or inferred population decline?:

9. Population numbers:

9A. Global population:

9B. Regional population (No. of sub-population):

9C. Number of Mature Individuals (in all populations): □ < 50 □ < 250 □ < 2,500 □ > 2,500

9D. Generation time (Defined here as the average age of parents in population):

10. Population trends:

10A. Is the population size/ numbers of the taxon:

□ Declining □ Increasing □ Stable □ Unknown

10B. If Declining, what has been the rate of population decline perceived or inferred:

□ < 20% □ > 20% □ > 50% □ > 80% in the last ______ years/ generations

10C. If Stable or Unknown, do you predict a future decline in the population? □ Yes □ No

If yes, please specify rate and factors e.g. habitat loss, threats, trade, etc.

□ < 20% □ > 20% □ > 50% □ > 80% in the next ______ years/ generations

11. Data Quality:

11A. Are the above estimates based on:

□ Census or monitoring □ General field study □ Informal field sighting
□ Indirect information such as trade, etc. □ Literature □ Hearsay/popular belief
12. **Recent field studies** (in the last 10 years). Indicate year of study not year of publication.

<table>
<thead>
<tr>
<th>Researcher names</th>
<th>Location</th>
<th>Dates</th>
<th>Topics</th>
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**PART TWO**

13. **Status:**

13A. IUCN: __________  IUCN Criteria based on: __________

13B. CITES: __________

13C. National Wildlife Legislation: __________

13D. National Red Data Book: __________

13E. International Red Data Book: __________

13F. Other legislation (please specify): __________

13G. Known presence in protected areas (please list): __________

13H. National or regionally endorsed protection plan: __________

**PART THREE**

14. **Supporting Research recommended for the taxon:**

- [ ] Yes
- [ ] No

- [ ] ✔️ Life history studies
- [ ] ✔️ Genetic research
- [ ] ✔️ Taxonomic research

- [ ] ✔️ Survey
- [ ] ✔️ Limb-feeding research
- [ ] ✔️ Epidemiology

- [ ] ✔️ Others (taxon specific)

14A. Is Population and Habitat Viability Assessment recommended?

- [ ] Yes
- [ ] No
- [ ] Pending

15. **Management recommendations for the taxon:**

- [ ] ✔️ Habitat management
- [ ] ✔️ Wildlife population management
- [ ] ✔️ Monitoring
- [ ] ✔️ Translocation
- [ ] ✔️ Sustainable utilisation
- [ ] ✔️ Public awareness
- [ ] ✔️ Genome Resource Banking
- [ ] ✔️ Limiting factor management

16. **If Captive Breeding is recommended, is it for:**

- [ ] Species recovery
- [ ] Education
- [ ] Reintroduction
- [ ] Preservation of live genome
- [ ] Husbandry

17. **Do Captive stocks already exist:**

- [ ] Yes
- [ ] No

17A. Names of facilities: __________

17B. Number in captivity: Male _____ Female _____ Unsexed _____ Total _____ Not known: [ ]

17C. Does a coordinated **Species Management Programme** exist for this species?

- [ ] Yes
- [ ] No

If yes, which countries (if country, which country, which year?): __________

17D. Is a coordinated **Species Management Programme** recommended for India?

- [ ] Yes
- [ ] No

18. **Level of captive breeding recommended:**

- [ ] ✔️ A. Ongoing captive programme intensified or increased
- [ ] ✔️ B. Ongoing captive programme decreased
- [ ] ✔️ C. Initiate captive programme within 5 years
- [ ] ✔️ D. Initiate captive programme after 5 years
19. Are techniques established to propagate the taxon:

- [ ] Techniques known for this taxon or similar taxon
- [ ] Techniques not known at all
- [ ] Some techniques known for taxon or similar taxa
- [ ] Information not available with this group of compilers

20. Other comments:

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PART FOUR

21. Sources:

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22. Compilers:

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TAXON DATA SHEET INSTRUCTIONS: DEFINITIONS AND CATEGORIES

The Conservation Assessment and Management Plan (CAMP) Taxon Data Sheet is a working document for recording information that can be used to assess and categorise the degree of threat to a taxon using the revised IUCN Red List Criteria and recommend conservation action. This sheet has four parts.

- Part one (numbers 1 -12) summarises taxonomic and biological information on the taxon and asks for information on population, distribution, demography, habitat, threats.

- Part two (number 13) provides space for the conservation status as derived from information in 1 -12, as well as for earlier categorisations according to IUCN, regional, national, and legal criteria.

- Part three (numbers 14 -19) requests you to suggest suitable steps for management of the taxon, both in the wild and in captivity.

- Part four (numbers 20 -22) are for sources, both published and unpublished and the names of the compilers or contributors to the completed Taxon Data Sheet.

Taxon Data Sheets for different groups of organisms differ slightly as you will note in the Samples in the Appendices of this Manual. A major feature of the revised IUCN Red List Categories is that they are applicable across all taxon groups. The revisions and reasons for them are discussed on the first page of the IUCN Red List Categories document which makes up Section III of this document.

This Taxon Data Sheet is keyed to the IUCN Criteria. This version of the Taxon Data Sheet has been made more “user-friendly” so that participants can tick boxes instead writing in much of the sheet. It is also more “data friendly” to accommodate a computerised data base (in preparation). This sheet asks for information from which the conservation status of the taxon in the wild will be derived. The information can also be used for making management recommendations.

DEFINITIONS FOR TERMS USED IN THE TAXON DATA SHEET

This section of the CAMP Manual defines precisely what is expected in each Part of the Taxon Data Sheet and also links the Taxon Data Sheet directly with the IUCN Guidelines to the categories (ref. Section III of this Manual). If you do not have complete information with you for any species, you will have another chance to add details to the sheets after the workshop when we circulate them as a Draft report. It is suggested that you make a note of incomplete taxa so you can look up the information when you return.

You may like now to take a Taxon Data Sheet and go through it step by step, using the Definitions below to explain the different sections.

PART ONE

1. **Scientific name (with authority and date):** Scientific names of extant taxa -- genus and species (or subspecies where appropriate). The name should be followed by the authority (author’s) name and date of description.

   1A. **Synonym:** Scientific synonyms and ambiguities with authority should be listed.

   1B. **Family:** Family status of the taxon should be listed. In case of invertebrates, the Order and Sub-order may be listed.

   1C. **Common name(s) with language:** Known common names in english and vernacular languages should be listed followed by the language in parenthesis.

   1D. **Taxonomic level:** This indicates the taxonomic level of assessment. Taxonomic uncertainties may be discussed in this section. Subspecies not considered separately should be listed here along with their distribution.
2. Distribution of the taxon

2A. Habit or Life form: Habit or life form of the taxon should be listed (plants only)

2B. Habitat: Indicate the habitat in which the taxon resides. Standard national classification of vegetation types may be used as a guideline.

2C. Habitat specificity: Indicate the specific niche or microhabitat of the taxon. Elevation or altitudinal range should be mentioned.

2D. Historical distribution: Record the historical global distribution of the taxon in the past 100 years by country.

2E. Current distribution: Record the current geographical extent, including breeding and wintering locations of the taxon.

2F. Current regional distribution: Record the geographical distribution of the taxon in the region being covered in the current exercise (national, regional, political, etc.)

2G. Concentrated migration regions: List the regions in which migration is concentrated, especially those in which the birds/fish may face some degree of threat.

3. Extent of occurrence: List the actual size of the area in which the species occurs, if possible. Also list the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred, or projected sites of present occurrence of a taxon, excluding cases of vagrancy (see Figure 1 below). This measure does not take account of discontinuities or disjunctions in the spatial distribution of taxa. Extent of occurrence can often be measured by a minimum convex polygon (the smallest polygon in which no internal angle exceeds 180 degrees and which contains all the sites of occurrence).

If Extent of Occurrence is:
- less than 100 km² see "criteria B" for CR
- less than 5,000 km² see "criteria B" for EN
- less than 20,000 km² see "criteria B" for VU
(See Red List Categories section for criteria)
- more than 20,000 km² see Area of Occupancy described below.

4. Area of occupancy: List the area within the 'extent of occurrence' which is actually occupied by a taxon, excluding cases of vagrancy. The measure reflects the fact that a taxon will not usually occur throughout the area of its extent of occurrence, which may, for example, contain unsuitable habitats. The area of occupancy is the smallest area essential at any stage to the survival of a taxon (e.g., colonial nesting sites, feeding sites for migratory taxa). The size of the area of occupancy will be a function of the scale at which it is measured, and should be at a scale appropriate to relevant biological aspects of the taxon. The criteria include values in km², and thus to avoid errors in classification the area of occupancy should be measured on grid squares or equivalents which are sufficiently small (see Fig. 1).

Figure 1

Two examples of the distinction between the extent of occurrence and the area of occupancy. (a) and (b) are the spatial distribution of known, inferred, or projected sites of occurrence. (c) and (f) show one possible boundary to the extent of occurrence, which is the measured area within this boundary. (e) and (f) show one measure of area of occupancy which can be measured by the sum of the occupied grid squares.
If Area of Occupancy is less than 10 km², see "Criteria B" for CR
less than 500 km², see "Criteria B" for EN
less than 2,000 km², see "Criteria B" for VU  (See Red List Criteria, Section III)

If Extent of Occurrence and Area of Occupancy are not limited to less than 20,000 and 2,000 km² respectively, the criteria for threat due to restricted distribution does not apply.

5. Number of Locations: Note the number of locations or sub-populations. Indicate whether or not the locations are severely fragmented.

6. Habitat status:
   6A. Indicate the status of the habitat in which the taxon occurs.
   6B. If there is a change in habitat, indicate change as percent over the last number of years.
   6C. If the status has not changed, indicate a percent of change if your predict so in the future.
   6D. State the primary cause of change either in the past or in the future.
   6E. Indicate the status of the quality of habitat in which the taxon is distributed.
   6F. If there is a change in the status of quality of habitat, indicate primary cause for the change.

7. Threats: List immediate or predicted events that are causing or may cause significant population decline. Check the choice in 7A and indicate in 7B if there is any population decline due to any or all of these threats.

7A.
   Aircraft
   Climate
   Disease
   Decline in prey species
   Drowning
   Edaphic factors (due to fertilisers, pesticides, fire)
   Fishing
   Genetic problems
   Cattle grazing
   Hunting / Harvest
   Hunting or Harvest for food
   Hunting or Harvest for medicine
   Hunting for trophies or Harvest for timber
   Hybridization
   Human interference, persecution, or disturbance
   Interspecific competition
   Interspecific competition from exotics
   Interspecific competition with domestic livestock
   Loss of habitat
   Loss of habitat because of exotic animals
   Loss of habitat because of fragmentation

   Loss of habitat because of exotic plants
   Nutritional disorders or problems
   Over-exploitation
   Predation
   Predation by exotics
   Predation by domestic or feral animals
   Pesticides
   Powerlines
   Poisoning
   Pollution
   Catastrophic events
drought
fire
hurricane
land slide
tsunami
volcano
Trade for the live animal market or medicine
Trade for parts, including skins, bone, bark, fruits
Trampling
War

8. Trade: Is the taxon in trade? If so, indicate the level of trade in 8A, parts in trade in 8B and its effect on the population in 8C.

9. Population numbers:

9A. Global population: List the estimated numbers of pairs in the wild. If specific numbers are unavailable, estimate the general range of the population size.
Regional populations: List the estimated number of pairs in any particular region for which there are data, followed by the location.

Number of mature individuals: Indicate the number of mature individuals in the entire population.

Generation time: Indicate the number of years in a generation. A generation is defined as the average age of parents in the population.

Population trends - % change in years or in generations: If possible, list the trend of the population (stable, declining, or increasing) in 10A, 10B and 10C

Data Quality: List the actual age of the data used to provide 'population estimate'. Also list the type of data from which the estimates are provided.

Reliable census or population monitoring
- General field study
- Informal field sightings
- Indirect information (trade numbers, habitat availability)
- Museum/herbarium studies/records
- Literature
- Hearssay/popular belief

Record a combination if there is inconsistent data quality in different parts of range.

Recent field studies: List any current or recent field studies (in the last 10 years), the name of the researcher and the location of the study. Quote only study dates. Do not quote publication dates.

PART TWO

Conservation status: With the above information and using the criteria and guidelines in Section III, derive a status according to the IUCN Red List categories. Also indicate the criteria that the threat category is based on. This is explained in full in Section III.

EX = Extinct
EW = Extinct in the wild
CR = Critically Endangered
EN = Endangered
VU = Vulnerable
LR = Lower Risk
nt = Near threatened
cd = Conservation Dependent
lc = Least Concern
DD = Data Deficient
NE = Not Evaluated

Conservation status based on: Indicate which of the IUCN Red List criteria in the IUCN Red List Categories document, Section III, were used to assign a category of threat.
PR = Population reduction (A1a, A2b, etc.)
RD = Restricted distribution (B1, B2a, B3c, etc.)
PE = Population estimates (C1, C2a, etc.)
NM = Number of mature individuals (D)
PX = Probability of extinction (E)
CITES and other legislation: List CITES Appendix on which the species is listed, if appropriate. List the status of the taxon if included in any other national or international legislation or Red Data Book.

Other: List whether the species has been assigned threatened status in other venues, e.g., nationally or in other conservation assessments.

Known presence in Protected Areas: Please list all the P.A.s in which the taxon is found.

Nationally or regionally endorsed protection plans: Indicate if the taxon is under any kind of protection either nationally or locally.

PART THREE

14. Supporting research recommendations: Based on the threats to the taxa and lacunae areas of study, supporting research recommendations form a part of species recovery programme. Indicate the areas of research needed to understand the species for a holistic action plan. The categories within this section are:

- Survey
- Genetic research studies
- Taxonomic research studies
- Limiting factor research
- Life history studies
- Epidemiological studies
- Other taxon specific research studies
- Population and Habitat Viability Assessment

15. Management recommendations: It should be noted that there is (or should be) a clear relationship between threats and subsequent outlined research management actions. The “Management recommendations” column provides an integrated view of actions to be taken, based on the listed threats. Recovery recommendations can be defined as a management program which includes a strong feedback between management activities and an evaluation of the efficacy of the management, as well as response of the species to that activity. The categories within the column are as follows:

- Habitat management
- Translocations
- Monitoring
- Wild population management
- Limiting factor management
- Public awareness
- Sustainable utilisation
- Genome research banking
- Captive breeding
- Other (record in detail on taxon data sheet)

16. Captive breeding recommendation: If captive breeding is recommended in section 15, indicate whether this programme is required for any particular reason such as:

- Species recovery
- Education
- Reintroduction
- Benign introduction
- Research
- Husbandry
- Preservation of live genome
- Others
17. **Captive stocks**: Indicate if there are any captive stock of the taxon. If so list the facilities in 16A, and the number in captivity in 16B. In case there is a captive breeding programme list the facilities it is located in. If not, indicate if a species management programme is exists in 16C or if required in 16D.

18. **Captive breeding recommendation**: If captive breeding is recommended, indicate the action to be taken from among these:

- Ongoing captive breeding/cultivation programme intensified or increased
- Ongoing captive breeding/cultivation programme decreased
- Initiate captive breeding/cultivation programme within three years
- Initiate captive breeding/cultivation programme after three years
- No captive breeding/cultivation required for the taxon.

19. **Techniques established for propagating the taxon in captivity**: Indicate the appropriate choice.

- Techniques available or in place for breeding/propagating the taxon or similar taxa ex situ
- Techniques partially known or in place for breeding/propagating the taxon or similar taxa ex situ
- Techniques not known for breeding/propagating taxon or similar taxa ex situ
- Information not available about breeding/propagating techniques for the taxon among the group of compilers

20. **Other Comments**: Note any additional information that is important with respect to the conservation of the species.

21. **Sources**: List sources used for information for the above data. (Author name, year, title of article or book, journal, issue, and page numbers).

22. **Compilers**: List the names of the people who contributed information for this taxon data sheet (including people who sent Biological Information Sheets, if they were used).
Case studies

The following case studies are examples of derivation of IUCN categories using the information in the Taxon Data Sheet. Working groups compiling information on every taxon is based on population distribution, threats, declines observed or predicted, numbers of breeding adults, population fluctuation and habitat quality. Each of the three criteria of population reduction, restricted distribution and population estimates require information such as the state of the habitat of the taxon, its distribution and threats to either the population, habitat or distribution.

The examples provided here are of:

1. Rauvolfia serpentina has been assessed in two different workshops for different regions with the country. The IUCN categories can be applied in a situation like this based on population decline criterion.

2. Ilex khasiana has been shown as an example to show that some taxa qualify for more than one criteria – in this case for population reduction, restricted distribution and the number of mature individuals. This species has been assessed as Critically Endangered in each of the criteria. However, qualifying for only one criteria is enough to categorise a taxon as threatened.

3. Nepenthis khasiana is included to prove the above point that qualifying for only one criteria is enough to categorise a threatened species. In case a taxon qualifies for more than one criteria of threat, then the criteria that gives it a higher category of threat is considered and the criteria with a lower category is dismissed.
**Rauvolfia serpentina**

This species is listed in Appendix II of CITES. It is known to occur throughout tropical India in moist to dry deciduous forests and grows under shrubs. This species was assessed at two different CAMPs for two different regions within India.

It was first assessed at the southern Indian medicinal plants CAMP I workshop in January 1995. The region of assessment was for southern India only in the three states of Karnataka, Kerala and Tamil Nadu. Rauvolfia serpentina was categorised as ENDANGERED based on the criteria of population reduction. The group assessed that due to threats like habitat loss, human interference and overexploitation in southern India, there is a reduction in the population of this species in the wild by 50% in the last 10 years. However, the plant is also cultivated widely for medicinal purposes.

In the northern Indian CAMP conducted in January 1997, the species was assessed as ENDANGERED for Central India ranging from Baster, Koraput, Phulwani, Terai and Santal Paragana. This assessment was also based on reduction in wild population by over 50% in the last 10 years due to human induced threats such as loss of habitat, human interference, change in edaphic factors due to pesticides and pollutants, overexploitation, harvest for medicine and trade of parts for medicine.

The criteria used at both the workshops for categorising the plant as Endangered is observed "Population reduction" due to decline in area of occupancy (loss of habitat, human interference) or extent of occurrence (loss of habitat, human interference) or change in quality of habitat (changes in edaphic factors, human interference) and due to actual or potential levels of exploitation (overexploitation, harvest for medicine, trade).

In both the cases the categories were based on "Regional assessment". It is well understood that the IUCN categories in their present form are more appropriately applicable at the global level and not at the regional or national level. This category has however been done with a view to evaluate according to the mandate of the workshops and the extent of participation. However, using the criterion of population reduction does not have a bearing on the assessments at different levels.
**TAXON Datasheet**

**Rauwolfia serpentina** (L.) Benth. ex Kurz.

<table>
<thead>
<tr>
<th>Species (I &amp; synonyms):</th>
<th>Species:</th>
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<tr>
<td>Rauwolfia serpentina (L.) Benth. ex Kurz.</td>
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<table>
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<tr>
<th>Family:</th>
<th>Apocynaceae</th>
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<tbody>
<tr>
<td>Species:</td>
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<thead>
<tr>
<th>Distribution:</th>
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<tbody>
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<td>Habitat:</td>
</tr>
<tr>
<td>Most deciduous forest (degraded) evergreen</td>
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<tr>
<td>Most of India</td>
</tr>
<tr>
<td>&gt;10,000</td>
</tr>
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<td>&gt;500</td>
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<table>
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<tbody>
<tr>
<td>% Decline:</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>10 years</td>
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<tr>
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<td>MSSSF, IFSTB, BSI, Mangalore University</td>
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<th>Field Studies (Who &amp; Dates, Ref):</th>
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<tr>
<td>Human interference (I), Habitat loss (L), Over exploitation (Ov)</td>
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<table>
<thead>
<tr>
<th>Threats (Key):</th>
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<tr>
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<table>
<thead>
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<td>IUCN (C)</td>
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<tr>
<th>Recommendations:</th>
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<td>- PHWA:</td>
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<td>- Research management (Code):</td>
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<td>- Cultivation Program:</td>
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<tr>
<td>- Genetic Management:</td>
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<th>Cultivated Population (Current Status &amp; Locations &amp; Difficulty):</th>
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<tbody>
<tr>
<td>- Commercial/Domestic:</td>
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<tr>
<td>- Herbica (or Seed banks):</td>
</tr>
<tr>
<td>- Research Institution:</td>
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<table>
<thead>
<tr>
<th>Sources:</th>
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<tbody>
<tr>
<td>Amanathali Research Nursery, MP, Jabalpur TFR, Bilaspur, MP, Near Bhopal medical plants garden, Novingerpuram Nursery in Berhampur Dist., Orissa. Tissue cultured material at NBRI.</td>
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<table>
<thead>
<tr>
<th>En-R</th>
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<tbody>
<tr>
<td>Level 4</td>
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<td>Very difficult (Slow seed germination and low percent germination)</td>
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<th>Existing Cultivations:</th>
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<tr>
<td>- Names of facilities:</td>
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<th>Compilers:</th>
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<th>DATA DEFICIENT (Globally):</th>
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<tr>
<td>Alt. Nt. Nt. (Observed population reduction due to decline in area of occupancy, extent of distribution and/or quality of habitat and due to its actual or potential levels of exploitation)</td>
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<td>Survey: Others (tissue culture - vegetative micropropagation), Husbandry research, Monitoring Limiting factor research</td>
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<th>Trade:</th>
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<tr>
<td>About 100</td>
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<td>- WPA (1972):</td>
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<td>- IUCN:</td>
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**Ilex khasiana**

This tree occurs in sub-tropical mixed evergreen forests of Khasi hills. It is endemic to the Khasi hills. This species was assessed in the northern Indian medicinal plants CAMP at Lucknow in January 1997.

The northeastern Indian working group at the workshop assessed this species as CRITICALLY ENDANGERED because of its highly restricted distribution, continuing decline in its population in the wild and for very few numbers of mature individuals remaining in the wild. Therefore, it was categorised based on three different criteria.

The threat identified for this species is loss of habitat.

Criterion "Population estimation": Continuing decline observed in mature individuals because of habitat loss and because all individuals are present in a single population.

Criterion "Restricted distribution": Species is found in a single location limited to less than 100 square kilometers in range and less than 10 square kilometers in area and due to habitat loss, there is continuing decline in its area/ range or/ and quality of habitat.

Criterion "Population number": Less than 50 mature individuals are found in the wild.
**TAXON DATA SHEET**

**Species (& synonyms):**
Ilex khasiana

**Family:**
Aquifoliaceae

**Taxonomic status:**
Species

**Habit:**
Tree

**Habitat:**
Sub-tropical mixed evergreen forests

**Global Distribution**

**Current Distribution**
- **Elevation:**
  - Khasi Hills
  - 1,000 - 1,500 m
  - < 100
  - < 10
  - (Shillong peak)
- **Number of locations:**
  - > 30%
  - 3 generations
  - 3 - 4
  - 3 to 4 individuals extant

**Global Population**

**Data Quality**

**Recent Field Studies**

**Threats**
- Loss of habitat
- Not known

**Other Comments**
- Studies done mostly by visual observations

**Status**
- **IUCN:**
  - Criteria based on

  - CITES
  - IWPA (1972, 91)

**Recommendations**
- Research management

**Cultivation Program Recommendations**
- Cultivation
- Level of difficulty

**Existing Cultivations**
- Names of facilities

**Sources**

**Compilers**
- P.K. Mukherjee
- D.C. Pal
- R.R. Rao
- M. S. Mondal
- G.S. Giri
- A. K. Sastry
- J.H. Lalramrungdona
- S. Chatterjee

**CRITICALLY ENDANGERED**

B1, 2c (Restricted distribution, single location, continuing decline observed in area, extent and/or quality of habitat); C2b (Continuing decline observed in number of mature individuals and all individuals are in a single population); D (population number less than 50 mature individuals)

No

No

Monitoring, life history studies, limiting factor research (regeneration studies), husbandry research (trials for multiplication and research on reproductive biology)

Yes

Level 1, Level 3

Not known

No existing cultivations

Personal observations/ comments
- R.R. Rao, G.S. Giri
- Kangti et al. (1938-40), Flora of Assam
- Rao R.R. and Hardasan (1905), Forest Flora of Meghalaya

- P.K. Mukherjee
- D.C. Pal
- R.R. Rao
- M.S. Mondal
- G.S. Giri
- A. K. Sastry
- J.H. Lalramrungdona
- S. Chatterjee
Nepenthes khasiana

This straggling herb is endemic to Khasi hills occurring along subtropical zone. This species was assessed in the northern Indian medicinal plants CAMP at Lucknow in January 1997.

The northeastern Indian working group at the workshop assessed this species as CRITICALLY ENDANGERED because of its highly restricted distribution and not because of any other criteria.

The threats identified for this species are loss of habitat, harvest and trade.

According to the criterion "Restricted distribution" this species is found in just six locations limited to less than 1000 square kilometers in range and less than 10 square kilometers in area and due to habitat loss, there is continuing decline in its area range (habitat loss, harvest, trade) or and quality of habitat.

A 50% decline has been observed in the wild population in the past 40 years. This however does not qualify for any of the threat categories due to population reduction criterion.
**TAXON DATASHEET**

**Nepenthes khasiana**

*Nepentheaceae*

**Species**

Herb (straggling)

Along road cuttings and streams, undisturbed subtropical zone

**Endemic to northeastern India**

Meghalaya (Khasia, Jayantiar, Garc Hills)

500 m.

< 1,000

< 10

6 (Jairain, Bagmara, Tura, Balpakrama), Fragmented

50%

40 years

Not known (60-100 individuals in each cluster)

Continuing decline observed

Census and monitoring

Continuous monitoring by BSI

Harvest (Botanical curiosity); Loss of habitat, Trade

Local

Wildlife sanctuary established in Jaring (whole habitat) - Wildlife sanctuary in Tura Peak (close to 2 ha), Balpakram National Park

**Critically Endangered**

B1, 2c (Restricted distribution; fragmented populations; continuing decline observed in area, extent and/or quality of habitat)

Appendix I

Schedule VI

Survey, Monitoring, Habitat management, Limiting factor research

Yes

Levels 1, Level 2: Level 4

Very difficult

Yes

In Hamagar, Guwahati University, TBGRI, BSI Shillong, Barapara

BSI, 1994, Joseph and Bosak (1st issue of ENVIS Newsletter No. 1, 94 or 95. BSI Jain & Sastry, 1950.

Comments, complaints and questions
about the IUCN categories and the CAMP process

Common comments and complaints -- (not a complete list, of course)

"The IUCN categories are meant only for large vertebrates (mammals) and can't be applied
to MY taxon group" (plants, amphibians, reptiles, mangroves, fish, invertebrates, etc.)"

"The new categories rely only on numbers -- the old categories were far better".

"The new categories were made up by western scientists talking about temperate flora --
they don't work for tropical plants"

"The people who made up the IUCN criteria were not from India so they don't know our
situation."

"The scientists who made up the IUCN criteria did not have a mangrove specialist among
them so they didn't understand mangroves."

"The criteria are made for only large vertebrates. There is not enough field work conducted
for other things to give precise answers for categorisation".

"There is no basis for the threshold values. It does not work the same way for all the groups".

"The IUCN status according to the new criteria doesn't reflect the status of the taxon in the
wild".

"I know this species is critically endangered. The criteria is wrong."

"Information required for different groups is different, the taxon data sheet needs to be
revised."

"The concept of extent of occurrence should be removed and only the area of occupancy
should be retained for categorisation."

"The Taxon Data Sheet has to be completely rewritten for mangrove ecosystems."

"The IUCN categories are not the right system to follow for categorisation. Group specific
system of categorisation should be chalked out."

"We need more time for detail biological study of the taxon in the wild before attempting to
use the IUCN categories."
Common questions -- (not a complete list of course)

Can I use the IUCN Criteria to assess species in a single locality in my state? (Pichavaram mangrove)

Can I use the IUCN criteria to assess species state by state?

Can anybody assess species using the old categories now, and if they assess is it relevant at all?

Why can't we use the criteria at the generic level?

Can you conduct national level assessments using the present IUCN criteria even though IUCN says not to?

Is there any plan to incorporate volume rather than area for fish and other marine organisms?

What if a species status comes out non-threatened when it is very obvious to everyone that everyone knows is in trouble?

What if the revised IUCN Red List categorisation formula is wrong?

On what basis have the threshold values been fixed for numerical criteria in the revised IUCN criteria?

In the criteria for population reduction, it asks for three generations or 10 years, which ever is longer. If three generations is 150 years, in India there has been a loss of plant species for last 150 years, so do we consider decline in populations from 150 years ago, or is there any starting point from which we consider, say 50 years ago?

With very little studies conducted for most of the taxa, how can the question of "severe fragmentation" and otherwise be answered?

I have my own methodology which is better, so why should I use the IUCN criteria?

I understand that the meaning of fragmentation is non-contiguous distribution of a species and not of populations, as IUCN guidelines says -- why can't we use that?

What if a flagship species, like tiger, turns out to be Lower risk after assessing?
Global, national, regional?

Prepare to be flexible: for every CAMP we have conducted dealt with a different Taxon group or a different size and configuration of specialists. We had to organise our assessment around different parameters.

Political fragments
Regional assessments for Northwestern Indian Himalaya and Northeastern Indian Himalaya for non-endemic medicinal plants that occur in both the areas. For those occurring in a single area, the assessment is at the national level. BCPP CAMP on medicinal plants.

Political/phytogeographic region
Non-endemic taxa occurring in India in only Northeastern states were assessed at the national level. For taxa that occur elsewhere in India, assessment was at regional level. BCPP CAMP on medicinal plants.

Biogeographic regions
Global assessments for all endemics of the Western Ghats. Ex. FRLHT CAMPs on southern Indian medicinal plants. BCPP CAMPs for amphibians and reptiles.

Workshop mandate
Global assessments for endemics occurring in the Western Ghats or in the three states of southern India. Regional assessments for non-endemics occurring elsewhere in India. (Ex. FRLHT CAMPs on southern Indian medicinal plants.)
Political fragments of old biogeographical regime

National assessments for Western Ghats of all taxa distributed in Western Ghats and Sri Lanka. Ex. FRLHT CAMPs for southern Indian medicinal plants; BCPP CAMPs for amphibians & reptiles.

Expanse

Global assessments for all Indian endemics with wide distribution within the political boundaries of India. Ex. BCPP CAMPs for amphibians, reptiles, and mangroves.

Wide distribution

National assessments for all non-endemics of India with a very wide distribution. Ex. BCPP CAMPs for amphibians, reptiles, and mangroves.

Coastal zone

Global assessments for all endemics of the Indian coasts (mangrove plants, marine invertebrates and marine fishes). National assessment for non-endemic taxa. For marine fishes, assessment was restricted to Indian waters ~150 nautical miles only. Ex. BCPP CAMP for mangrove ecosystem.
**Group composition**

Global assessments for all endemics of central India (Champion and Seth classification) and regional assessments for rest of the taxa. BCPP CAMP for medicinal plants (a few people came from Central India and we didn't know what else to do with them.)

**Scattered distribution**

Regional assessments (southern India) of taxa found in the Indian mainland and Andaman and Nicobar Islands. FRLHT CAMPs for medicinal plants of southern India.

**Convenience**

Global assessments for all endemics of southern India and regional assessments for non-endemics. BCPP CAMP for southern Indian soil invertebrates
IUCN's credibility critically endangered

The IUCN is the world's main authority on the conservation status of species, so it is important that its recommendations are based on sound and open science. Recent events suggest that this is not always the case.

N. Mrkosovský

It is heart-warming when a politician assem- bled a team of scientists and reported that there was no evidence for a particular species. This is especially true in the fields of resource manage- ment and environmental protection. It is much less heart-warming when the IUCN's main aim is to provide data for scientific assessments. Not only failing to do so, but appears to be withholding information.

Although the IUCN and its main subdivi- sion, the Species Survival Commission (SSC), do not have any legal binding authority, their opinions are considered dependable. Governments, scientists, jour- nalists and others need a quick, reliable way to find out what specific species are in danger of extinction having to undertake lengthy research. They often turn to the IUCN's Red Lists (formerly called the Red Data Books), which place species in vari- ous categories of risk from 'critically endanger- ed' to 'least concern.' The IUCN also advises international conventions. At meetings of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), for instance, the IUCN produces analyses to help assess proposals affecting trade in endangered species. The IUCN's analyses are so influential that the original proposals are often too long and technical for national delegations to read (a recent proposal concerning sturgeon was 260 pages long), so many of them read the analyses instead.

In autumn 1996, the hawksbill sea turtle (Eretmochelys imbricata) was categorized in the Red List as critically endangered, meaning that it is facing an extremely high risk of extinction in the wild in the immediate future. To be placed in this category, a species must meet one of various criteria, for example an 80 per cent decline in numbers over the past 10 years or three generations, whichever is the longer. To make listings objective and transparent, background information should be available. "The factors responsible for triggering the criteria, especially where inference and projection are used, should at least be logged by the evaluator, even if they cannot be included in the published list." 1

Attempts to obtain this information about the hawksbill turtle from the IUCN's marine turtle specialist group, which made the 'critically endangered' listing recommendation, were unsuccessful. More than 9 months after the listing this information has still not been distributed.

In the meantime, however, at the tenth CITES meeting in June in Zimbabwe, Cuba proposed to 'downlist' the population of hawksbills in its waters to allow for limited trade. At this meeting, a booklet entitled Biology and Status of the Hawksbill in the Caribbean was used by people lobbying against the Cuban proposal. The first page of this booklet mentions the critically endangered listing. But nobody could have known from the booklet that the background information supporting this highly controversial status had not been made available for evaluation. In response, it was said that the booklet was not an official document, only a draft. Bound in a shiny cover with three colours (see above), it does not look like a draft. The words 'draft report' only appear inside, where they can easily be missed. The cover states 'Prepared by the IUCN/SSC Marine Turtle Specialist Group.' Many members of that group were never consulted about this document prepared in their name.

Unfortunately, this is not the only example of problems with the IUCN/SSC procedures. Some IUCN analyses, for example concerning the Norwegian proposal for minke whales, have been criticized for containing misleading and wrong information. The analysis of the Cuban turtle proposal contained serious errors, as the author acknowledged in a letter to the Cuban delegation apologizing for some of these. By then, however, the damage had been done. The IUCN makes a distinction between analyses, which do not make recommendations, and position papers, which do. In the case of the hawksbills, no position paper was ever put out. Hence the IUCN is having its cake and eating it: it distributed a document damaging to the Cuban turtle proposal, but it never came out officially against that proposal. The worst feature of the analysis was not that it contained errors, but was the secrecy surrounding some of its data. Many of these are cited in the reference list as "in file," with a name, meaning that the information is in a letter written to the IUCN by that person. The point of having reference lists is that people can look up the supporting details of statements in the text. But attempts to obtain copies of some of the letters cited in this analysis were unsuccessful. One of the letters apparently made allegations of illegal trade.

Thus the IUCN is disseminating statements derived from information that is not publicly available. What should be an analysis based on verifiable data has degenerated into assertion based on secret science. The hawksbill is listed as critically endangered, but supporting information has still not been made available. Problems with the Cuban proposal to CITES have been raised in private letters to the IUCN/SSC, and used in its analyses. No wonder some people are joking that SSC really stands for 'secret science commission.'

If it wants to regain respect, the IUCN/SSC needs to take decisive, sweeping action. Fortunately, in the case of red listings made without provision of proper documentation — and there are many examples besides sea turtles — there is a simple and scientifically appropriate solution at hand, place these species immediately in the 'data deficient' category, which can be done quickly and simply on the Internet versions of the listings. The 'data deficient' category does not imply an absence or presence of threat, but simply what it says. Such a listing might encourage those proposing a change in status to back their case by presenting data. But the data should be available at the start of the process, not added as an afterthought. 2

N. Mrkosovský is the department of Zoology, Physiology and Psychology at the University of Toronto, Toronto, ON M5S 2A3, Canada.

2. IUCN/SSC, IUCN for Los Caimanes (IUCN, Gland, Switzerland, 1996).
The weight of the evidence

To influence public issues you have to protect yourself with sound data, says Debora MacKenzie

RESEARCHERS are an unworldly lot. This can be charming until they are asked to advise governments on whether powerful industries can do this or that without messing something up. Their first instinct is to e-mail colleagues, compare notes and present a conclusion. And that, they think, should be that.

But it isn't. Not when some company will lose money because of their advice. Chemicals companies exploited small differences in scientific opinion to block controls on CFCs until ozone scientists pooled their data and reached an open consensus which the companies could not discredit. The result was the Montreal Protocol.

The conservation community must now learn this lesson. Scientists who tell the World Conservation Union (IUCN) what's endangered and what isn't are not being given the time or resources they need to give advice, safe from the low blows of commercial interest. And low blows, it seems, can be delivered even through the pages of the august journal Nature.

Earlier this month, Nicholas Mrososky, a zoologist from the University of Toronto, wrote in Nature (vol 389, p 436) a piece attacking the scientists who classified the hawksbill sea turtle for the IUCN as "critically endangered". He says that the group kept secret the data behind their decision and a similar one for the UN Convention on International Trade in Endangered Species (CITES). He implies that the suppressed data might be questionable (This Week, 4 October, p 5). Strong stuff.

‘People who tell the IUCN what is or isn't endangered are not being given the time or resources they need'

Except it wasn't quite like that. The IUCN used to put creatures on its Red List of threatened species simply on the say-so of volunteer scientists. Last year it introduced objective definitions of "endangered", which is good. But the criteria are applied by the same informal networks of volunteers. IUCN gave its sea turtle experts two months to apply the criteria to turtles. The hawksbill group returned a verdict of "critically endangered". Mrososky, an IUCN turtle expert but not a member of the hawksbill group, disagreed and asked to see the data on which this decision was based.

He was still waiting for it nine months later. This is his only substantiated complaint in Nature.

But the scientists say there has been no cover-up. "With only two months to work, we couldn't write up our evidence formally at the time," says Karen Bjorndal of the University of Florida, a leading hawksbill expert. "Most of us have jobs to do besides advising the IUCN. We fully intend to send him our data, and we're pulling it together now, but we've been very busy"—for instance, organising two international conferences.

The experts were also asked to evaluate a Cuban proposal to CITES, financed by the Japanese turtle shell industry, to ranch hawksbills and sell wild hawksbill shells to Japan. The scientists told CITES at a meeting in Harare that the turtles are too endangered in the Caribbean for this to be permitted. Once again, Mrososky complained, too many of their references were "personal communication". But, says Bjorndal, the critical data are all published.

"We don't dispute that ranching, or some sustainable use, might help save the hawksbill," she says. "We wrote CITES's guidelines for turtle rancheries.

The Cubans ignored the guidelines. CITES rejected the proposal.

But in Nature a complaint about the slow delivery of some data has been influential, with no firm evidence, into allegations of impropriety, even fraud. Why? Mrososky helped the Cubans with their proposal, in Cuba and in Harare, and was paid by the International Wildlife Management Consortium, a consultancy employed by companies that harvest wildlife. Mrososky has long campaigned for turtle farms, and has every right to help Cuba, but perhaps his article should have mentioned that he is allied with commercial interests that were harmed by the IUCN scientists he disparages.

He is right, of course, to say that the data behind the assessments should be easily available. Bjorndal agrees. This is the take-home lesson.

People who profit from selling CFCs, carving trinkets from the shells of endangered turtles will attack scientists who tell them they shouldn't, unless the scientists can defend themselves with unassailable data. This is especially true given the quasi-religious fervour of the wildlife harvesting industries. The IUCN must make it possible for scientists to advise, properly protected from the sometimes covert slings and arrows of commercial interest.
The CAMP Process & IUCN Red List Criteria
as a Tool for use in Participatory Forest Resource Assessment and Planning

Section IV.

Case study -- India: Negative List of Exports of Medicinal Plants
Case Study -- Negative List of Exports for Medicinal Plants

A dramatic response to our workshops came about when we sent a copy of the output of the four medicinal plants CAMP Workshops to the Ministry of Environment and Forests.

The Ministry picked up on the unique and effective combination of factors characterising these CAMP workshops, e.g.,
- an internationally accepted methodology of assessment (the IUCN Red List criteria),
- a systematic and organised process (the CAMP Workshop itself),
- a national programme (the BCPP),
- the involvement of more than 120 specialists from 40 recognised botanical institutions,
- the fact that each species assessment could be backed up with sound biological reasons, and
- a totally Indian perspective.

It seems that for two years the Ministry of Environment had been wrestling with a controversy over the Negative List of Exports of Medicinal Plants said to be endangered. Of the 120 plants listed on the Negative List, more than 60% had been independently assessed by our workshops. This fact combined with the output made a powerful statement which the Ministry used to the fullest.

The Ministry strengthened their stand on the Negative List of Exports with the CAMP output.

They also circulated the list of assessed plants to all Chief Wildlife Wardens of all Indian states with a request that they issue permits for these species with great caution and that the states encourage cultivation of these species.

The Ministry recommended Critically endangered and Endangered species be included in the revised schedules of the Wildlife Protection Act.

Finally, the Ministry formed a high level policy committee to review the status of all medicinal plants for possible inclusion on the Negative List and to formulate a methodology for allowing export when appropriate. This policy committee included the organisers of the southern Indian CAMPs and CBSG, India. What more can you ask from the Government?
Dr. M. K. Ranjitsinh, I.A.S.
Chairman, Committee to Amend the Indian
Wildlife Protection Act
“Krishnasar”
5, Tiger Lane, Sainik Farms
New Delhi

Dear Dr. Ranjitsinh:

This letter concerns medicinal plants. For the past three years my organisation has been leading Conservation Assessment and Management Plan Workshops for endangered medicinal plants of Southern India. I think I may have sent you a Summary Report of these workshops. Last week we organised and ran the same kind of CAMP workshop in Lucknow for the Biodiversity Conservation Prioritisation Project (BCPP), assessing 75 species of NE, NW and Central Indian medicinal plants. Enclosed is a Summary of the output of this workshop as well as of the recent S. Indian CAMP as well.

It has been suggested to me by several people in Delhi that I inform you of these workshops and the output in your capacity as Chairman of the Wildlife Act Amendments revision. The enclosed letter from Uwe Schippman, Chairman, Medicinal Plants Specialist Group denotes the importance SSC is giving to the assessment technique we use and he has also pointed out a couple of species up for approval for CITES.

A CAMP Workshop brings together the specialists from a great variety of institutions and organisations. Please note the number and quality of institution which participated in the N. Indian CAMP. Conclusions are reached by consensus of many individuals from many institutions, not just one. This type of conclusion constitutes a sort of “anthropological truth” (Gadgil) particularly when every effort is made to invite all relevant specialists and not allow any personal bias to contaminate the selection or actual workshop process.

I hope you will take these assessments by Indian specialists and field botanists under advisement.
Output from First Conservation Assessment and Management Plan (C.A.M.P) Workshop under Biodiversity Conservation Prioritisation Project (B.C.P.P) – Plants

1. Listing of selected Northern and Central Indian Medicinal Plants Species according to New IUCN Red List Category (including Participating Institutions and Key to Criteria)

Critically Endangered – CR

Northwest
- Aconitum baumannii Stapf (CR) (NVI)
- Aconitum decennatum Stapf (CR) (NVI)
- Aconitum flavescens Stapf (CR) (NVI)
- Aconitum eburneum Stapf (CR) (NVI)
- Aconitum heterophyllum Stapf (CR) (NVI)
- Aconitum violaceum Tanguy ex. Stapf (CR) (NVI)
- Alpinella claussenii Exell (CR) (NVI)
- Alpinia acuminata Royle ex. Hook (CR) (NVI)
- Berberis kazimii Fisch. (CR) (NVI)
- Berberis pedifolia Wall. ex. G. Don var. panarensis (CR) (NVI)
- Crataegus heterogena D. Don (CR) (NVI)
- Deutzia ledebouri Haw. et Hook. f. & A. Thomas (CR) (NVI)

Saururus chinensis (DC) Fedde (EN) (NVI)
Saururus hispidus (EN) (NVI)
North East
- Hydrocotyle vulgaris (EN) (NVI)
- Panax pseudoginseng (EN) (NVI)
- Primula malaisei (EN) (NVI)
- Rhubarb jubata (EN) (NVI)

Central
- Girardinia superba (CR) (CN)
- Melocarpus calophyllus (CR) (CN)
- Rauwolfia serpentina Benth. ex. Kurz (EN) (CN)
- Saururus chinensis (DC) Fedde (EN) (CN)

Vulnerable – VI

Northwest
- Berberis cynra Lind. (YU) (NVI)
- Bergenia okata (YU) (NVI)
- Helianthus annuus Linn. ex. Thunb (YU) (NVI)
- Lonicera morrowii Wall. ex. Royle (YU) (NVI)
- Rhododendron ferrugineum DC. (YU) (NVI)

North East
- Acinos calycinus (YU) (NVI)
- Clerodendron colebrooki (YU) (NVI)
- Rhododendron anthopogon (YU) (NVI)

Low Risk - near threatened – LR - nt

Central
- Cladophialaphus sinensis (DC) Fedde (CR) (CN)
- Curculigo orchioides (LR) (NVI)

Central
- Lonicera japonica (Hout. ex. Lam.) (LR) (NVI)
- Curculigo orchioides (LR) (NVI)
- Juniperus communis (LR) (NVI)

Data Deficient (DD) – A taxon is Data Deficient when there is inadequate information to make its extinction risk assessment based on its distribution and/or population status.

Not Evaluated (NE) – A taxon is Not Evaluated when it has not yet been assessed against the criteria.
CAMPs contain Elements Acceptable and Attractive to Government

The following meeting announcement and Discussion paper for the Medicinal Plants Export Policy Committee documents actions taken by the Ministry of Environment on the basis of the four CAM Workshop Reports on medicinal plants.

The manner in which the Ministry embraced the CAM output demonstrates that the CAM process has elements which are eminently and uniquely useful to Government for taking legal and practical action. These elements are:

1. **Objectivity** - the CAM workshop process is facilitated by non-specialists who have a conservation background and interest but no professional stake in the result.

2. **Expertise** - the CAM workshops depended entirely on working field biologists for information about species distribution and abundance.

3. **National credibility** - the CAM workshops brought together field biologists from more than 40 recognised Indian botanical institutions.

4. **Professional credibility** - specialists had confidence in the "good faith" and "conservation cause" philosophy of the workshop and parted with previously unpublished information.

5. **Local acceptability** - the CAM workshops were initiated by Indians and utilised Indian experts exclusively.

6. **International acceptability** - the CAM workshops used an internationally accepted assessment tool, e.g. the IUCN Red List criteria and the CAM process itself to assign status.

7. **Expenditure** - the CAM workshop information was current and a useable result could be handed over to the Ministry immediately when the Negative List was under discussion.

8. **Currency** - most of the information contributed in the workshop was from recent or relatively recent field studies. Unlike literature studies, CAM workshops rely on current information from active field biologists. Therefore the results are likely to be the most up to date information available.

9. **Reliability** - the species list and status was backed up by specific and scientific reasons why individual species had been accorded a particular status, e.g. population decline, area of occupancy, etc. contributed by specialists from government institutions as well as others.
Sub: Meeting on the Expert Policy for Medicinal Plants and Derivatives.

In continuation to this Ministry's notice of even number dated 21.4.97, kindly find enclosed a copy of Agenda notes for the above mentioned meeting.

Distribution:

1. Director, BSI, Calcutta
2. JS, Deptt. of Indian System of Medicines, M/o Health
3. Dr. Darshan Shankar FRLHT, Bangalore.
4. Dr. Suman Sahai, Gene Campaign, New Delhi.
5. Director General Foreign Trade
6. Organizer BCPP CAMP Workshop (Ms. Sally Walker), Coimbatore
7. Director, Central Institute of Medicinal & Aromatic Plants, Lucknow.
8. PPS to Secretary (EA)
9. PPS to IGF & PPS Secretary, MoEF
10. PS Addl. IGF(WL), MoEF
11. PS JS(AK), MoEF
Effective April 1, 1994 the DGFT notified (on this Ministry's recommendation) through Public Notice 47, a list of 46 plant species in the negative list of exports. However, value added herbal formulations made from these species were allowed for export, as also the cultivated varieties of all the 46 species, subject to production of a certificate of cultivation and CITES permit, wherever applicable. The inclusion of these 46 plant species in the negative list of exports was done on the recommendation of the Botanical Survey of India (Scientific Authority under CITES), who had in fact originally suggested a list of some 300 species on the basis of their status in the wild.

Subsequently, CITES secretariat and a number of other organisations pointed out that allowing value added herbal formulations, made out of the 46 plant species was counter-productive to the conservation of these species in the wild, as they continued to be heavily exploited for the purpose.

Therefore, the PN: 47 was amended w.e.f. 1st April, 1996 and it was notified that export of extracts and derivatives of the listed species (including value added herbal formulations) will only be allowed if obtained from cultivated varieties of these species. The list was also expanded to a total of 55 species by including 10 species of CITES Appendix II. Further, in order to avoid putting the exporters to difficulties the operation of PN: 47 was kept in abeyance, initially upto August, 96 and later upto December, 96. This was subject to the condition that they had obtained export orders prior to 29th March, 1996. This was considered an adequate time (9 months) to fulfill their pre-ban commitments.

Ever since, the exporters and their association represented by CHEMEXIL and ADMA, have been petitioning the DGFT
and this Ministry, not only to continue the abeyance period upto 31st March, 1997 but also to delete 18 species from the list of 56 species now included under P.N. 47. It was mentioned that many of these species are being cultivated and that the export trade is only 2-3% of the domestic trade.

In the meantime the results of an assessment of the status of 214 medicinal plants has been received in the Ministry. This assessment was done using the revised IUCN criteria for listing species on the Red Data Book and was conducted with the help of over 30 Botanical institutions in the country in the course of three C.A.M.P. Workshops at Bangalore and Lucknow over the last 3 years. As per this assessment 49 species have been categorised as "critical", 43 as "endangered" and the rest as "vulnerable" or at "low risk". Therefore, in the light of this scientific evidence we have to take suitable action to safeguard the wild populations of at least those species which are "critical or endangered".

Recently a meeting taken by Secretary (EF) when the following decision were taken:

1) The list of 56 species under P.N 47 should be reviewed in the light of the results of the CAMP workshops. A revised list of species for inclusion under P.N 47 should be worked out by bringing under it the "critical" and "endangered" species identified through the CAMP process. Accordingly, a list of 114 species has been prepared and sent to the DGFT to notify as the new P.N. 47.

2) The DGFT have been told that we do not agree to the proposed abeyance period of 31st March, 1997 or deletion of 18 species from P.N 47. We have, however, conveyed the deletion of 3 species (Cactaceae species, Araucaria araucana, and Aloe species) from the original list of 56 species of P.N 47.
iii) The State Forest Depts. have been notified about the results of the CAMP workshop and asked to take immediate conservation measures for the "critical" and "endangered" species. They have also been told not to freely issue collection permits from the wild and ensure their long-term sustainability. They should also promote cultivation of these species through the local people.

iv) This Ministry should promote the cultivation of identified medicinal plants through a centrally sponsored scheme. The Deptt. of Indian Systems of Medicine should be asked to take similar action in respect of these species.

v) All the "critical" and "endangered" species now identified may be proposed for inclusion under Schedule VI of the Wildlife (Protection) Act, 1972. The implication of this may be carefully considered by the Wildlife Act review Committee, because collection of the listed species from the wild will become totally prohibited and licences will have to be obtained by every cultivator and trader. On receiving the Committee's recommendations, orders of Govt. may be obtained separately on this particular issue.

The Ministry of Commerce have recently notified the list of plants prohibited for export (copy enclosed). They have not accepted our recommendation for 114 plants, but have notified only 53 plants - after deleting 3 species as recommended by us.
Section V.

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