

NATIONAL BIODIVERSITY AUTHORITY
ADDITIONAL AGENDA FOR THE SEVENTH
MEETING

WITH THE PERMISSION OF THE CHAIRMAN



सत्यमेव जयते

20th JULY, 2006

**475, 9th SOUTH CROSS STREET, KAPALEESWAR
NAGAR**

NEELANKARAI, CHENNAI 600 041

www.nbaindia.org

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ADDITIONAL AGENDA FOR DISCUSSION WITH THE PERMISSION OF CHAIR

1. Department of Agriculture and Research Education Proposals to National Biodiversity Authority for Approval

DARE Proposal No. 1: Export of 500 gms of *Cardiocrinum giganteum* seeds commonly known as Giant Himalayan Lily from India to Japan

Dr. Shyam S. Phartyal, Lecturer, Department of Forestry, P. B. No.59, HNB Garhwal University, Srinagar – Garhwal – 246 174, Uttaranchal is a Post Doctoral researcher pursuing research in Seed germination ecophysiology of *Cardiocrinum* spp. and evaluating the type of stubborn dormancy in their seeds in order to establish bio-geographic and phylogenetic relationships between Indian and Japanese congeners of *Cardiocrinum* under the Leadership of **Mr. Tetsuya Kondo**, Associate Professor, Hokkaido University (under the Japan Society for the promotion of Science Research).

The Bioresource to be exported to Japan is 500 gm of *Cardiocrinum giganteum* commonly known as Giant Himalayan Lily (From India to Japan). **Dr Shyam S. Phartyal** has applied through proper channel and **Dr N. P. Todaria**, Head, Division of Forestry, HNB Garhwal University, Uttaranchal has forwarded the application.

Dr. R.L. Misra, Project coordinator, All India Coordinated Research Project on Floriculture, Division of Floriculture and Landscaping, IARI, New Delhi has endorsed the project.

Dr. R.V. Singh, Head, Germplasm Exchange Division, NBPGR, IARI, Pusa Campus, New Delhi has informed that the case may be examined.

Dr. Shyam S. Phartyal has not directly applied to NBA for approval.

THE AUTHORITY IS REQUESTED TO APPROVE

DARE Proposal NO. 2: Supplying TNMC 1 – 35 in *Jatropha curcas* at the cost of Rs.60, 000/- per tonne of *Jatropha* seed to Zambia.

His Excellency Mr. Kenneth Kaunda, President, Republic of Zambia, Office of the President, Private Bag E501, Lusaka, Zambia has written a letter to **Honourable Shri. Manmohan Singh, Prime Minister, Government of India** regarding the **potential of *Jatropha*** to be used as alternative Biofuel and has sought the **Indian assistance to import the *Jatropha* from India** and also sought **Indian expertise to grow *Jatropha* in Zambia**. **His Excellency Dr. Kenneth Kaunda** chairs the Marli Investments which are interested in business of *Jatropha*.

Honourable Shri Manmohan Singh had written a reply letter to **His Excellency Dr. Kenneth Kaunda** that the matter has been referred to the External Affairs).

DARE, New Delhi has referred the case to NBPGR.

Dr. R.V. Singh, Head, Germplasm Exchange Division, NBPGR, IARI, Pusa Campus, New Delhi in a letter written to **Dr. R.S. Kureel**, Director, National Oilseeds and Vegetable Oils Development Board, Ministry of Agriculture, Gurgaon, Haryana has informed that NBPGR is empowered to import / export seed planting material only for research purposes and has also enclosed guidelines for export / import of seed / plant material.

Dr. A.K. Singh, Director, NBPGR, IARI, Pusa Campus, New Delhi has informed to **Dr. R.S. Kureel**, Director, National Oilseeds and Vegetable Oils Development Board that NBPGR is empowered to import / export seed planting material only for research purposes.

Shri. Vijay K. Gour, Sr. Scientist, Jatropha Improvement Project, Department of Plant Breeding and Genetics, J. N. Krishi Vishwa Vidyalaya, Jabalpur, Madhya Pradesh has informed to **Dr. R.S. Kureel**, Director, National Oilseeds and Vegetable Oils Development Board that JNKVV is at initial stage for developing improved planting material ie. Jatropha.

Dr. M. Paramathma, Head, Department of Tree Breeding, Tamilnadu Agricultural University, Mettupalayam, Tamil Nadu has informed to **Dr. R.S. Kureel**, Director, National Oilseeds and Vegetable Oils Development Board that TNAU is capable of supplying TNMC 1 – 35 in *Jatropha curcas* at the cost of Rs.60,000/- per tonne of Jatropha seed. **Dr. V. Srinivasa Reddy**, Deputy Commissioner (TMOP), DARE, Ministry of Agriculture has written to NBA for approval.

THE AUTHORITY IS REQUESTED TO APPROVE

DARE Proposal NO. 3: export 1050 kg of Rice Seed C.V. Bigante (Hy) Foundation Seed (Line 060205 – 1000 kg), Breeder Seeds (Line 060205 – 45 kg) and Breeder Seed (Line 020205 – 5 kg) to Philippines

Thiru C. Shanmugham, Deputy Commissioner (QC), Department of Agriculture and Co-operation, Ministry of Agriculture, New Delhi has written a letter to **The Director General**, Directorate of Foreign Trade and has sent a copy to NBA on the issue of Rice Export by **M/s. Proagro Seed Company**.

M/s. Proagro Seed Company Pvt. Ltd., Hyderabad plans to export 1050 kg of Rice Seed C.V. Bigante (Hy) Foundation Seed (Line 060205 – 1000 kg), Breeder Seeds (Line 060205 – 45 kg) and Breeder Seed (Line 020205 – 5 kg) to **Philippines**. The EXIM committee has recommended the export proposal subject to the condition that an NOC be issued by **NBA** prior to the export.

THE AUTHORITY IS REQUESTED TO APPROVE

DARE Proposal NO. 4: Export 40 kg of Foundation Seeds of Rice c.v. 93024 (Line A – 30 Kg and Line R – 10 Kg) of to Bangladesh.

Thiru C. Shanmugham, Deputy Commissioner (QC), Department of Agriculture and Cooperation, Ministry of Agriculture, New Delhi has written a letter to **The Director General**, Directorate of Foreign Trade and has sent a copy to NBA on the issue of Rice Export by **M/s. Proagro Seed Company**.

M/s. Proagro Seed Company Pvt. Ltd., Hyderabad plans to export 40 kg of Foundation Seeds c.v. 93024 (Line A – 30 Kg and Line R – 10 Kg) of to **Bangladesh**. The EXIM committee has recommended the export proposal subject to the condition that an NOC be issued by **NBA** prior to the export.

THE AUTHORITY IS REQUESTED TO APPROVE

DARE PROPOSAL NO. 5: sending Gujarat Vegetable Chilli 101, 111 and 121 (developed by Anand Agricultural University, Anand, Gujarat) to Taiwan.

Sri. D.K. Chhatwal, Under Secretary (IC – II), DARE, New Delhi has written a letter dt. 13-07-2006 to **NBA** on communicating NBA's decision in the export of Gujarat Vegetable Chilli 101, 111 and 121 (developed by Anand Agricultural University, Anand, Gujarat) to Taiwan and has quoted ICAR that with **Asian Vegetable Research and Development Center (AVRDC) – The World vegetable centre, Taiwan**, India has accessed 872 as against export of 27 accession in the last three years, in view of the above NBPGR may agree to export Chilli to Taiwan. The following correspondence has been done regarding this issue:

1. Mr. L. Engle, Head, Genetic Resources and Seed Unit, Taiwan has written a letter dt.14-12-2005 to **Dr.K.B. Kathiria**, Head, Main Vegetable Research Station, Anand Agricultural University, Anand, Gujarat on sending Gujarat Vegetable Chilli 101, 111 and 121 (developed by Anand Agricultural University, Anand, Gujarat) to Taiwan.

2. Dr.K.B. Kathiria, Head, Main Vegetable Research Station, Anand Agricultural University, Anand, Gujarat has written a letter dt. 10-02-2006 to **Mr. L. Engle**, Head, Genetic Resources and Seed Unit, Taiwan thanking him for sending the Chilli Seed lines.

3. Dr.K.B. Kathiria, Head, Main Vegetable Research Station, Anand Agricultural University, Anand, Gujarat has written a letter dt.10-02-2006 to **The Director**, NBPGR, New Delhi has requested NBPGR to send Gujarat Vegetable Chilli 101, 111 and 121 which is already deposited in NBPGR as IC No.471190, 471191 and 471192 respectively to **Dr. Paul A. Gniffle**, Plant Breeder, AVRDC, Taiwan.

4. Dr. Mathura Rai, Director, IIVR has written a letter dt.10-02-2006 to **Dr.R.V. Singh**, Head, Germplasm Exchange, NBPGR, New Delhi that Chilli seed varieties may be exported to Taiwan.

5. **Dr.R.V. Singh**, Head, Germplasm Exchange, NBPGR, New Delhi has written a letter dt. 18-03-2006 to **Sri. D.K. Chhatwal**, Under Secretary (IC – II), DARE, New Delhi expressing the views of NBPGR that as a general policy only released varieties are exported but export of Gujarat Vegetable Chilli 101, 111 and 121 may be considered favorably.

6. **Dr.R.V. Singh**, Head, Germplasm Exchange, NBPGR, New Delhi has written a letter dt. 05-07-2006 to **Shri D.K. Chhatwal**, Under Secretary (IC – II), DARE, New Delhi regarding supply of seed material of Chilli varieties to AVRDC, Taiwan is not covered under any collaborative project between ICAR and AVRDC but both ICAR and AVRDC have mutually benefited in the past by exchanging germplasm of different commodities like Chili, Tomato, Cucumber, Vigna and Okra.

THE AUTHORITY IS REQUESTED TO APPROVE

DARE PROPOSAL NO.6: 100 q of Jatropha seeds to Mozambique

The Ministry of External Affairs, Govt. of India has written in a letter dt. 11-07-2006 to **The High Commissioner of the Republic of Mozambique**, New Delhi that the export of Jatropha seeds from India is examined at a policy level.

The High Commissioner of the Republic of Mozambique, New Delhi has written in a letter dt. 13-07-2006 to **Shri B. B. Pattanaik**, Managing Director, National Seeds Corporation, New Delhi that Mr. Sergio Goveia, Mr. Carlos Nuvacale and Mr. Selem Monteiro, Senior Officials from Ministry of Agriculture, Government of Mozambique are visiting India from 20-07-2006 to 25-07-2006 to discuss about the export of Jatropha seeds from India.

Shri C. Shanmugham, Deputy Commissioner(QC), Department of Agriculture and Cooperation, Ministry of Agriculture, New Delhi has written in a letter dt. 14-07-2006 to **NBA**, Chennai that the issue of export of 100q of Jatropha seeds to Mozambique be considered in the meeting of **NBA** to be held on 20-07-2006.

Shri B. B. Pattanaik, Managing Director, National Seeds Corporation, New Delhi has written in a letter dt. 14-07-2006 to **Shri C. Shanmugham**, Deputy Commissioner (QC), Department of Agriculture and Cooperation, Ministry of Agriculture, New Delhi that NOVOD Board has sought clearance from **DAC** and **TMOP** division has sought approval from **NBA** and the matter be placed before the **NBA** meeting to be held on 20-07-2006..

THE AUTHORITY IS REQUESTED TO APPROVE

2. FINAL RECOMMENDATIONS OF NATIONAL WORKSHOP ON PEOPLE'S BIODIVERSITY REGISTER 22-23, June, 2006

RECOMMENDATIONS

People's Biodiversity Registers must be documents of the people, by the people and for the people. Given the diversity of life and ecosystems, of people and economy, over our vast country, PBR exercises have to be fine tuned to the local conditions, and must be based on the understanding that the original holders of the knowledge they will contain are the local communities and their members. For this reason, the process of compiling each PBR must begin with obtaining prior informed consent of the concerned community with active involvement of the diverse women and men knowledge holders with facilitative support of scientists, resource managers, teachers and students as appropriate. Each community shall control the PBR process and decide on which components of the information recorded are to be shared openly with the public, which components are to be shared under certain conditions specified by the knowledge holders, and which components should be accessible only to the community members. Since PBRs are documents formulated by communities and belong to them, PBRs of communities that do not wish to integrate any of the PBR information into the broader Information System would not be considered any less legitimate for purposes of conservation, legal protection, benefit-sharing, or other related purposes, than those that are willing to integrate some or all of the recorded information, either conditionally or unconditionally, into the larger Indian Biodiversity Information System.

Thus, PBR exercises should not be undertaken as set tasks with all details specified, but must allow for sufficient freedom to take on board local resource use landscapes, institutions, concerns and priorities. The exercises must also permit use of a whole spectrum of media from written text, photographs, paintings and songs to seed banks. At the same time, it is also desirable that communities have the opportunity of taking advantage of modern communication networks and access information relating to technologies and markets, as also share knowledge and experiences with other communities. This would be facilitated by linking of local PBR exercises with the larger Indian Biodiversity Information System, with the understanding, of course, that the communities have the prerogative to decide on the components of PBR information that are to be shared, either conditionally or unconditionally, as a part of the nation-wide Information System.

Such participation in information networks would be greatly facilitated by adopting the version of the PBR methodology as well as the PeBINFO database presented at the Workshop as the starting point for initiating countrywide PBR exercises. It is noted that the methodology and database are so designed as to permit extensive adaptation to local context, including, either simplification or further elaboration. It is also noted that if such adaptation results in considerable heterogeneity in the databases developed in different states, or even at the level of different districts, it would still be possible to effectively link them into a countrywide confederated Information System.

With this understanding, the NBA should promote the following set of activities, taking inputs from an Advisory Group set up for the purpose ensuring representation of community knowledge holders and of NGOs working with them:

1. Developing, within the next 6 months to 1 year, ways and means of effectively providing control of the PBRs to the relevant communities, including through appropriate legal means (such as Rules under the Biological Diversity Act), administrative mechanisms, and local empowerment; this should include all PBR exercises/documents/collections, including those that communities desire not to incorporate into the national database.
2. Developing guidelines for the process by which PBRs are to be initiated; such guidelines should stress that PBRs should be tried out at a few sites to start with especially where the women and men of communities are well-organized to carry them out, and lessons from these learnt before spreading to other sites; the appropriate unit of settlement at which PBRs should be formulated, and the flexibility of adapting to local conditions. In particular, it may be appropriate to go down below the level of a Panchayat/ Municipality, and, as in the case of Village Forest Committees, organize sub-committees of BMCs at the level of individual villages/ hamlets/town wards and to prepare PBRs at this level. In the case of Schedule V areas, the selection of communities shall be in accordance with the Panchayats (Extension to the Scheduled Areas) Act, 1996 and in Schedule VI areas based on the local traditional village institutions. In all cases, all adult residents must constitute the general body (the Gram Sabha under the 73rd Constitutional amendment) which selects its BMC in contrast to various committees formed by sectoral departments for their specific projects or programmes. The responsibility for technical support for the exercise may be appropriately assigned to forest, agriculture or fisheries departments depending on the prevalent environmental regime.
3. Organization of an Indian Biodiversity Information System (IBIS), incorporating People's Biodiversity Register Information System (PeBINFO), and means of providing feedback to communities whose information is going into such a system, especially on how their knowledge is being used and protected, new values which the knowledge is acquiring, alerts on acts of biopiracy relating to their knowledge, and benefits that ought to be flowing back to them. A draft of the proposed structure and functions of IBIS should be put up for public inputs for a period of 3 to 6 months, and comments sought from research/scientific institutions, NGOs, government officials, and community organizations, before being finalized.
4. Creating web-compatible, free, open source software versions of People's Biodiversity Register Information System (PeBINFO), preferably with the involvement of not for profit organizations.
5. Preparing more user-friendly versions of People's Biodiversity Register Methodology Manual for implementation at BMC level, giving adequate emphasis to both wild and agricultural (cultivated/domesticated) biodiversity.
6. Establishment of Technical Support Groups, involving taxonomists, as well as ecologists, agricultural scientists, expert farmers & NGO representatives, biostatisticians and computer scientists to support the PBR activities at national, state and district levels.
7. Development of educational resource material to support teacher-student-parent activities in the study and survey of local biodiversity.

8. Development of information dissemination and capacity building programmes for the women and men of communities to make them aware of the objectives and process of preparing PBRs and being able to access and use the IBIS and PeBINFO.
9. Preparation of countrywide inventory of focal issues on conservation, sustainable and equitable use of biodiversity and Traditional Knowledge, practices and innovations, based on the articulation and information of communities.
10. Preparation of countrywide inventory of focal wild and domesticated taxa (species, varieties, sub varieties, forma, and breeds) and habitats of local interest, along with their local and scientific names.
11. Finalizing a system of management of confidential information.
12. Preparation and dissemination of resource material, including interactive identification keys for countrywide set of focal taxa and landscape and waterscape element types.
13. Preparation of resource material to promote sustainable harvests, storage, preliminary processing, local value addition and efficient marketing of biodiversity resources
14. Organizing training programmes and field trials.
15. Documenting and disseminating information on various methods that communities are using to prepare PBRs, including in the case of PBRs that communities do not want to incorporate into a national system.
16. Developing and putting into place a publicly transparent system of monitoring the progress of PBR formulation, especially to ensure against distortions such as the process becoming mechanical and target-oriented, or to detect violations of the proposed system of community control, legal protection, and benefit-sharing with respect to the knowledge being documented.
17. Preparing, within the next 6 months, guidelines for the formation of BMCs (in view of the fact that PBRs are essentially to be prepared by BMCs, which therefore presupposes the existence of strong and effective BMCs). These guidelines should include BMC functions and powers, their links with PRIs and other local governance institutions with special attention to their variations in Schedule V & VI areas, their relationship with existing institutions at village and broader levels including with village bodies and line departments, their area of jurisdiction, and other aspects. For this purpose, NBA may call for a workshop with SBBs, NGOs, PRI representatives, state PRI departments, community organizations and networks, scientists, and others, to work out these guidelines, and open up a draft set of guidelines for public comment before finalization. The involvement of community representatives, e.g. from sites where communities are already well organized into bodies akin to BMCs, is crucial in the development of these guidelines. Once ready, the guidelines should be circulated to states to follow.

THE AUTHORITY FOR INFORMATION AND APPROVAL

3. FINAL RECOMMENDATIONS OF
GUIDELINES FOR RARE, ENDEMIC AND THREATENED SPECIES
(Expert Committee on Rare, Endemic and Threatened species as per Sec. 38 of
the Act)

CONTEXT

There are numerous threats to biodiversity today from direct unsustainable exploitation, habitat loss, development, climate change and other forces. The conservation of biodiversity is thus significant challenge for the State and civil society. To facilitate this, and as a Party to the Convention on Biological Diversity (1992), the Government of India enacted the Biological Diversity Act, 2002 (No. 18 of 2003) and the Biological Diversity Rules, 2004, with the following objectives: (1) to regulate access to biological resources of the country with the purpose of securing equitable share in benefits arising out of the use of biological resources; and associated knowledge relating to biological resources; (2) to conserve and sustainably use biological diversity; (3) to respect and protect knowledge of local communities related to biodiversity; (4) to secure sharing of benefits with local people as conservers of biological resources and holders of knowledge and information relating to the use of biological resources; (5) conservation and development of areas of importance from the standpoint of biological diversity by declaring them as biological diversity heritage sites; (6) protection and rehabilitation of threatened species; and (7) involvement of institutions of state governments in the broad scheme of the implementation of the Biological Diversity Act through constitution of committees.

The Biological Diversity Act deals with the conservation of sites and species under the following sections:

Central Government to develop National strategies plans, etc., for conservation, etc., of biological diversity

Section 36.(1) The Central Government shall develop national strategies, plans, programmes for the conservation and promotion and sustainable use of biological diversity including measures for identification and monitoring of areas rich in biological resources, promotion of in situ, and ex situ, conservation of biological resources, incentives for research, training and public education to increase awareness with respect to biodiversity.

(2) Where the Central Government has reason to believe that any area rich in biological diversity, biological resources and their habitats is being threatened by overuse, abuse or neglect, it shall issue directives to the concerned State Government to take immediate ameliorative measures, offering such State Government any technical and other assistance that is possible to be provided or needed.

(3) The Central Government shall, as far as practicable wherever it deems appropriate, integrate the conservation, promotion and sustainable use of biological diversity into relevant sectoral or cross sectoral plans, programmes and policies.

Biodiversity heritage sites

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

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

(3) The State Government shall frame schemes for compensating or rehabilitating any person or section of people economically affected by such notification.

Power of Central Government to notify threatened species

38. Without prejudice to the provisions of any other law for the time being in force, the Central Government, in consultation with the concerned State Government, may from time to time notify any species which is on the verge of extinction or likely to become extinct in the near future as a threatened species and prohibit or regulate collection thereof for any purpose and take appropriate steps to rehabilitate and preserve those species.

The NBA recognizes that the process of biodiversity conservation needs to be participatory, inclusive and consensual. It recognizes that the direct or indirect utilization of a species may provide the best motivation for conservation. It also recognizes that research on natural and social sciences provides critical information for the conservation.

The purpose of these guidelines is to outline the process by which species and sites will be categorized as threatened by the NBA. The document will also provide general guidelines for invasive species and genetically modified organism. The guidelines will provide the categories and criteria for classification, and the process of categorization. The document also aims to emphasize the research and information required to make informed decisions which would facilitate the conservation of biological diversity.

PREAMBLE

1. The National Biodiversity Authority is a Statutory Body established by the Government of India as per section 8(1) of the Biological Diversity Act 2002. The mission of the NBA is:

- a. To encourage and support conservation and sustainable use of biological diversity and equitable sharing of benefits arising out of the utilization of biological resources
- b. To respect and protect the knowledge of local people relating to the use of biological diversity
- c. To regulate the issue of guidelines for access to biological resources and for fair and equitable benefit sharing and collaborative research

2. The National Biodiversity Authority's policy on Threatened Species and Sites has been developed to:

- a. Provide guidelines for the categorization of threatened species and sites to promote their conservation
- b. Promote research and information, particularly taxonomy, long term monitoring and collaborative projects, which would facilitate correct categorization of species and sites

GUIDING PRINCIPLES

The National Biodiversity Authority abides by all relevant national and international laws concerned with management of biological diversity.

The National Biodiversity Authority recognizes India's commitments to various treaties to which India is a signatory that deal with the management of Biological Diversity. The National Biodiversity Authority endorses the Convention on Biological Diversity. The National Biodiversity Authority also recognizes the significance to these guidelines of the World Conservation Union- IUCN, the Convention on International Trade in Endangered Species (CITES) and Convention on the Conservation of Migratory Species (CMS) to which India is a signatory.

The National Biodiversity Authority recognizes that these guidelines must act in concert with the Indian Wild Life (Protection) Act, 1972, which also lists threatened species to protect them.

The National Biodiversity Authority shall adopt procedures and employ practices to safeguard India's Biological Diversity and related knowledge.

GUIDELINES

1. INTRODUCTION

The conservation of biodiversity has revolved around the creation of lists that prioritise species for conservation or estimate risks of extinction. Many countries have conservation laws such as the US Endangered Species Act and the Indian Wild Life (Protection) Act, 1972 which create their own lists. International instruments such as CITES (Convention on International Trade in Endangered Species) and CMS (Convention on the Conservation of Migratory Species) also include appendices which list species that are either prohibited from trade or prioritized for conservation (Appendix 1). The best known of these is the IUCN (World Conservation Union – International Union for the Conservation of Nature) Red List. In the 1970s, the IUCN introduced the Red Data Book to create a list of species that were most endangered. The current classification lists species as Extinct (Completely or Extinct in the Wild) Threatened (Critically Endangered, Endangered and Vulnerable), Near Threatened, Least Concern and Data Deficient.

Five criteria are used to arrive at the status of a species including (A) reduction in population size, (B) geographical range (C) population size combined with decline, (D) absolute population size, (E) quantitative analysis showing 'risk of extinction'. A species must qualify under one or more criteria to be assigned to a particular category. For example, if a species has undergone a 90 % reduction in population size over three generations, then it is considered as 'Critically Endangered'; If a species has undergone a 70 % reduction in population size over 3 generations, it is considered as 'Endangered, and so on. Alternatively, a species may be classified as Critically Endangered, if it occupies an area of less than 10 square km, and occurs at only a single location; or if the population numbers less than 50 mature individuals (see www.redlist.org).

In addition to documenting biodiversity, it is also important to understand concepts that underlie or shape biodiversity. Biodiversity is more than species lists or even species richness. Concepts of diversity (indices, relative abundance, evenness), rarity, endemism, taxonomic distinctiveness and uniqueness play a significant role, and are not part of current assessments. Relative abundance of species, species assemblages, nestedness, also fall under the same category. We also need to take into account the fact that biodiversity patterns change over time. Species lists remain static, even though diversity is not. It is also important to examine patterns of biodiversity over large spatial scales, and to understand how environmental parameters such as area, latitudinal and altitudinal gradients play a role.

In India, species are classified into the Schedules of the Indian Wild Life (Protection) Act, 1972 where Schedule 1 denotes maximum protection for the most endangered species, while Schedule V includes species considered as vermin. The schedules list only a small proportion of the biodiversity of India. It is therefore necessary to set up a system for the monitoring both taxa and habitats. There is a need to standardize methods for documenting and monitoring biodiversity. Documenting methods must be replicable and cost effective, and usable at a large scale; potentially calibrated using genetic and other tools. There is a need for long-term monitoring methods that link into management regimes and must happen through institutions that can support long-term programs. **These guidelines provide a strategy and criteria to categorise and list threatened species in India.**

2. DEFINITIONS OF CATEGORIES AND CRITERIA

For species

For the purposes of these guidelines, species will be described on the basis of two parameters:

- Commonness/ Rarity
- Degree of threat

Commonness/Rarity

Though commonness and rarity receive a variety of definitions in literature, species will be broadly categorized on the basis of geographical range, population size, abundance or density.

Endemic species are native taxa distributed over small geographical ranges with some degree of isolation; spaces may be defined contextually and hierarchically, e.g., geographical area (< 50,000 km²); administrative boundaries; island-archipelago-mainland; hilltops; river systems; caves; etc. Endemics will receive a higher priority than non-endemics, and narrow endemics will receive the highest priority

Degree of Threat

The IUCN definitions of threatened species may be used if the data is available to carry out those assessments effectively (see Appendix 1). The following data will be required:

- Published data in peer reviewed literature is required to arrive at estimates of decline
- Population estimates must be based on rigorous scientific estimation techniques
- Range and distribution data must be based on comprehensive and complete surveys

In the absence of such data, the criteria and thresholds defined by these guidelines may be used to classify species as:

- Threatened (broadly includes the IUCN classes Critically Endangered, Endangered and Vulnerable)
- Near Threatened
- Presently Not Threatened

For sites and communities

In addition to the categorisation of species, the NBA may consider the designation of sites and communities and threatened and requiring conservation attention. The guidelines do not provide specific criteria for the designation of sites and communities, but may do so in the future.

Threatened ecological communities - Any group of species or community that is threatened with extinction.

Heritage sites - Geographical locations that have high biodiversity values which are threatened

3. CATEGORISATION OF SPECIES

These guidelines will provide a process to:

- A. Designate taxa into threat categories based on objective criteria
- B. Assess the value of the taxa
- C. Use these assessments to determine whether a taxon in question can be collected/harvested, and under what conditions

A. Threat assessment

These will be carried out based on geographical range, habitat specialization, population size, and nature and impact of threats

Threatened species categories

Criteria and thresholds may have to be defined independently for each taxon. Specialists will develop thresholds which will be added to the guidelines as they are prepared for each group. The broad framework for the development of thresholds is given below. Till such time as specific criteria and thresholds are available, guidelines for the categorisation of plants, invertebrates and vertebrates have been provided (Appendix 2). Furthermore, the scientific committee of the National Biodiversity Authority, in consultation with appropriate specialists, may use ad-hoc methods for the designation of species into threat classes.

CRITERIA	THRESHOLD/LEVEL		
	Threatened	Near threatened	Presently not threatened
RARITY			
• geographical range			
• habitat specialization			
• population size			
THREAT			
• population decline			
• exploitation			
• range decline			

2. Assess the value of the taxa

The ecological and economic value of the taxa will be evaluated on the basis of the following criteria:

- biogeography importance (relicts, living fossils etc.)
- ecologically important (keystones, flagship, indicators)
- genetic: taxonomic uniqueness
- cultural
- economic
- other

3. Determine decisions with regard to collection

The value of a species in conjunction of its threat status may be used to determine:

- **no collection or harvest permissible, except potentially for research**
- **collection/harvest permissible; not for market trade**
- **collection/harvest with monitoring**

4. EVALUATING A SPECIES

Species will be evaluated for the following purposes:

- (a) Listing a species
- (b) Delisting a species
- (c) Change of category (Downlisting/uplisting) of species

The evaluation of species will be carried out by:

- 1. Initial evaluation (Appendix 3)
- 2. Annual or periodic reviews (see below)
- 3. Specific petitions (see below & Section 7)

Annual and periodic reviews

Ongoing and periodic reviews will begin with existing species on various lists (See Appendix 1). These may be overseen by the Scientific Advisory Committee or any agency nominated by them.

- 1. Appointment of taxonomic group or habitat specific sub-committee
- 2. Annual review of all taxa within the group

Petitions

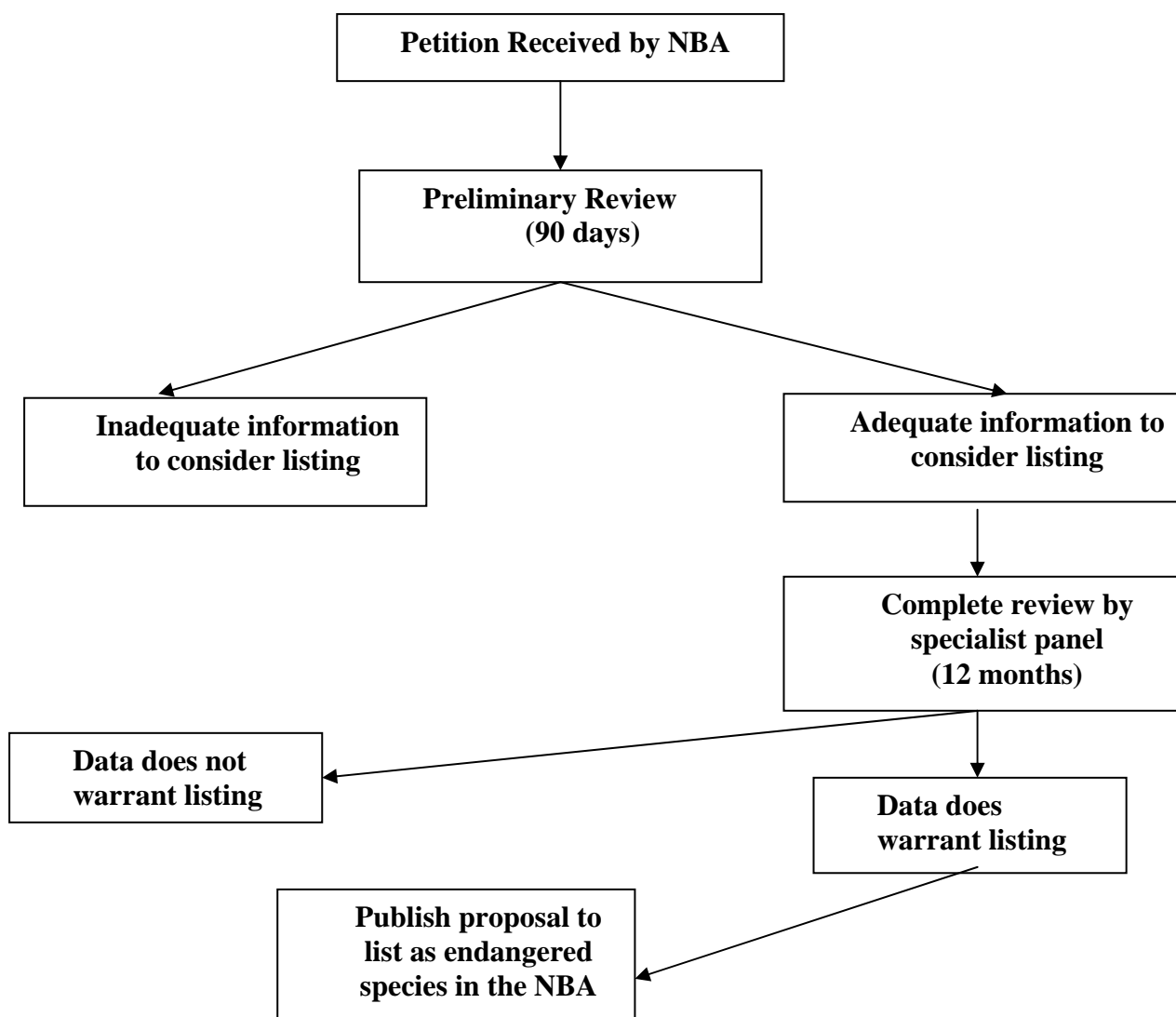
A species may be nominated for listing or delisting by any individual provided all the information required for categorization is provided. Nominations will be rejected if the nominations form is incomplete.

The petitions process will consist of the following steps:

- 1. Petition for a species / review
- 2. Examination by the scientific advisory committee
- 3. Evaluation by expert committee

5. PETITION FLOWCHART

The following flowchart may be used for any of the decisions (listing, delisting, revising):



6. SCIENTIFIC ADVISORY COMMITTEE

A. Membership

core members: scientists and managers with cross taxa and cross disciplinary expertise, who understand the process and its implications

invited members: taxonomic specialists who can be identified for specific taxa

agencies: for specific taxa, habitats and themes

Core members should include representatives from the scientific community, relevant government departments and non government organizations (see Appendix 4 for an indicative list)

Invited members may be called on to assist on decisions with regard to a particular taxon or group.

Agencies that work on particular taxa or groups may be assigned as experts and consulted for decisions on that group

B. Duties

The scientific advisory committee will be responsible for maintaining an updated list of species which are threatened. The committee will be responsible for:

- (a) assigning periodic reviews
- (b) examining petitions for listing and delisting species
- (c) overseeing evaluations of species

The scientific committee should develop and maintain a database for each taxonomic group that consists of:

- (a) Existing data and databases on taxonomic group
- (b) Institutions involved in research
- (c) Taxonomic expertise
- (d) Individual experts
- (e) Funding Sources
- (f) Websites and other information in the public domain
- (g) Literature
- (h) Existing assessments

7. RESEARCH

The following kinds of research are encouraged by the NBA as they will benefit the process of correct categorization of species. Listing of species should not preclude research on them by bona-fide researchers and institution.

A. status surveys: extensive status surveys need to be carried out for a wide range of taxa and species. This may consist primarily of observational research, but for lower taxa and plants, will involve collections and taxonomic analysis, both morphological and molecular, and will include population assessments for possible subspecies.

B. taxonomic research: biodiversity studies are plagued by problems of systematics and taxonomy, especially for lesser-known taxa. Taxonomy is not a centre of attention and is in decline throughout the country. Thus it will be necessary to create the necessary awareness, motivate students and build capacity of both individuals and institutions. It will be also be necessary to integrate a wide range of tools, some of which require tissue and specimen collection, such as molecular genetic techniques. Recognizing efforts such as AICOPTAX, the NBA recommends an increased emphasis on taxonomic research which provide

- special programmes to increase taxonomists
- coordinated projects on biodiversity assessment
- networked programmes on taxonomy

- interactive web based keys for taxonomy

Taxonomic studies are likely to be required on:

- Lesser known vertebrates
- Many groups of invertebrates
- Aquatic species
- Coastal and marine fauna

C. collaborative research:

Promoting inter-institutional projects and programmes on biodiversity conservation for specific biogeographic regions

D. long term monitoring of species and habitats:

To undertake threat assessment for prioritized habitats and faunal and floral taxa. This research program should be of a long-term nature since, as it is well known, ecological and population studies on globally significant habitats and species of *conservation concern*, in order to be meaningful, need to be carried out on a periodic basis and in a long time frame. Since this work involves a certain degree of expertise, which would undoubtedly be further enhanced through field studies, competent research institutes need to be identified and given the long-term nodal responsibility for monitoring habitat types and the population status of prioritized taxa.

8. LISTED SPECIES IN THE NBA

A. Information matrix for listed species

Detailed information must be provided as per the attached guidelines on each species in the list.

- (a) Common name;
- (b) Local names
- (c) Scientific name (and synonyms)
- (d) IUCN category
- (e) Indian Wildlife Act category
- (f) NBA category
- (g) Data quality
- (h) References
- (i) Taxonomy
- (j) Threat
- (k) Recovery Action
- (l) Encouraged Activities
- (m) Proscribed Activities

B. Species Recovery Programmes

Every species in the list should have an associated species recovery programme.

C. Publication

The NBA shall publish a dynamic updated list of Scheduled species (under WLPA) on the website.

APPENDIX 1: EXISTING LISTS OF ENDANGERED SPECIES IN INDIA

Primary Lists

- Schedules of the Indian Wildlife (Protection) Act
- IUCN Red List of Threatened Fauna and Flora
- Appendices of the Convention on International Trade in Endangered Species
- Appendices of the Convention on Conservation of Migratory Species of Wild Animals
- List of Threatened Species of Plants, Botanical Survey of India
- List of Threatened Mammals, Zoological Survey of India
- List of Threatened Birds, Bombay Natural History Society

Secondary Lists

Conservation and Management Plans, Zoo Outreach Organisation, Coimbatore

1. Mammals of India
2. Selected Medicinal Plants of Northern, Northeastern and Central India
3. Endemic Orchids of Western Ghats
4. Amphibians of India
5. Reptiles of India
6. Selected Soil Invertebrates of Southern India
7. Mangroves of India
8. Freshwater Fishes of India
9. Non-Timber Forest Products of Nilgiri Biosphere Reserve
10. Non-Timber Forest Products of Madhya Pradesh
11. Selected Medicinal Plants of Southern India
12. High Altitude medicinal plants of Jammu and Kashmir and Himachal Pradesh
13. 100 Red-listed medicinal plants of conservation concern in Southern India
14. Primates of South Asia
15. Bats of South Asia
16. South Asian Non-volant small mammals

APPENDIX 2: CRITERIA AND THRESHOLDS FOR DIFFERENT TAXA

Plants

Thresholds for the categorisation of arborescent and herbaceous plants

Criteria	Threatened (CE, EN and VU)	Near Threatened	Presently Not threatened
Geogr. Distribution Arborescent	<100 km ²	5000-20000 km ²	> 20000 km ²
Geogr. Distribution Herbaceous	<10 km ²	5000-20000 km ²	> 20000 km ²
Population Size Arborescent	<50 adults	50-100 adults	>100 adults
Population Size Herbaceous	<500 adults	500-1000 adults	>1000 adults
Population Decline (Temporal)	>50 % decline	30 – 50 %	<30 %
Population Decline (Spatial)	<20% recruitment	20-60%	>60%
Population Decline (Exploitation level)	Highly extracted	Moderately	Not extracted
Habitat uniqueness	Unique	Unique	Common
Other			

Invertebrates

Initial evaluations of invertebrate species may categorise them as follows:

- Cosmopolitan species – can be placed in the lowest category
- Endemic species – can be placed in the highest category
- Geographically Restricted Species- allopatric/sympatric species – can be placed in a category between the first two categories
- Value added species – should be based on their availability in the wild along with their culture characteristics
- Trade related species – should preferably be based on CITES criteria

Vertebrates

Fish – thresholds need to be set for the categorisation of fish. Geographical range and threat may be used as key determinants, given the absence of data on population size and other parameters

Amphibians – thresholds need to be set for the categorisation of amphibians. Geographical range and threat may be used as a key determinant, given the absence of data on population size and other parameters

Reptiles – thresholds need to be set for the categorisation of reptiles; this is a heterogeneous group and separate thresholds may be required for different classes. Geographical range and threat may be used as a key determinant for some groups while data on population size may be available for some taxa.

Birds – IUCN criteria have been applied successfully to the categorisation of birds. See List of Threatened Birds, Bombay Natural History Society.

Mammals – The List of Threatened Mammals, Zoological Survey of India applies IUCN criteria and thresholds to arrive at a categorisation of mammals.

APPENDIX 3: STRATEGY FOR INITIAL EVALUATIONS

Till such time as complete lists have been prepared, a quick strategy is required for the evaluations of large numbers of plants and animals. These strategies are outlined for Plants, Invertebrates and vertebrates.

Plants

1. Effort should be made to evaluate all species that are hitherto not-evaluated.
2. All unlisted species should be referred to an Expert Scientific Committee for the status of the species and necessary advice for permission to collect for commercial purposes.
3. A comprehensive digital information system on all threatened and endemic species should be developed.
4. All states should separately prepare red list of species based on the criteria developed.

Invertebrates

Invertebrate groups are so very large and diverse that the following points need to be considered before placing them under various categories

- Population status of most of the groups are lacking
- Geographical distribution of many of the species are not known
- The rate of new species being described is very high

Thus the following steps need to be taken for initial evaluation:

1. Preparation of checklists for all invertebrates
2. Categorization of Cosmopolitan species with wide range of distribution to be considered as animals with Lowest Threatened Category
3. Listing of Endemic and Restricted Range species based on the Rapid Assessment Survey or Status Survey of the species

Vertebrates

The following strategy may be employed for an initial evaluation of vertebrate taxa:

1. List India's 5000 vertebrate taxa (2600 fish; 250 amphibians; 500 reptiles; 1230 birds; 400 mammals)
 - a. list all endemic taxa (approx. 15%)
 - b. list threatened taxa under WPA, IUCN categories (critically endangered, endangered, vulnerable) and CITES appendices (I and II)
 - c. list rare taxa in need of conservation attention (near threatened)
 - d. list taxa that do not qualify among any of the above three conditions (least concern, data deficient, not evaluated).
2. Carry out assessments for high-ranking taxon based on geographical range, habitat specialization, population size, threats and other values (economic, genetic, cultural, etc.)

APPENDIX 4: LIST OF INSTITUTIONS

National Institutions

- Botanical Survey of India, Calcutta
- National Botanical Research Institute, Lucknow
- National Bureau of Plant Genetic Resources
- National Bureau of Fish Genetic Resources
- Tropical Botanical Garden and Research Institute
- Zoological Survey of India, Calcutta
- National Institute of Oceanography
- Forest Research Institute, Dehradun

Universities

- Department of Ecology, Pondicherry University
- Department of Wildlife Sciences, AVC College
- Centre for Advanced Studies in Marine Biology, Annamalai University
- Goa University, Goa
- University of Agricultural Sciences, Bangalore

Other institutions involved in ecological research

- Bombay Natural History Society, Mumbai
- Ashoka Trust for Research in Ecology and the Environment, Bangalore
- Centre for Ecological Sciences, Bangalore,
- Foundation for Revitalisation of Local Health Traditions, Bangalore
- Kerala Forest Research Institute, Peechi
- Nature Conservation Foundation, Mysore
- Wildlife Institute of India, Dehradun
- Zoo Outreach Organisation, Coimbatore
- Salim Ali Centre for Ornithology and Natural History, Coimbatore
- Gujarat Institute of Desert Ecology, Bhuj
- M S Swaminathan Research Foundation

THE AUTHORITY IS REQUESTED TO APPROVE

4. ACCESS APPLICATION FOR APPROVAL

APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference F. No. 9/84/2006/Tecl Appl/
Particulars of Charges: Paid (Through Electronic transfer). Rs.10000/-

1. Name and address of applicant : Dr. H. Thorsten Lumbsch
Associate Curator & Head of
Cryptograms,
Department of Botany,
The Field Museum,
1400 S. Lake Shore Drive,
Chicago, IL 60605
USA
2. Date of Application in the prescribed Form : 22 – 05 - 2006
3. Type of form used : Form I
4. Name of the project : Collection of Biological and Geological specimens
5. Type of Bioresource : *Thelotremataceae* – Family of Lichens found in
Western Ghats regions of South India
6. Application supported by any other Government Institution : Dr. D. K. Upreti, Head,
National Botanical Research Institute,
Lucknow,
Uttar Pradesh.
7. Collaborating Agency, Name and Address : Dr. D. K. Upreti, Head,
National Botanical Research Institute,
Lucknow,
Uttar Pradesh.
8. Remarks : The applicant has proposed to collect Lichens from Karnataka, Kerala, Tamilnadu (Nilgiri and Palni Hills) Western Ghats, South India. The Material collected will be used for morphological and molecular analysis in the field museum of Chicago. The proposed collection of Lichens falls in the protected area of Nilgiris and Palni Hills. The approval by NBA is also subject to permission received from Forest department of three different states for the above purpose. Among the three states Karnataka and Kerala have formed the SBB and NBA needs to consult SBB for this purpose. Dr. D.K. Upreti was contacted to confirm his collaboration with applicant and Dr. Upreti has sent a recommendation letter (dated 08-06-2006). If approved an agreement has to be signed by the applicant for not transferring the bioresource collected.

THE AUTHORITY IS REQUESTED TO APPROVE

5. PROPOSAL OF AUROVILLE'S GREENWORK

Introduction to Auroville's Greenwork

Auroville is an international township, established in 1968, dedicated to the ideals of human unity, following the teachings of Sri Aurobindo and the Mother.

In 1988 it became a foundation recognized by the India Government through the Auroville Foundation Act. It currently has a population of approximately 1800 people drawn from 37 countries, around 40% of the population are Indian nationals.

When Auroville began the area was a barren, eroding plateau with the odd scattered tree and a rapidly expanding network of canyons and ravines.

The initial work was to create an environment in which the city could manifest. This process was known as the greening of Auroville and has been extremely successful, over 2000 acres of land have been planted with forest trees. After the initial work was completed many members of the community moved on to involved themselves with other activities such as education, organisation of the community, alternative technology, building, development, and many other things. However a group within the community has continued with the greenwork.

In the subsequent years more research into the natural forest has led to a greater understanding of the ecological processes involved in tree planting and led to a more refined practice. The scope of the work has greatly expanded and projects run within the community that address the conservation of local species through planting programs, education projects and development work with local communities. The community has also been involved in the wider issues of conservation in the bioregion working with other NGO's and government departments to create management proposals for the sustainable use of natural resources.

The activities that are currently running in Auroville are:

- Planting of tree species inside Auroville and in surrounding areas for conservation purposes.
- Nursery production of forest seedlings approximately 75,000 per year
- Collection of ecological information concerning biota of the area, such as phenology, species associations, pollination, etc.
- Surveying of remnant vegetation to ascertain the distribution of plant communities.
- Production of educational materials relating to the local species.
- Environmental education projects.
- Community development projects working with local people to encourage them to utilize their bio-resources in sustainable ways

Bioresources under the Auroville Foundation

- Forest area of 1230 acres with over 1000 species of plants
- Shakti herbarium with 15,000 accessions from India, predominantly from the TDEF forests of the Coromandel Coast and the Andaman islands.
- Database of the TDEF species of the Coromandel Coast including information on distribution, photos and phenology. Over 400 taxa have been identified at different sites from Visakapatnam to Point Calimere.

- Pitchandikulam Bioresource Centre is a facility to disseminate environmentally related information to interested organisations (both governmental and non-governmental). It has a research library, displays of more than 300 species of seeds of medicinal plants, an ethno-medicinal forest and garden containing over 800 species of plants with extensive signages and forested areas dominated by indigenous vegetation.
- The Auroville Botanical Gardens of 44 acres with over 270 species of trees labeled
- The Palmyra Centre for Ecological Land use, Water Management and Rural Development

Accrued Benefits, Status and Future plans

Auroville's Greenwork is not limited to the Auroville plateau, but has in the last years shown a significant shift in priority in reaching out to regions beyond it. Technologies relating to the propagation of the TDEF (germination and planting techniques) and management plans for existing remnant TDEF reserves have been shared with the Department of Forests over the last decade. Seedlings from Auroville nurseries and planting technology have been shared with other Indian conservation organisations such as the FRLHT - MPCN network and the MS Swaminathan Research Foundation. Many academic institutions rely on the Shakti Herbarium for their research needs. Environmental education forms an important component of the aims of Auroville's Greenwork – especially education of rural school children. An environment education centre has been established in a rural high school 35 km to the north of Auroville adjacent to the threatened Kaliveli Wetland and caters to the educational needs of 15 other schools in the region. Other such programmes have been planned along the Coast. The primary aim is to involve and educate communities in understanding the bioresources of the region and the importance of conserving them. In this context it has tailored its programmes to benefit local communities and conserve resources in and around villages on an equitable basis in collaboration with local panchayats and community groups.

Auroville is approaching the NBA with the request that it would be allowed to continue its work of researching the TDEF of the Coromandel Coast. This would mean visits and collection in the reserve forests and sacred groves along the Coromandel Coast. Auroville wishes to continue the biotic studies, concerning vertebrate diversity of the region.

Auroville understands and respects the need to get permission from the forest department in order to access state forest areas.

Auroville understands the need to relate to local panchayats and community groups when it is necessary to access any community forest, sacred grove etc.

Auroville also understands that visiting foreign researchers and students of the natural sciences would be required to make their own arrangement with NBA before undertaking any activities relating to the bioresources of the region.

Auroville's work with the TDEF has always been open to others in India and hopes that it can continue to provide a resource of information on the TDEF of the Coromandel Coast.

Auroville wishes to continue to develop educational materials for the schools and institutions of Tamil Nadu to help the long term preservation and restoration of this endangered forest type.

FORM I
(see rule 14)

Application form for access to Biological resources and associated traditional knowledge

Part A

1. Full particulars of the applicant

1. Name : **AUROVILLE FOUNDATION**
2. Permanent address : **Bharat Nivas, Auroville – 605101.**
3. Address of the contact person / agent, if any, in India :
 - (i) **Secretary, Auroville Foundation, Bharat Nivas, Auroville – 605101. , T.N.**
 - (ii) **Mr Joss Brooks, Auroville Greenworks Council, Pitchandikulam, Auroville. Ph.2622365, Mobile : 9443362246, email : joss@auroville.org.in**
4. Profile of the organization (personal profile in case the applicant is an individual). Please attach relevant documents of authentication): **Enclosed**
5. Nature of business: **International Township dedicated to Human Unity**
6. Turnover of the organization in US\$: **\$619,289.00 for 2004-05.**

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

- Identification (scientific name) of biological resources and its traditional use:
Tropical dry evergreen forest of Coromandal coast
- Geographical location of proposed collection:
South eastern coast of peninsular India.
- Description / nature of traditional knowledge (oral / documented):
Traditional uses of plant and animal material for use in creating awareness about the species in environmental education programs and in developing plans and concepts for sustainable use of the bio-resources of the region with the local communities.
- Any identified individual / community holding the traditional knowledge:
Not yet identified.

- Quantity of biological resources to be collected (give the schedule):

5 Specimens per species form each location for the herbarium, plus small quantities of seed / plant material for propagation.

- Time span in which the biological resources is proposed to be collected:

10 years

- Name and number of person authorized by the company for making the selection:

Mr Joss Brooks, Mr Walter Gastmans, Mr Paul Blanchflower, MrJaap den Hollander, Mr K.Adikesavan, Ms Anita Truchanas, Mr Juergen Putz, MrR.Kannyappan, Mr.Michael Mason, Mr.Rik Poot, Mr.D.Saravanan, Mr Glenn Baldwin.

- The purpose for which the access is requested including the type and extent of research, commercial use being derived and expected to be derived from it:

Primarily the collection of data is to increase the understanding of the ecology of the tropical dry evergreen forest and allied eco-systems. This information will be used to develop programs for ecological restoration, environmental education and other planting programs. Seed collection program are there to allow seedlings to be raised in the Auroville nurseries to be used in planting programs designed to promote the conservation of bio-diversity.

- Whether any collection of the resource endangers any component of biological diversity and the risks which may arise from the access:

None

3. Details of any national institution which will participate in the Research and Development activities.

At present there are no tie ups with National Institutions, although in the past links have been there with N.B.R.I., Lucknow, Tamil Nadu Forest Department, F.S.I., Chennai.

4. Primary destination of accessed resource and identity of the location where the R&D will be carried out.

Shakti Herbarium, Pitchandikulam Bioresource centre and Auroville Botanical Gardens, all located in Auroville, Villupuram Dist. Tamil Nadu.

5. The economic and other benefits including those arriving out of any IPR, patent obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs:

None

6. The biotechnological, scientific, social or any other benefits obtained out of accessed biological resources and knowledge that are intended, or may accrue to the applicant or to the country that he/she belongs:

None

7. Estimation of benefits, that would flow to India / communities arising out of the use of accessed bio-resources and traditional knowledge:

8. Proposed mechanism and arrangements for benefit sharing.

9. Any other information considered relevant.

Part B.

Declaration

I/ we declare that:

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

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

Place : Auroville

Date :

Signed: (1)

Signed : (2)

Name: P.R.Srinivasamurty
Title : Officiating Secretary,
Auroville Foundation

Mr Joss Brooks
Auroville Greework Council,
Pitchandikulam,
Auroville -605101

Profile of the Organisation

AUROVILLE FOUNDATION



Working Committee



Auroville Greenwork Council:

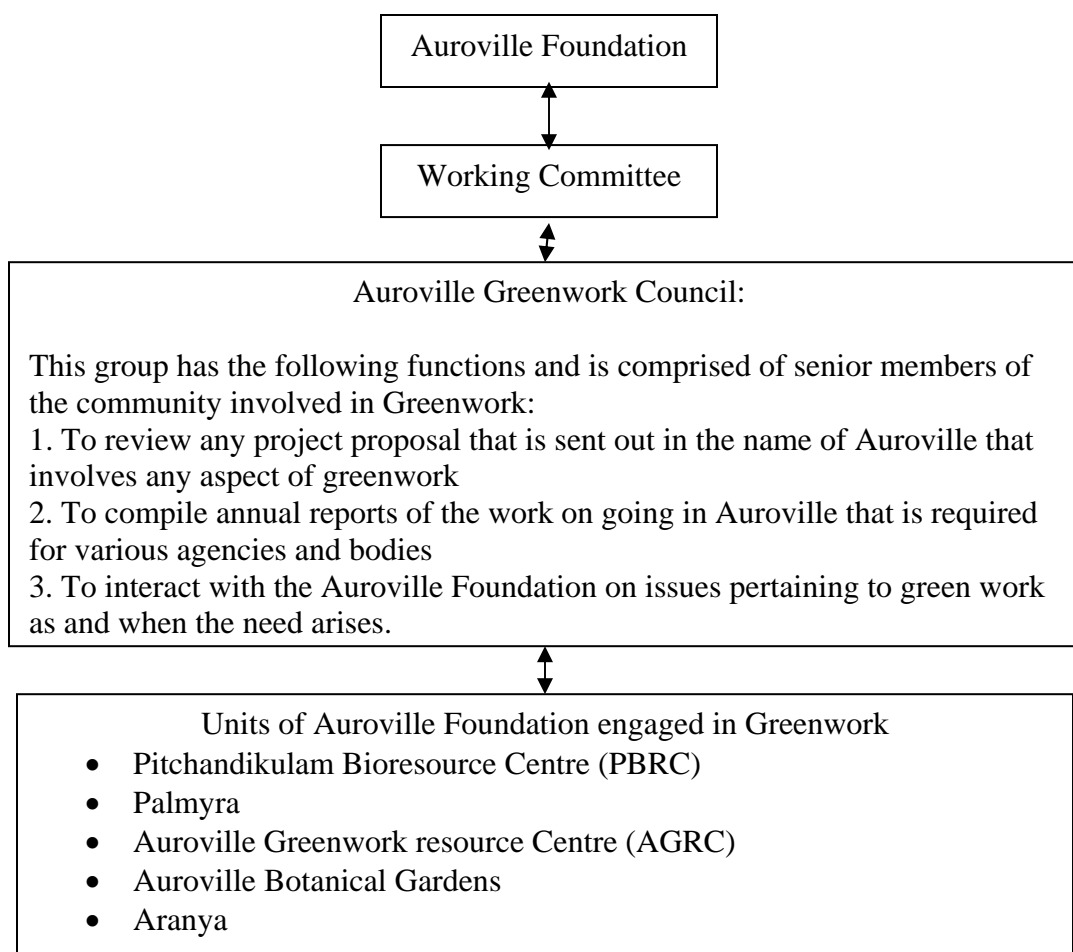
Messers: Joss, Paul B, Kannyappan, Jaap, Saravanan, Juergen, Walter

This group will have the following functions:

1. To represent Auroville greenwork with any outside body or organization with respect to requests for permissions.
2. To review any project proposal that is sent out in the name of Auroville that involves any aspect of greenwork
3. To compile annual reports of the work on going in Auroville that maybe required for various agencies and bodies
4. To interact with the Auroville Foundation on issues pertaining to green work as and when the need arises.

Auroville Units engaged in Green-work			
Unit Name	Executives	Associated Green-workers	
PBRC	Joss, Anita, Kanniyappan		
Palmyra	Juergen		
AGRC	Joss, Jaap	Michael,	
Botanical Gardens	Paul, Walter, Athi	Rick	
Aranya	Saravanam, Paul	Glen	

Organisation of Green work under the Auroville Foundation



All the groups involved with greenwork in Auroville relate to the Auroville Greenwork Council, which is responsible to the Auroville Foundation. (See diagram above)

Auroville Greenwork Resource Centre (AGRC)

AGRC is the umbrella organisation for the Auroville Forest group which is responsible for the lands within Auroville that are permanently designated as forest, this covers about 1300 acres. These forests are managed for water conservation, biodiversity protection. Initially these areas were planted with a mixture of exotic and native Indian species, over the past years extensive planting programs have been implement under-planting these forests with indigenous species from the Tropical Dry Evergreen Forest type, which is the local forest type for this area.

Pitchandikulam Bioresource Centre

Since its inception in 1973 the Pitchandikulam forest, which covers 70acres, has always had a particular focus on medicinal plants and the people who use them. In 1993 Pitchandikulam became a part of the Medicinal Plant Conservation Network co-ordinated by the Foundation for Revitalization of Local Health Traditions (FRLHT). Under this programme extensive community bio-resource registers were executed in 35 villages in the Kaliveli bio-

region. The information gained has formed the basis of educational materials (posters, pamphlets and books) that are in use for environmental education programmes.

Pitchandikulam has a well established nursery to cater to the needs of both afforestation and medicinal plant propagation. By planting out the seedlings in an Ethno Medicinal Forest the availability of living gene banks are assured. It also supplies medicinal plants and plant products to local healers.

The bio-resource centre is a teaching and training facility for the protection, propagation and use of medicinal plants. The aim is to involve village communities in these processes of eco-restoration by encouraging and co-ordinating the energies of villagers, traditional healers and women self help groups. Education programs have extended out into the bioregion where environmental education centres have been established in consultation with the Education Department. Other outreach programs have reached into Chennai where plantings have been made at Otteri (in collaboration with the Chennai Corporation).

Since 2002 Pitchandikulam has embarked on biotic surveys in the Kaliveli bioregion. Both ecological and ethological investigations were conducted to better understand the dynamics of plant-animal-animal interactions. Reports utilizing data collected during these surveys have been published and these can be viewed online at www.zoosprint.org Two more reports are in press concerning comprehensive vertebrate diversity at 11 sites within the bioregion.

Auroville Botanical Gardens

This area was established in 2000 on a newly acquired piece of land. The aim of establishing these gardens was to provide an interface with Auroville's greenwork and numerous visitors who visit Auroville from around India. It was also conceived of as an environmental education centre for the numerous schools that are located in Pondicherry and the surrounding towns and villages of Tamil Nadu. Over the past six years the gardens have been developing and the education infrastructure is being put into place. The gardens also have a nursery producing plants both for the gardens themselves and for outside projects. The gardens are a member of the Indian Network of Botanical Gardens run through NBRI in Lucknow and also Botanical Gardens Conservation International an umbrella organisation for Botanical Gardens based in Kew, UK.

Also falling within the organisation of the Auroville Botanical Gardens is the Shakti Herbarium, which was established in 1992 under an FRLHT project, to record and document plants of the TDEF. By chance the first record turned out to be a plant described as "very rare, probably extinct". It is a liana belonging to the *Fabaceae* family, *Derris ovalifolia* (*Wight et Arn Benth.*), found mainly in and around the Auroville plateau. It currently holds some 15,000 accessions in a carefully controlled environment.

Associated with the Herbarium is a nursery, which has been involved with the supply of mostly indigenous TDEF species to various forest projects. In 2005 over 50,000 seedlings were raised for Coastal reforestation work in the aftermath of the Tsunami.

Palmyra

The Palmyra Centre for Ecological Landuse, Water Management and Rural Development was founded in 1990 and is situated in Aurobrindavan, Auroville. Its objectives are to promote ecological concepts of landuse as well as rural development programmes. It has many projects running all associated with social development within the surrounding bioregion. Some of these projects are concerned with Tank rehabilitation and planting of Agroforestry

species on wasteland and farmers lands, others are promoting bio-fuels and the empowerment of women through the creation of Self Help groups.

Aranya

Aranya forest covers around 100 acres of highly eroded canyon lands that have been reforested with species of the local forest type. From this forest area education programs with the local schools are run, promoting respect for the natural environment. Appendix 1: Projects funded over the last fifteen years.

Title of Project	Duration	Funding organization
Restoration of Ecosystems in the Kaluveli Bioregion	1989 -1992	DFID-CHEC
Revitalising of Indigenous Health Systems and the Remnant Forests of the Kaluveli Bioregion	1993-1997	CAPART
Revitalisation of Local Health Traditions and restoration of the Indigenous flora in the Kaluveli Bioregion	1993-1999	FRLHT
Restoration of the TDEF in the Kaluveli Bioregion	2002-2005	EC
Environmental Education Training Centre Nadukuppam	2003-2005	UNESCO
Environmental Education Training Centre Nadukuppam	2003-2006	AUSAID-QSA AUSTRALIA
Forest Enhancement Program	2002-2003	Foundation for World Education
Reintroduction of Indigenous species	2003-2004	Foundation for World Education
Indigenous Tree Planting	2004-2005	Stichting de Zaaier
Post tsunami Ecological Restoration	2005-2007	Concern
Survey of vegetation of some of the lesser known Andaman and Nicobar Islands	1995-1997	ANET
Propagation Of the Indigenous Plants of the Tropical Dry Evergreen Forest (TDEF) of South India.	2004-2005	Investing in Nature India (BGCI)
Rehabilitation of Integrated Tank Management Systems in the Kalliveli Watershed in the Villupuram District of Tamil Nadu	1999-2005	ICEF
Planting, water conservation and other landuse based development programmes are implemented in 9 watersheds in the Kaliveli areas.	2002-2006	IWDP
Tank rehabilitation Project Pondicherry	1999-2005	European Commission
Mahalir Thittam	2000-2004	TNCDW
Promotion of Bio-energy plantation and Bio-fuel extraction	2005-2008	DRDA

THE AUTHORITY IS REQUESTED TO APPROVE

6. RECRUITMENT OF STAFF FOR NATIONAL BIODIVERSITY AUTHORITY

With reference to the minutes of the Review meeting held under the Chairmanship of Shri. Suresh Chadhra Spl Sec., Ministry of Environment and Forests, New Delhi on 26th September, 2005 to review the progress of National Biodiversity Authority, it is submitted that in Item No 2 Recruitment of Staff, Spl. Secretary desired that NBA should immediately initiate action for appointment in respect those positions for which there is provision to fill the post on deputation. It was further suggested that all the isolated posts for which immediately there is no promotional avenue, should have provisions for being filled on deputation. As per letter No J 22018/19/2003-CSC (BC) dated 29th March 2004 and 9th March 2006 from Dr. R.K. Rai, Addl. Director, MoEF, New Delhi, 19 posts have been sanctioned for NBA.

Out of 18 (except Chairman), one post of Admin officer has already been filled on deputation for a period of one Year. Four posts for peon/daftry have been sanctioned (2 by outsourcing and two in scale of pay) of which 2 posts on outsourcing has been filled up. The filling up of the posts of two peons on regular basis will be done once the RR notification is published.

As per the Minutes of the review meeting the following posts can be filled upon deputation basis. 1. Secretary (1 posts), 2. PS to Chair Person (1 posts), 3. Accounts Officer (1 posts), 4. PS to Secretary (1 posts), 5. Office Asst./Comp. Asst. (One post each), 6. Technical Asst (2 posts), 7. Stenographer Grade C (1 post) and 8. Stenographer Grade D (1 post).

Permission may kindly be given to fill up the above mentioned posts on deputation basis by advertising the same on website of NBA and circulating the office order to all Ministries under Government of India.

The remaining Technical Officer (2 posts) and Advisor law (one post), Peon/daftry (2 posts) shall be filled by direct recruitment after the RR of NBA is notified by the Ministry which is in the final stage.

THE AUTHORITY IS REQUESTED TO APPROVE

7. FINAL REPORT ON THE *Jatropha* GERMPLASM AT INDIRA GANDHI AGRICULTURAL UNIVERSITY, RAIPUR, INDIA

With reference to the Fact finding Committee formed by NBA on the transfer of *Jatropha* Germplasm to D1 Oil Company the Committee Chairman and the members have submitted the final report for necessary action.

Conclusions

Based on the investigations made by the committee, the following conclusions are drawn.

1. The Dept. of Forestry, IGAU had initiated Research on *Jatropha* about 4-5 years ago and two projects, one funded by Department of Biotechnology Government of India, New Delhi and another by National network on integrated development of *Jatropha* and Karanj, funded by National Oil Seeds and Vegetable Oils Development (NOVOD) Board, Gurgaon, Ministry of Agriculture, Govt. of India were obtained for intensifying research. Dr. Sunil Puri was the Principal Investigator (PI) in these projects.
2. Although *J. curcas*. is available in many parts of the country, the germplasm available at Chhattisgarh is reported to contain higher oil content. The report made available indicate that analysis have shown 48% oil from the seeds obtained from *Jatropha* of Pendra Road, compared to other locations that vary from 31-42%.
3. The report submitted to DBT for the period 2004-05 mentions that, as against the target of collection of 50 candidate plus trees (CPT) from 16 Districts of Chhattisgarh, the PI has reported collecting 46 CPT from 12 Districts. The report also mentions about collection of passport data (CPT code, Village/town, Tahsil Block; District, state and wild or cultivated). CPT-I 0 has been collected from Pendra Road (Annexure 1.4, Table I page 3). Passport data on CPTs of *Jatropha* collected from other states are also provided in the report.
4. Dr. Sunil Puri (Dr. Puri) was the Principal Investigator of DBT projects and National Coordinator for NOVOD Project had access to all the germplasm collected and maintained at its 17 centers. It was also evident that 1540 plants belonging to 28 accessions were given and planted in 0.1 Oils farm at Kumhari.
5. These lines include some of the elite lines identified that contain highest Oil content of 48%.
6. The *Jatropha* collections made are actually accessions besides being germplasm. The studies by the PhD Scholar Ms. Lekha Ghosh entitled " Provenience variation, vegetative propagation and floral biology of *Jatropha curcas*" would lead to interesting results and they will be obviously under the purview and custody of the Guide/ Supervisor Dr. Sunil Puri.
7. The Dr. Puri was Head, Department of Forestry and later became the Director of Instructions as well as held the charge as Director of Research in the University. Being the National Coordinator of the 17 centres of the NOVOD Board, he had incriminatory access to the accessions/ germplasm of *Jatropha* material under this project.
8. The Vice Chancellor, IGAU has permitted Dr. Puri to attend a conference organized by 0-1 oils and also visit processing facilities in European countries with the hope that the new knowledge would be of help in furthering research on *Jatropha* that is being pursued vigorously by the University. But, when Dr. Puri informed the University of his intention to join D-I oils upon his return in November 2005 and requested for leave/ lien that was refused and the university has suspended Dr. Puri for joining 0-1 oils without being relieved from the university .

9. The fact that Dr. Puri has hidden the information about his intension to join D-I oil indicates his incriminating intensions.

10. Biological Diversity Act 2002 (No. 18 to 2003) at Chapter-2 -Item 4 needs the prior approval of the National Biodiversity Authority to transfer the results of any research relating to any Biological resources (Page. No.4 of the Blue- green Book). Chapter-5-Item- 20(1) states that transfer of any Biological resources or knowledge is possible only with the permission of the National Biodiversity Authority..... (Page 1)

The overall consideration of the Fact finding Committee leads to the conclusion that Dr. Sunil Puri should have exercised more caution to obtain express permission from the competent Authority while dealing with or allegedly transferring or causing the transfer of *Jatropha* to locations outside IGAU Campus

Sd. xxxxxxxxxxxx

Dr. S. Edison
(Chairman),
Director, CTCRI
Trivandrum

Dr. C. Surendran,
(Member)
Former Director,
Centre for Plant Breeding
TNAU, Coimbatore

Dr. M. Anandaraj,
(Member)
Project Coordinator Spices
AICRPS -IISR, Calicut

THE AUTHORITY FOR INFORMATION

8. GUIDELINES ON COLLABORATIVE RESEARCH PROJECTS

“GUIDELINES FOR INTERNATIONAL COLLABORATIVE RESEARCH PROJECTS INVOLVING TRASFER OR EXCHANGE OF BIOLOGICAL RESOURCES OR INFORMATION RELATING THERETO”.

These guidelines have been prepared to facilitate the implementation of section 5 of the Biological Diversity Act, 2002 relating to Collaborative research projects involving transfer or exchange of biological resources or information relating thereto between institutions including government sponsored institution and such institutions in other countries.

In consideration of the fact that collaborative research projects have been exempted from obtaining approval of the National Biodiversity Authority established under section 8 of Biological Diversity Act, 2002, and that the transfer and exchange of biological resources cannot be ruled out in such projects, these guidelines hither to notified by the Ministry of Environment and Forests in compliance with Section 5 3(a) of Biological Diversity Act, 2002 for such research projects.

To facilitate the transfer and exchange of biological resources as per Sec 5 of the Act an **Expert Committee on Collaborative Research** was established in the second meeting of the authority held on 31-08-2004. In the Third Authority Meeting of NBA, (held on 15-07-2005)

approved the appointment of **Expert Consultant** and the Terms of Reference (TOR) of the working of the Expert Committee. The salient features of TOR include i. Develop guidelines to address research; ii. Develop guidelines for collaborative research amongst government organizations involving foreign institutions or accredited bodies or industries or institutions. iii. Develop guidelines for non-collaborative research for flora and fauna including soils, microorganisms and genetic material and iv. Develop guidelines for sharing of data.

In the Fourth Authority Meeting of NBA, (held on 06-10-2005) approved the formation of Expert Committee with **Dr. Dhillon** Director (Research), Punjab Agricultural University, Ludhiana as it's Chairperson and Nine others as Members. It was also approved to appoint **Dr. Hemal Kanvinde** as the Expert Consultant on Collaborative Research who had applied for the post of "Expert Consultant" through the NBA web advertisement for the post of "Expert Consultant".

The first meeting of the Expert Committee on collaborative Research was held on 07-01-2006 at the Office of NBA, Chennai. In the meeting Section 5 of the Biological Diversity Act, 2002 was discussed at length. Also the following issues were discussed

- (1) Third party transfer
- (2) Importance of traditional knowledge
- (3) Repositories of germplasm / specimen
- (4) Discussion on ICAR draft guidelines on germplasm exchange
- (5) Develop guidelines to address research activities
- (6) Develop guidelines for collaborative research amongst government organizations involving foreign institutions or accredited bodies or industries or institutions.
- (7) Develop guidelines for non-collaborative research for flora and fauna including soils, microorganisms and genetic material
- (8) Develop guidelines for sharing of data

The Second meeting Expert Committee on collaborative Research was held on 07-04-2006 at the Office of NBA, Chennai. The following issues were discussed

- (1) Transgenic research
- (2) Guidelines for special and protected areas
- (3) Guidelines for access
- (4) Guidelines for transfer / exchange of biological material
- (5) Guidelines for transfer of research results

Research organization such as MSSRF, CSIR, KALPAVRIKSH, Dept. of AYUSH, WWF, University of Madras, NBPGR, NBRI, UGC, IISc and CCRAS were contacted for more information on the guidelines used for International Collaboration.

Ministry of Agriculture, Department of Agricultural Research and Education (DARE), New Delhi conducted a brainstorming session on the preparation of Collaborative Research Guidelines for their exchange/transfer of Bioresource under bilateral and multilateral programmes. The DARE Guidelines was discussed and finalized in the "**Advisory Committee on Agro biodiversity**" (on 20.20.2005) a committee constituted by the National Biodiversity Authority, under the chairmanship of **Dr E A Siddiq**, Former DDG, ICAR and 15 other members. After finalization of the DARE Guidelines the same was sent to Ministry of

Environment and Forests, New Delhi for scrutiny and notification through Ministry of Law and justice.

The MoEF, New Delhi in their letter requested the NBA to circulate the DARE Guidelines to the Secretaries of all different Ministries involved in biodiversity research to receive their comments. The DARE guidelines were sent to all Secretaries vide Lr no 8/2/213/2003-NBA(S) dated 22.03.2006 and NBA did not receive any reply. Hence a reminder was also sent mentioning about the urgency of the information required vide Lr No Lr no 8/2/213/2003-NBA(S) dated 04.05.2006. It was also felt by the Ministry of Environment and Forests that at times it creates confusion if different departments like ICAR, DBT, DST, DOD, ICMR etc come forward with their own set of guidelines to deal with same issue which may or may not be in complete harmony with each other. Hence NBA was requested to prepare amalgamated guidelines for all the ministries involved in biodiversity.

On 4th July MoEF, New Delhi conducted a meeting to discuss the finalization of the Collaborative Research Guidelines. In the meeting it was agreed that the Expert Committee constituted by NBA did a thorough job of the Guidelines and felt it is enough for notification. Before notification the Secretary, Ministry of Environment and Forests has sent the guidelines to other Secretaries of various Ministries for their comments and consent.

THE AUTHORITY FOR INFORMATION

9. REPLACEMENT OF CHAIRMAN FOR THE EXPERT COMMITTEE ON NORMALLY TRADED COMMODITIES (NTC)

Dr S. P. Tiwari, Director, NAARM, Hyderabad was appointed as Chairman for the Expert Committee on Normally Traded Committee in accordance with the Section 40 of the Biological Diversity Act, 2002 in the 3rd Authority meeting. He is also Chairman for the evaluation of application on Access, Material Transfer and Transfer of Research Results. Recently he has been promoted as Deputy Director General Education, ICAR, New Delhi. Dr S. P. Tiwari has indicated that he may not be able to chair the Expert Committee on Normally Traded Commodities. Hence, a new Chairman for the EC on NTC is to be appointed. In this connection it is suggested that **Dr J.P. Mishra**, Asst. Dir. General (ESM & CSC), Indian Council of Agriculture Research, Krishi Bhavan, Dr. Rajendra Prasad Road, New Delhi – 110001 may be appointed as chairman of the EC on NTC.

THE AUTHORITY IS REQUESTED TO APPROVE

10. MINUTES OF THE MEETING TAKEN BY SECRETARY, MINISTRY OF ENVIRONMENT & FORESTS, NEW DELHI ON 28.6.2006 TO REVIEW FUNCTIONING OF NBA, CHENNAI

The **Secretary** (E&F) visited NBA office, Chennai on 28.6.2006 to review functioning of Authority. The Secretary was accompanied by JS (DDV) and Additional Director Dr. R.K. Rai. The meeting was attended by **Prof. S. Kannaiyan**, Chairman, NBA and Dr. K. Venkatraman, Secretary, NBA. At the outset, **Prof. S. Kannaiyan**, Chairman, NBA welcomed Secretary (E&F) and the other officers of the Ministry. This was followed by brief power point presentation on achievements of NBA by **Dr. K. Venkataraman**, Secretary, NBA.

During the presentation on achievements, Secretary (E&F) made following interventions and observations on which immediate action is required to be taken:

1. Guidelines by the Expert Committees appointed by NBA :

Secretary advised that the guidelines being prepared by the various Expert Committees appointed by National Biodiversity Authority should be consistent with the National Environment Policy formulated by the Ministry. He suggested that a copy of the National Environment Policy document be provided to all the Members of the Expert Committees appointed by NBA.

Action: Secretary NBA

2. Policy Guidelines on Collaborative Research :

Secretary directed that the policy guidelines drafted by NBA be sent to Ministry of Environment and Forests for obtaining comments from other concerned Departments/Ministries before Notification.

Action: Secretary NBA

3. Permanent Building for NBA:

The Secretary advised to explore the possibility of first acquiring a suitable piece of land in a good location for construction of NBA office Building at the earliest. The budget provision may be made subsequently.

Action: Secretary, NBA

4. Peoples Biodiversity Registers (PBR):

The Secretary suggested involvement of 8000 Eco-clubs funded by the Ministry of Environment in the PBR process. He suggested that teachers of all the schools have to be trained for PBR process by organizations like BSI and ZSI specially in collection, preservation and identification of specimens. The identification of elements of biodiversity has to be validated involving Technical experts.

Action: Secretary NBA

5. Access and Benefit Sharing:

Secretary (E&F) observed that the biological resources are owned by the nation and, therefore, the benefit accruing from the use of these biological resources and their sharing would be decided by the National Biodiversity Authority. The traditional knowledge, on the other hand, are owned by the communities and the benefit sharing for the same will have to be negotiated with the communities / District Biodiversity Management Committees under the general supervision of National Biodiversity Authority. This should be incorporated in the Guidelines being prepared by NBA. In case bioresource is confined to one state, the concerned SBB will regulate and in case the same bioresource is occurring in more than one state then NBA will regulate.

The matter regarding the approval process was also discussed in the meeting. Secretary suggested a flow chart for approval of applications as per **Annexure I**. This may also be incorporated in the guidelines which are under preparation.

Action: Secretary, NBA

6. Notification of Heritage Sites:

Secretary cautioned use of Section 37 relating to Notification of Heritage site and suggested careful formulation of criteria and guidelines to avoid any hardship to stakeholders. Necessary criteria, terms and conditions should be carefully drafted by NBA in consultation with the Central Government.

Action: Secretary NBA

7. Definition of Foreigners and Foreign Institutions:

The question of Foreigners and Indians as per section 3 of the Biodiversity Act and the Bulk resources such as normally traded commodities under Section 40 are to be debated and discussed. JS (DDV) suggested convening a meeting of experts to discuss the issues involved.

Action: Addl. Director, MOEF, New Delhi

8. Structure of the Authority :

Secretary suggested that while reconstituting the Authority, it may be ensured that following disciplines are represented by one member in each discipline: Flora, Fauna, Microbiology, Environmental Economics Environmental Law and IPR.

Action: Secretary NBA

9. Organisational Chart:

Secretary suggested Organizational chart of the Authority as per Annexure II He suggested for appointing Advisor Law at Senior Level and 4 Technical Officers representing areas like IPR and TK, Flora, Fauna and Micro biology. The scientific officer should be covered under Flexible Complimenting Scheme.

Action: Secretary NBA

10. E-governance

Secretary suggested for submission of a proposal for financial support under E Governance to **Ms Veena Upadhyaya**, J. S. MoEF, New Delhi and invite E Governance Expert for opinion so that NBA moves in this direction in desired manner.

Action: Secretary NBA

The meeting ended with a vote of thanks by the Chairman, NBA to the Secretary **Dr Prodipto Ghosh**, Joint Secretary **Shri D.D. Verma** and Addl. Director **Dr R. K. Rai** from Ministry of Environment and Forests, New Delhi,