

NATIONAL BIODIVERSITY AUTHORITY

AGENDA FOR THE SEVENTH MEETING



सत्यमेव जयते

20th JULY, 2006

**475, 9th SOUTH CROSS STREET
KAPALEESWAR NAGAR
NEELANKARAI, CHENNAI 600 041
www.nbaindia.org**

**SEVENTH MEETING OF NATIONAL BIODIVERSITY
AUTHORITY**

**20th JULY 2006
CHENNAI**

**PROGRAMME
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- 1. Welcome Address and Major Achievements of NBA:**
- 2. Confirmation of Minutes of 6th Meeting:**
- 3. Action Taken Report on Minutes of the 6th Meeting**
- 4. Administrative Matters of NBA**
- 5. Vote of thanks**

**CHAIRMAN
SECRETARY
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SECRETARY**

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**SEVENTH MEETING OF
NATIONAL BIODIVERSITY AUTHORITY
Chennai**

**A. MAJOR ACTIVITIES OF NBA
APRIL – JULY 2006**

Meetings Conducted by NBA

1. **“Interactive Workshop on State Biodiversity Board and Review Meeting”** organized by National Biodiversity Authority held on 27th & 28th April, 2006 at Gokul Hall, Hotel Krishna Residency, Chennai.
2. Third Meeting for **“Expert Committee on Threatened, Endangered and Endemic Species”** organized by National Biodiversity Authority held on 29th April, 2006 at Conference Hall of National Biodiversity Authority, Chennai.
3. **“Expert Committee Meeting on Access and Benefit Sharing and Material Transfer”** organized by National Biodiversity Authority held on 12th June, 2006 at Conference Hall of National Biodiversity Authority, Chennai.
4. **“Expert Committee Meeting to Evaluate the Access, Patent, Transfer of Research Results and Material Transfer Application”** held on 20th June, 2006 at Conference Hall of National Biodiversity Authority, Chennai.
5. **“National Workshop on People’s Biodiversity Register”** organized by National Biodiversity Authority held on 22nd & 23rd June, 2006 at Conference Hall, Institute of Ocean Management, Anna University, Chennai.
6. Third Meeting on **“Expert Group on Database on Biodiversity and Traditional Knowledge”** held on 23rd June, 2006 at Conference Hall, Institute of Ocean Management, Anna University, Chennai.
7. **“Review of functions of National Biodiversity Authority”** Review meeting conducted by the Secretary, Ministry of Environment and Forests, New Delhi on 28.06.2006, NBA Conference Hall, Chennai.

B. CONFIRMATION OF MINUTES OF THE 6th MEETING OF NBA

The minutes of the 6th Authority meeting was sent to all the members by speed post vide Lr No 8/2/213/2003-NBA (S) dated 15.5.2006. So far the NBA office has not received any comments.

C. ACTION TAKEN ON THE MINUTES OF THE 6th MEETING

Following are the ACTION TAKEN ON specific comments made by Members:

1. Comments by Mr. DD Verma: On approval by NBA on GM Crops:

Action: A copy of the approval letter by NBA was sent to GEAC was forwarded to Joint Secretary, MoEF, New Delhi

2. Comments by Dr A K Ghosh: Correction to be made on the 16th and 17th Application Forms not featured in the Agenda.

Action: The applications recommended for approval by the committee was featured in the agenda and not incorporated in the minutes of 5th meeting due to some manual error. However this is now included in the Minutes of 5th Authority meeting.

Comments by Mr. DD Verma:

1. Expert Committee on Normally Traded Commodity

Action: Letters were sent to various organizations to collect information on different NTC. A meeting is planned to be conducted during the beginning of the August 2006.

Also a letter was written to Prof. **Dr Anil Gupta**, IIM, Ahmedabad and **Dr J.P. Mishra**, ADG, ICAR, New Delhi to get additional informations.

2. Expert committee on Access, Benefit sharing and Material Transfer:

The first meeting was organized on 12th June and **Mr. Yogesh Gokle** of TERI was appointed as Expert Consultant.

Comments by Dr Anil Gupta: Ethical Guidelines:

Action: A letter requesting the ethical guidelines to be added in the guidelines of collaborative research was written to Prof Anil Gupta.

Comments by Shri DD Verma, JS, MoEF, New Delhi :

Minutes of the Meeting on Expert Committee on Collaborative Research Projects conducted on 7th Jan 2006
Guiding Principles:

Action: Page 157 of the Agenda – the first sentence changed as -The National Biodiversity Authority abides by all relevant National laws concerned with management of biological diversity.

Comments by Shri DD Verma, JS, MoEF, New Delhi:

Meeting on Finalization of Agreements on 17th Jan 2006:

Action: To finalize 5 agreements prepared by NBA a meeting was organized at MoEF on 4th July.

Action Taken on the Agenda for the 6th Authority Meeting

1. Budget Estimates for the year 2006-2007:

Action: A total of Rs 342 lakhs (Rs 192 (same as on 2005-2006) + 100 lakhs more for State Biodiversity Boards and Rs 50 lakhs for Projects to be initiated by State Biodiversity Boards) was proposed with justification to Ministry of Environment Forests.

NBA should also provide Budget proposal for Land and Building as a separate item.

2. Pay Fixation of Dr K Venkataraman.

The approval of pay fixation of **Dr K Venkataraman** for the period he has worked has been sent to DOPT.

3. Setting up of India Herbal Garden at World Health Organisation Head Quarters, Geneva:

NBA has written letter to NBPGR, New Delhi, IARI, New Delhi and Botanical Survey of India, Kolkata for their opinion and consultation and received their comments. The comments were put up to the Evaluation committee on Access to Bioresource.

4. Comments of Prof Anil Gupta, Member of National Biodiversity Authority

Point No 5. The Note submitted by **Shri Asish Kothati** to be placed before the authority in the next meeting.

Action: This is being placed as an agenda for discussion in the 7th Authority meeting.

5. Report of the Committee on Jatropha Germplasm at Indira Gandhi Agricultural University, Raipur.

The Authority members after going through the Report of the Committee constituted by NBA informed that NBA should issue a notice to 1. The Scientist Involved with a copy to the State biodiversity Board and 2. D1 Oil Company:

Action: The Legal Consultant of NBA informed that notice cannot be issued at this time since the final report of the committee is still awaited.

D. AGENDA FOR THE 7th AUTHORITY MEETING

1. APPROVAL OF APPLICATIONS RECEIVED BY THE AUTHORITY

There are 12 applications received from various applicants by NBA. One applicant has not paid the fee before the date of the meeting and hence 11 applications were taken for evaluation.

The following are the details of the applications received (Original applications kindly see in Appendix 2)

Applications:

- a. Hair and Blood Samples of Indian Wild Asses (Khur)
- b. Transfer of imported *vip3A* gene from *Baaccillus thuringiensis* to Cotton and these were multiplied and utilized for making various crosses. Vip3A gene is resistant to lepidopteron insect pests
- c. To collect and analyze two Indian *Oryzias* species, *O. carnaticus* and *O. dancena* for the possible presence of Major Histocompatibility Complex (MHC) lineages to elucidate evolution and polymorphism of the Vertebrate MHC – Mammalian MHC
- d. Providing the technology, plants, machinery and expertise in growing the feedstock and converting the vegetable oil into biodiesel
- e. Internship Study on MSSRF's methods to preserve India's Biodiversity traditional knowledge and also studying sustainable agriculture and their community based biodiversity projects
- f. Study and Research on Gaur of the Nilgiris
- g. Water detoxication by using Coconut Coir Extract
- h. Water detoxication by using Bacha (*Acorus calamus rhizomes* Extract)
- i. Water detoxication by using Syzygium cumini seed Extract
- j. Export of plants for setting up of India Herbal Garden at WHO HQ, Geneva
- k. Germ Plasm exchange by ICAR on Bilateral/multilateral collaboration
 - a. With reference to the letter No.4-2/2004-IC-II dated 20th May, 2006 Rajeev Kumar Jain, Deputy Secretary (IC), Department of Agricultural Research and Education, Ministry of Agriculture, New Delhi has informed that a set for screening of advance generation material of Indian origin in Kenya for the purpose of breeding of resistant variety is scheduled. It is, therefore, imperative to send Indian wheat genotypes to Kenya through CIMMYT/Global Rust Initiative. Advance material of 102 varieties (As per list enclosed) is being exported to Kenya with the approval of Secretary (DARE) for screening and developing resistant varieties against new virulence Ug 99 of stem rust.

- b. With reference to the letter No.4/2/2002-IC-II dated 23rd May, 2006 Rajeev Kumar Jain, Deputy Secretary (IC), Department of Agricultural Research and Education, Ministry of Agriculture, New Delhi has informed to send 19 more wheat varieties (list enclosed) to CIMMYT, Mexico for screening against the Ug 99 of stem rust under the collaborative project.
- c. With reference to the letter No.F.4-1/2000 – IC.II dated 3rd May, 2006 D.K. Chhatwal, Under Secretary to the Govt. of India, Department of Agricultural Research & Education, Ministry of Agriculture, New Delhi has directed that the supply of the required germplasm seed planting material to the authorities concerned may be referred to National Biodiversity Authority for their approval.

A meeting to evaluate the above applications by the NBA approved committee headed by **Dr SP Tiwari**, Director, NAARM on 20.6.2006 and the minutes of the meeting is as follows:

Minutes of the Meeting to Evaluate the Access, Patent, Transfer of Research Results and Material Transfer Applications.

Date 20.06.2006

Venue: NBA Conference Hall, Chennai.

The Chairman, NBA welcomed the Chairman Dr S. P. Tiwari, NAARM, Hyderabad and other members of the committee to evaluate the applications received by the NBA office. A total of 12 applications were taken up for evaluation except the application of **Dr Thorsten Lumbsch (Serial number 11 of the agenda; File No 9/84/2006/Tecl. Dt. 22.05.2006)** who has sent the money through mail transfer which was not received by NBA.

The following are the comments made by the committee:

App. No.1: Ms. Rikako Kimura Ph. D: To analyze karyo types and Satellite DNA of Indian Wild Asses and also compare to Hybrids.

Comments: A letter has to be written to the **Director, CCMB, Hyderabad** to verify whether any MOU/Agreement has been made with the applicant to do research on Wild ass.

App. No. 2 : Dr. Faujdar Singh: Transfer of imported *vip3A gene* from *Baaccillus thuringiensis* to cotton and these were multiplied and utilized for making various crosses. *vip3A gene* is resistant to Lepidopteron insect pests

Comments: The application is recommended for approval. Also a verification letter has to be sent to Syngenta whether any Indian seed material of public

variety is present in the Syngenta proprietary line. In which case, benefit sharing with India will be mandatory according to the guidelines which are being developed by the NBA and the comments received from Syngenta is to be sent to GEAC, MoEF, New Delhi.

App. No. 3: Prof. Masaru Nonaka: To collect and analyse two Indian *Oryzias* species, *O.carnaticus* and *O.dancena* for the possible presence of Major Histocompatibility complex (MHC) lineages to elucidate evolution and polymorphism of the vertebrate MHC – Mammalian MHC

Comments: The following points are to be clarified from the applicant: 1. whether the biological resource will be experimented in India or abroad, 2. the exact geographical location of the genetic material to be collected.

Also a concurrence letter of the Director ICMR is necessary in this case as to whether MoU has been signed with the applicant or not as well as IPR concerns if any.

App. No. 4: D1 Oils India Ltd: Providing the technology, plants, machinery and expertise in growing the feedstock and converting the vegetable oil into bio-diesel to the standard stipulated by the European Union

Comments: The application is recommended for approval. The samples of collection to be deposited at NBPGR by the D1 oil Company and IC numbers (Indigenous Collection) to be given. Specific data regarding the seeds collection such as 1) The oil content 2) The fatty acid composition and 3) The geographical location of occurrence of the seeds need to be shared with NBPGR. Benefit sharing must be done as per the guidelines given by the NBA. An agreement is to be signed by the applicant.

App. No. 5: Ms. Emily Rebecca Ladlow: Internship study on MSSRF's methods to preserve India's Biodiversity, traditional knowledge and also studying sustainable agriculture and their community based biodiversity projects at MSSRF Project centre, Wayanad, Kerala

Comments: The application is recommended for approval. The applicant must submit regular reports both to MSSRF and NBA. Since the application is treated as biosurvey, a tripartite agreement must be made between the applicant, MSSRF and NBA.

App. No. 6: Mr. Farshid Ahresrani: Study and Research on Gaur

Comments: The application is recommended for approval. The Tamil Nadu Chief Wildlife Warden of Forest must be informed about the approval of NBA.

App. No. 7, 8, 9: Vasundhara: Water detoxication by using Coconut, Water detoxication by using Bacha (*Acorus calamus*) rhizomes Extract, Water detoxication by using *Syzygium cumini* seed Extract.

Comments: The applications are recommended for approval. Benefit sharing arrangement has to be made according to the guidelines given by the NBA.

App. No.10: National Botanical Research Institute: Export of plants for setting up of India Herbal Garden at WHO HQ, Geneva

Comments: The application is not recommended for approval. The prior art of the 18 plants which are to be exported is to be registered first with the NBPGR then the application may be resubmitted to NBA giving details such as characterization and genetic variability, and after registration with IC No. it should be deposited in Gene bank

App. No 11: Dr. H. Thorsten Lumbsch: Diversity of *Thelotrema* in the Indian Sub Continents to understand the evaluation of the family

Comments: Application fee not received hence not taken for discussion. A letter has to be written to the applicant to remind for application fee.

App. No 12: ICAR: Indian Wheat Genotypes

Comments: In view of the exigency emerging out of UG 99 against new virulence of Stem Rust and also the International commitment to the Global Rust Initiative and in view of the National and International Public goods Nature of the material the above application is recommended for approval.

In view of the collaborative research between the Government of India and other nations and in view of getting some valuable germ plasm, the genetic exchange such as that of mango, sunflower and coconut from India may be approved. The committee recommends that the ICAR will take care of the IPR and benefit sharing arrangement.

Application No 13: Application form of Dr N Fadnavis Indian Institute of Chemical Technology, Hyderabad.

This application was evaluated 29.12.2006 by the approved Committee headed by Dr SP Tiwari, and the same was put up to the 5th authority meeting held at Port Blair for approval. Due to want of some information a letter was written to DST and the DST (CSIR) confirmed that the project meets the CSIR guidelines and has CSIR's approval.

The particulars of the NBA approved project are as follows:

1. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No: F. No. 9-66/2005

Particulars of Charges: Rs 5,000/= Paid Draft No 178097 dated 21.12.2005

**Biotransformation Laboratory, Indian
Institute of Chemical Technology,
Tarnaka, Hyderabad – 500 007.**

COMMENTS: The Committee recommended the proposal in principle. However, the authority be ensured and check with DST that the transfer is under robust MTA and IPRs are properly ensured with the counter part

The authority is requested to approve

2. APPROVAL OF METHODOLOGY FOR PEOPLE'S BIODIVERSITY REGISTER

To finalise the methodology manual on Peoples' Biodiversity Register, a National Workshop was organized by NBA on 22nd and 23rd June. A total of 50 participants were invited to discuss and present their views on the Methodology Manual prepared by **Prof Madhav Gadgil** and others.

In this National Workshop **Prof. S. Kannaiyan**, Chairman, NBA gave the welcome address and Introductory remarks about the importance of PBR implementation in accordance to the Biodiversity Act 2002 followed by Dr K Venkataraman gave a presentation on the Biodiversity Act, 2002, National Biodiversity Authority, State biodiversity Board and Biodiversity Management Committees and Peoples Biodiversity Register.

Prof. Madhav Gadgil gave a detailed presentation On Peoples Biodiversity Register Methodology and Database. There were also presentations on the "Experiences of ecological Monitoring involving Schools, Database Management, Deccan Development Society experiences, National Innovation Foundation experience as well as presentations by different State Biodiversity Boards such as Kerala, Madhya Pradesh, Karnataka, Goa, Sikkim, West Bengal and Punjab. During the concluding remarks the following recommendations were emerged

**NATIONAL WORKSHOP ON PEOPLE'S BIODIVERSITY REGISTER
NATIONAL BIODIVERSITY AUTHORITY, Chennai
22-23, June, 2006**

RECOMMENDATIONS

The version of the PBR methodology as well as the PeBINFO database presented at the Workshop may be accepted as the starting point for initiating countrywide PBR exercises. It is noted that the methodology and database are so designed as to permit

adaptation to local context, including, either simplification or further elaboration. It is also noted that if such adaptation results in some heterogeneity in the databases developed in different states, or even at the level of different districts, it would be possible to effectively link them into a countrywide confederated Information System.

With this understanding the NBA may establish an Advisory Group to promote the following set of activities:

1. Organization of an Indian Biodiversity Information System (IBIS), incorporating People's Biodiversity Register Information System (PeBINFO)
2. Creating web-compatible, free, open source software versions of People's Biodiversity Register Information System (PeBINFO).
3. Preparing more user-friendly versions of People's Biodiversity Register Methodology Manual for implementation at BMC level.
4. Establishment of Technical Support Groups, involving taxonomists, as well as ecologists, biostatisticians and computer scientists to support the PBR activities at national, state and district levels.
5. Development of educational resource material to support student activities.
6. Preparation of countrywide inventory of focal issues on biodiversity.
7. Preparation of countrywide inventory of focal species and habitats of local interest, local and scientific names.
8. Finalizing a system of management of confidential information.
9. Preparation of resource material, including interactive identification keys for countrywide set of focal species and landscape and waterscape element types.
10. Preparation of resource material to promote sustainable harvests, storage, preliminary processing, local value addition and efficient marketing of biodiversity resources
11. Disseminating resource material and organizing training programmes and field trials.

The Final Recommendations of National Workshop of on Peoples' Biodiversity Register is awaited.

The authority for information

3. Expert Committee on Access and Benefit sharing meeting outcome.

First meeting of the Expert committee on Access and Benefit sharing was held on 12th June 2006 under the chairmanship of **Dr P. Pushpangadan** and 12 members at NBA conference hall. The process of preparation of the guidelines on the Access of bioresources, material transfer and benefit sharing was discussed at length and the following recommendations were submitted to NBA.

Minutes of First Meeting of Expert Committee on Access and Benefit Sharing

Date – 12th June 2006; Venue – NBA, Conference Hall

The meeting was initiated by **Dr. Kannaiyan**, Chairman, NBA. He explained the task in front of the Expert Committee on Access and Benefit Sharing (ABS) of Biological Diversity.

It was followed by the briefing of **Dr. P. Pushpangadan**, Chairman on the Expert Committee on ABS. He elaborated the chronological evolution of issues with respect to various international conventions and agreements in connection to the ABS of biological resources such as Convention on Biological Diversity, World Intellectual Property Organization, World Trade Organization and Trade related Intellectual Property Rights. Along with this he mentioned about the international transaction of genetic resources through the processes such as International Treaty on Plant Genetic Resources (ITPGR) and Botanic Garden Conservation International where 1900 botanical gardens world over are part of the mechanism.

He also mentioned that the guidelines for ABS should not halt the research as has happened in case of Philippines. He referred to the Prior Informed Consent form prepared by Tropical Botanical Research Garden (TBGRI) for the documentation of food and medicine.

Dr. R. K. Gupta mentioned about the need of incentives to the inventors as a part of ABS mechanism. He specified that only 3% patents are ever put to any use and hence suggested for a careful but not technically stringent mechanism approach. He referred to the higher investment required for animal testing, IPR protection, etc. In India such cost require about Rs. 100,000 per every patent application. He also raised the issue of new knowledge derived from the biological material without any cue from traditional practices as an important aspect for the ABS. He suggested standardized fees for access and mentioned the need to decide the community's share from the royalty. He felt the need of defining commonly available commodities and also mentioned the need to differentiate between tradable commodities as product and produce (which can be regenerated).

Ad. Yeshwanth Shenoy mentioned about need of information about biological material, which is getting imported into the country. He also mentioned the need of deriving the formula for calculating the profits, benefit sharing. He raised concerns about the need of having extensive awareness programmes about ABS at the grass roots levels. He also talked about the value of information to be used as prior art.

Dr. J. P. Sharma expressed the need to define the public domain may be in form such as Published literature, Library source, Accessant, etc. He also mentioned the need of evaluating the resources, profits, etc. using the economic theories such as opportunity costs.

Dr. Gokhale made a PowerPoint presentation on the mandate of the committee. He highlighted the international scenario such as need to harmonize between WTO, TRIPs and CBD. He also emphasized the India's position in CBD regarding ABS. He pointed out the need to harmonize the Indian Patent Act in connection to the provisions in the Biological Diversity Act, 2002.

The discussion followed by the presentations of all the members highlighted the need of differentiating between the herbal drugs and molecular products and drugs. It was also discussed about the experiences of PIC forms from NIF and TBGRI.

The Committee has started the work on framing the ABS Guidelines by considering the latest Decisions on ABS in COP-8 as the basis and work has begun to harmonize the COP-8 decisions in connection to the Biological Diversity Act, 2002 of India and emerging requirements for ABS.

Important decisions –

- 1) First draft of the guidelines will be circulated to the members of the committee by 20th July 2006.**
- 2) Members will be meeting in Chennai on 3rd and 4th August to work on the first draft.**
- 3) The Expert consultant will circulate some of the important literature prepared in connection to the ABS such as guidelines of the collaborative research committee, various agreements prepared.**
- 4) The academic literature produced by the eminent scholars and the organizations also will be circulated. In this connection reference was mainly made to chapters 6,8,9,21 and 22 of the publication – Perspectives on Biodiversity – A Vision for Mega diverse Countries published by MoEF.**

The meeting was concluded after showing the short film produced by the TBGRI on the documentation and community involvement in the conservation of traditional knowledge in Kerala.

The Authority for Information

4. EXPERT COMMITTEE TO PREPARE GUIDELINES ON ESTABLISHMENT OF HERITAGE SITES.

As per Section 37 of the Biodiversity Act, 2002, Heritage sites are to be notified by the State Government. In this connection criteria and guidelines are to be prepared by an Expert Committee approved by the Authority. The Expert Committee may consist of a Chairman and 6-10 members drawn from various fields suitable to the committee to give inputs.

The Authority is requested to approve

5. COMMITTEE TO APPROVE ANNUAL ACCOUNTS OF NBA

The Senior Audit Officer (OAD) of Indian Audit and Accounts Department office of the Principal Director of Audit, Scientific Departments, Chennai sub Office, vide letter No MDS/OA/I (32)/366 dated 16.6.2006 suggested that annual accounts prepared in common format specified for the purpose may be submitted to authority and Authority's specific approval to the effect that "ANNUAL ACCOUNTS APPROVED" may be obtained for the year 2005-2006 and in future. Further, the comptroller and Audit General of India while approving entrustment of Audit to Principal Director of Audit Scientific Departments, requested to incorporate a suitable provision to the effect that "the annual accounts of NBA shall be approved by a committee constituted for the purpose before submission of the same to the CAG for audit" in the Act/Rules. Hence the Annual accounts for 2005-2006 may be got approved by a committee constituted for the purpose by the Authority and a copy of duly approved accounts for the year 2005-06 may kindly be forwarded to this office to make arrangements for taking up audit for the year 2005-06.

Hence the Authority is requested to formulate a committee to approve the annual accounts of NBA.

The Authority is requested to approve

6. EXPERT COMMITTEE ON DATABASE (INDIAN BIODIVERSITY INFORMATION SYSTEM)

The third meeting of Expert Committee on Database was held on 23.06.2006 under the Chairmanship of **Prof. Madhav Gadgil**. The meeting was attended by the Chairman, NBA, Secretary NBA and Chairman of the Committee and 10 members. The point of discussion of the meeting was on Indian Biodiversity Information System (IBIS).

Expert Committee on Database on Biodiversity and Traditional Knowledge

Date: 23.06.2006; **Time:** 2.00 pm – 5.00 pm; **Venue:** IOM, Anna University, Chennai
Scope, Modalities, Implementation and Framework of the proposed IBIS

Dr. Vishwas Chavan from the National Chemical Laboratory, Bioinformatics Centre, presented the concept paper wherein he expounded the scope, structural framework, governance and other requisites for the IBIS to function efficiently. He stated that the IBIS was concerned with bringing in new data and interlinking it with already existing resources. The highlights of his presentation are given below:

IBIS VISION STATEMENT

“IBIS will contribute towards economic growth, ecological sustainability, and social outcomes through increasing the utility, availability and completeness of new and existing biodiversity and ecosystem information resources.”

The **Indian Biodiversity Information System (IBIS)** will be an interoperable network of biodiversity databases, information networks and systems, traditional knowledge, peoples biodiversity registers, and information technology tools that will enable users to navigate and put to use the nation’s vast quantities of biodiversity and ecosystem information to produce national economic, environmental, and social benefits. Thus, IBIS would be an overarching information facility, which would leverage on progress made so far by the various information systems, networks and databases spearheaded by various individuals, institutions and groups within and outside India.

The purpose of establishing IBIS is to design, implement, coordinate, and promote the compilation, linking, standardization, digitization, and nation wide dissemination of the nation’s biodiversity and ecosystem data within an appropriate framework for property rights and due attribution. The IBIS should be designed to work in close co-operation with established national, regional, and global programs and organizations that compile, maintain, and use biological resources. These collaborative and coordinated efforts will established and support a distributed information system that will enable users to access and utilize vast quantities of new and existing biodiversity and ecosystem information to generate new knowledge, wealth and ecological sustainability.

IBIS will:

- Be a distributed facility, while encouraging co-operation and coherence;
- Be national in scale, though implemented by various national, state, district, village level, and thematic players (agencies, institutions, individuals, communities);
- Be open to participation by individuals, communities, agencies, institutions, from all walks of life, and offering potential benefits to entire nation and its constituents;
- Help bridge human language barriers by promoting standards and software tools designed to facilitate their adoption into multiple languages, character sets, and computer encoding;
- Serve to disseminate technological capacity by drawing on and making available scientific, technical, and social information; and

- While aiming to make biodiversity information openly, and freely available, will facilitate credit to its contributors, respect and fulfill national aspirations such as intellectual property rights, economic wealth, bio-security, and social wellbeing.

IBIS OBJECTIVES (Operational):

IBIS will work closely with other providers of biodiversity information. It will have the characteristics of a large, distributed public domain databases with a number of interlinked and interoperable modules (databases, software, and networking tools, search engines, analytical algorithms, etc.) that will enable users to navigate and put to use the nation's vast quantities of biodiversity and ecosystem information.

A major goal of IBIS is to provide inter-operability amongst biodiversity and ecosystem databases and other associated datasets (such as sequence, weather, climate, economic, traditional knowledge).

IBIS will be established as free-standing national organization supported directly by the Planning Commission to fulfill the obligations spelt in Biodiversity Act 2002, and advised by National Biodiversity Authority, its Board of Consortium (BoC), Science Council and its sub-committees. It will be by a small secretariat that will work nationally to coordinate national, regional, local efforts and bring focus to its organization and its activities.

IBIS WORK PROGRAMS:

IBIS will do for biodiversity and ecosystem information what the printing press did for the sharing of recorded information during the Renaissance – it will make recorded knowledge the common property (within the framework of national aspirations and concerns) of everyone, in national context. Even better, IBIS will do it electronically, so the resources will be dynamic, interactive, and ever evolving. Within five years, we dream IBIS portal will be the most-used gateway to Indian biodiversity and other national biological data on the Internet. In order to achieve ambitious looking milestones as detailed in preceding section, it is felt that in initial phase of 5 years following nine “works programs” needs to be planned and implemented.

1. Data Access and Data Interoperability (DADI)
2. Registry of Known Organisms and Species Bank (ECAT)
3. Peoples Biodiversity Register (PBR)
4. Traditional Knowledge Repository (TKR)
5. Digitization – Specimens, Literature Bank, Archival and Rescue of orphaned data sets (DIGIT)
6. Nodes (Data and Participants) Development
7. Multilingual Data Acquisition, Synthesis, and Dissemination (LINGUAL)
8. Data Use, Data Applications and DSS Development (DATA & DSS)
9. Outreach, Capacity Building and IPR (OCB)
10. Information and Communication Technology Implementation (ICTI)

The purpose of these “work programs” is

- (a) To facilitate the full use of biodiversity and other databases by establishing an information architecture that enables interoperability and facilitate data-mining;
- (b) To facilitate the expansion of biodiversity knowledge by having legacy and newly acquired data digitized and dynamically accessible;
- (c) To make integrated and multi-lingual searching possible, as well as to facilitate the exploration and rapid expansion of biodiversity knowledge;
- (d) To bridge biodiversity information technology “digital divide”, “content divide” and “knowledge divide” through training and capacity building, targeted seed funding opportunities ensuring that people in every “nook n corner” of the country have access to, and can easily contribute to this knowledge building endeavor; e) to provide, in real time, a complete compendium of knowledge about Indian biodiversity, its biotic resources, their environs, its uses, and sustainable management, etc., drawn from distributed information sources. Each of the above work program would led by the Program Officer, except the last one i.e. Information and Communication Technology Implementation (ICTI), which would be articulated and implemented by the Deputy Director (Informatics). ICTI needs to be conceptualized, evolved and implemented by an information technology expert considering needs as well technologies available, through seamless interactions with all Program Officers, members of BoC, Data Providers and Nodes.

IBIS’s strategy should be 1) focus on mission and specific goals, 2) inclusiveness in the manner in which it would advice, 3) openness in data sharing and software development, 4) cost-effective partnerships, and 5) adherence to basic principles as listed in the interoperability document. If, adopted and meticulously implemented, IBIF has the potential to advance by orders of magnitude our national ability to exploit the Web’s power, giving society true, nationwide, manipulability biodiversity information-at-our-fingertips that will contribute to scientific innovation, and progress and towards a sustainable society.

MAJOR MILESTONES AND PERFORMANCE INDICATORS

For better understanding the major milestones and performance indicators of IBIS have been grouped into three categories viz., Content, Informatics and Participation. At this moment indicative milestones for first phase of 5 years are detailed below.

IMPLEMENTATION

Successful implementation of such an Indian Biodiversity Information Facility (IBIS) would require four key components:

- (a) The institutional framework that defines the policy and administrative arrangements, dealing with issues such as organizational roles and

- responsibilities, custodianship, pricing, licensing conditions, confidentiality, intellectual property, education and training.
- (b) The technical standards to ensure consistency in the characteristics of the datasets;
 - (c) The fundamental datasets that will be made accessible; and
 - (d) The clearinghouse network, which is the means by which the fundamental datasets are made accessible to the community

In following sections author discuss IBIS implementation in two parallel and coordinating, yet interconnected procedures, viz. governance and technical implementation.

TECHNICAL IMPLEMENTATION

As argued in the interoperability framework document IBIS would be based on web services architecture (Chavan and Krishnan, 2006), as it would develop interoperable and collaborative framework for connecting distributed and heterogeneous biodiversity, bioresources, ecosystem and other associated databases together. This means that there are distributed data providers, a central registry of them, and a central portal to access the data, thematic, regional portal, and multilingual portals to access theme and region specific data, in various languages, all communicating using standardized XML messages.

The Authority for Information

7. AUDIT REPORT - YEAR 2003-2004; 2004- 2005

LOCAL AUDIT REPORT ON THE ACCOUNTS OF NATIONAL BIODIVERSITY AUTHORITY, CHENNAI FOR THE YEAR 2003 – 2004 AND 2004 – 2005

Name of the Organization	National Biodiversity Authority, Chennai
Name of the head of the organization	Prof S.Kannaiyan, Chairman
Name of the members of audit party	Shri M.Paranthaman, Audit Officer, Shri B.Venkat Raju, Sr.Ar. (from 16.12.05 to 22.12.05) Shri P.Raju, Ar.
Period of Audit	2003 – 2004 & 2004 - 2005
Date of Audit	9.12.05 to 22.12.05 (10 working days)

PART - I

a). Introduction:

The main objectives of the Biological Diversity convention are conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of utilization of genetic resources. Taking cognizance of the provisions of the CBD, India has enacted an umbrella legislation called the Biological Diversity Act, 2002 and also notified the Biological Diversity Rules 2004.

In pursuance of section 8 of Biological Diversity Act, the National Biodiversity Authority (NBA) was established at Chennai in July 2003. The budget and expenditure for the authority is given below.

Year	Budget allocation (Rs.in lakhs)	Expenditure (Rs. In lakhs)	Surplus (Rs.in lakhs)
2003 - 04	80.00	9.18	70.82
2004 - 05	70.82	69.28	1.54

The accounts and transactions of NBA are audited by the staff of the Principal Director of Audit, Scientific Departments, Sub-Office, Chennai and observations made thereon are brought out below.

PART II: Current Audit.

During Current accounts for the period from the date of inception i.e., July 2003 to March 2005 were test checked besides conducting a general review of cash transactions till the date of audit. Important points of observations are enumerated in this part.

1. Annual Accounts.

The accounts prepared by NBA are not in conformity with the format prescribed by C&AG. Further, the format in which accounts for the year 2003-04 and 2004-05 prepared by NBA was different from the common format and schedules required to be enclosed as per common format were not enclosed.

The common format may be adopted for preparation of accounts in future.

- i) The NBA did not maintain Subsidiary records like ledger etc., and NBA also did not prepare Trial Balance.

These omissions may be complied with in future.

- ii) A consolidated assets register required to be maintained was not maintained for the assets in possession of the Authority.

The assets register may be maintained to enable verification of figures indicated in the Balance Sheet.

- iii) Authority also did not depict plan and non-plan separately in the accounts. If depiction of plan and non-plan receipts and expenditure are not possible in accounts a separate schedule for the bifurcation for revenue and capital and plan and non-plan items is to be enclosed. Such schedule, however was not enclosed in Annual Accounts.

2. Non-receipt of statement of Expenditure and audited utilization Certificate.

As against an amount of Rs.10 lakh each released to Karnataka and Madhya Pradesh and Rs.5 lakh each to Goa, Punjab and West Bengal during 2004-05, utilization certificates were received from Karnataka and Madhya Pradesh only. Other three states did not furnish the Utilisation Certificates.

Swatha S. Chai
SR. AUDIT OFFICER (OAD)
7/2/06

The Authority for Information

8. APPROVAL OF ANNUAL REPORT FOR THE YEAR 2005-2006

The draft Annual Report for the year 2005-2006 (Annexed separately) is submitted to the Authority for approval.

The Authority is requested to Approve

9. APPROVAL OF EXPENDITURE STATEMENT FOR THE YEAR 2005-2006

FORM II
(See rule 4)

National Biodiversity Authority
Receipts and Payments for the year ended 31st March, 2006

Previous Year (1)	Receipts (2)	Previous year (3)	Payments (4)
2004 - 2005	72,31,363	2004 - 2005	69,27,865

Opening Balance I. Grants received a. From Government Rs.1,28,03,498/- b. From other agencies Nil	1. Capital Expenditure (i) Works..... Nil (ii) Fixed Assets..... Nil (iii) Other Assets Nil
II Fees Rs.9768/-	a. Laboratory Equipment Nil b. Vehicles Nil c. Furnitures and Fixtures Rs.4,38,086/- d. Scientific Instruments and Office Appliances and repairs Rs.8,14,361/- e. Tools and Plant Nil
III. Fines and Forfeitures Nil	2. Revenue Expenditure..... (A) Administrative
IV. Interest of investments Rs. 30,589/-	(i) Pay of Officers Rs.2,52,145/- (ii) Pay of Establishment Nil
V. Miscellaneous Receipts Rs. 1,50,000/-	(ii) Allowances and Honoraria Rs.2,02,861/- (iii) Leave Salary and Pension Contribution
VI. Miscellaneous Advances Nil	(iii) Contingent Expenditure Rs. 80,19,193/-
VII. Deposits (Short Term Deposit) Rs.10,00,000/-	Deduct Recoveries.....

	(B) (i) Board Laboratory Nil (ii) Charges to be plaid to the National Biodiversity Authority Nil (C) Running and Maintenance of Vehicles..... Nil (D) Maintenance and Repairs Nil (i) Building and land Drainage including rents, if any Rs.7,59,495/- (ii) Works Nil (iii)Furnitures and FixturesNil (iv)Scientific Instruments and Office Appliance and repairs Nil (v) Tools and Plants Nil (vi) Temporary Works (including maintenance and repairs)Nil (E) Fees to Consultants and Specialists Rs.2,25,780/- (F) Law chargesNil (G) Miscellaneous (Grant-in-aid to SBB) Rs.30,00,000/- (H) Fees for Audit Nil 3. Purchases Nil 4.Miscellaneous Rs. 1,71,978/- NBA Fund a/c Rs.70,268/- 5.Advances 6.Deposits Rs. 3,000/-
	Closing Balance Rs. 36,688/-
Total Rs. 1,39,93,855/-	Total Rs. 1,39,93,855/-

Secretary

Chairman

FORM III
(See rule 4)

National Biodiversity Authority
ANNUAL STATEMENT OF ACCOUNT
Income and Expenditure Account for the year, ended 31st March, 2006

Previous year	Expenditure Details	Total of Sub-head	Total of major head	Previous year	Income Details	Total of Sub-head	Total of Major-head
1	2	3	4	5	6	7	8
Rs. 2004 - 05		Rs Nil	Rs 69,78,859/-	Rs 2004 - 05		Rs Nil	Rs 72,31,363/-

To
REVENUE EXPENDITURE

(A) Administrative

By
(1) GRANTS RECEIVED

(a) From Govt. 1,38,03,498/-

(b) From other agencies Nil

		Total	Rs.1,38,03,498/-
(i)	Pay of Officers	2,87,245	
(ii)	Pay of establishment	-	
(iii)	Allowances & Honoraria	2,02,861	
(iv)	Leave Salary and Pension contributions	-	
(v)	Authority's Contributions to the Staff Provident Fund	-	Less:
(vi)	Contingent expenditure	80,19,193	Amount utilized for 12,55,447
	Deduct Recoveries		Capital Expenditure
			Net grant available for Revenue Expenditure 1,25,48,051
(B)	Running expenses of Laboratories:	-	
			II. Fees 9768
			III. Service Rental Charges Nil
			IV. Fines and Forfeitures Nil
			V. Interest on investments 30,589
(C)	Running and Maintenance of Vehicle	-	VI. Miscellaneous Receipts 1,50,000
			VII.Excess of expenditure over income 3,28,947
(D)	Maintenance and Repairs:		
(i)	Building and Land Drainage and Rent	8,28,540	
(ii)	Works	-	
(iii)	Furniture and Fixtures	-	
(iv)	Scientific instruments and Office Appliances	-	
(v)	Tools and Plant	-	
(E)	Temporary Works (including Maintenance and Repairs)		
(F)	Fees to Consultants and Specialists	-	Rs.2,25,780
(G)	Law Charges		
(H)	Depreciations:		
(i)	Building	-	
(ii)	Laboratory Equipment	-	
(iii)	Vehicles	-	
(iv)	Furniture and Fixtures	-	Rs.77,277
(v)	Scientific Instruments and Office Appliances	-	Rs.1,84,213
(vi)	Tools and Plants	-	
(I)	Miscellaneous:(Grants to SBB)	-	Rs.30,00,000
(i)	Write Off of losses (as per details in the Statement attached)	-	
(ii)	Other miscellaneous expenditure	-	Rs.1,71,978
	Transfer to NBA fund a/c	-	Rs.70,268

(J) Fees for Audit -
(K) Excess of Income over expenditure -

Total **Rs. 1,30,67,355/-** **Rs. 1,30,67,355/-**

Secretary
National Biodiversity Authority

Chairman
National Biodiversity Authority

FORM IV
National Biodiversity Authority
ANNUAL STATEMENT OF ACCOUNTS
Balance Sheet as at 31st March, 2006

Previous year	Capital and Liabilities Details	Total of Sub-head	Total of major head	Previous year	Property and Assets Details	Total of Sub-head	Total of Major-head
1	2	3	4	5	6	7	8
2004-05	-	-	-	2004-05	25,74,529	-	-

(A) Capital Fund			
(iv) Grants received from Govt. for Capital Expenditure	Rs.26,30,623		1. Works (As per Form VIII) -
(a) Amount utilized upto 31 st March 2006	Rs. 26,30,623		2. Fixed Assets (As per Form IX) -
(b) Unutilised balance on 31 st March 2006	Nil		(a) Value of land provided by Govt. (at cost) -
(v) Grant from other agencies for Capital expenditure			(b) Buildings – Balance as per last balance sheet Addition during the year -
(a) Amount utilized upto 31 st March 2006	Nil		Total Nil
(b) Unutilized balance on 31 st March 2006	Nil		Less: Depreciation during the year Nil
(vi) Value of land provided by Govt. (per contra) Total :Nil.....			3. Other Assets (As per Form IX)
(B) Capital Receipts	Nil		(a) Laboratory Equipment as per last Balance sheet - additions during the year
(C) (i) Deposits received for works from outside bodies	Nil		Total :Nil...
Expenditure			Less: Depreciation during the year
(iii) Other deposits	Nil		Total:.....Nil
(D) Amounts due			(b) Vehicles as per last balance sheet. Additions during the yearNil...
(iii) Purchase			Total :Nil...
(iv) Others	Nil		Less Depreciation during the yearNil....
(E) Excess of income over expenditure –			Total:.....Nil...
(i) upto 31 st March 2005			Less: Depreciation during the yearNil
(ii) Add for the year	Nil		Total : ...Nil.....
(iii) Deduct – Excess of Expenditure Over income	3,28,947		(c) Furniture and Fixtures As per last balance sheet Rs. 515,179 Addition during the year Rs. 4,38,086 Total : Rs. 9,53,265 Depreciation during the year... Rs.77,277 Total : Rs.8,75,988
			(d) Scientific Instruments and Office Appliances ... As per last Balance SheetRs.7,36,852

	<p>Addition during the yearRs.8,14,361 Total :Rs.15,51,213 Depreciation during the year ...Rs.1,84,213 Total :Rs.13,67,000 (e) Tools and Plants ... As per last Balance Sheet. Additions during the yearNil... Total: Nil Less: Depreciation during the year-..... Total : 4. Sundry Debtors (i) Amounts due from outside bodies for expenditure incurred Expenditure Rs.22,000 (19000 + 3000) Less amount received (ii) Other Sundry Debtors 5. Advances (a) Miscellaneous Advances Nil (b) Other amount recoverable Cash at Bank Rs.36,688 (a) Notice/Short Term Deposits Nil (b) Cash in hand ...Nil... (c) Cash in transit ...Nil....</p>
<p>Total Rs. 23,01,676</p>	<p>Total Rs. 23,01,676</p>

Secretary
National Biodiversity Authority

Chairman
National Biodiversity Authority

FORM V
(See rule 4)
NATIONAL BIODIVERSITY AUTHORITY
ANNUAL STATEMENT OF ACCOUNTS
Expenditure on works as on 31st March, 2005

S.No	Name of work	Upto 31 st March,2004			During the Year 2005			Direct Expenditure
		Direct Expenditure	Overhead charges	Total Expenditure	Direct Expenditure	Overhead charges	Total Expenditure	
	Nil.....						
	Total							

Secretary

Chairman

FORM VI
(See rule 4)
NATIONAL BIODIVERSITY AUTHORITY
ANNUAL STATEMENT OF ACCOUNTS
Fixed Assets as on 31st March, 2005 (Items 2 Assets of the Balance Sheet)
Other Assets as on 31st March, 2005 (Items 3 Assets of the Balance)

S.No	Particulars of Assets	Balance as on 31 st March, 2004	Additions during the year	Depreciation during the year	Sales of write off during the year	Balance as on 31 st March, 2005	Cumulative Depreciation as on 31 st March 2005
1.	Furniture and Fixtures	86,397	4,41,742	12,960	-	5,15,179	12,960
2.	Scientific Instruments and Office appliances	1,52,135	6,22,751	38,034	-	7,36,852	38,034

Secretary

Chairman

**10. MINUTES OF THE REVIEW MEETING OF THE
SECRETARY, MINISTRY OF ENVIRONMENT AND
FORESTS, NEW DELHI**

Review meeting with the Secretary, Ministry of Environment and Forests New Delhi

Venue; NBA, Conference Hall

Date: 28.06.2006

The review meeting started with the welcome address by **Prof S Kannaiyan**, Chairman, NBA followed by an introduction of achievements of NBA the period by **Dr K Venkataraman**, Secretary, NBA.

During the presentation the following points were discussed and finalized:-

1. The Guidelines prepared by the Expert Committee of National Biodiversity Authority should be consistent with the National Environment Policy. NBA should provide the recent National Environment Policy document to all members of the Expert committee who are dealing with the guidelines preparation.

Action: Secretary NBA

2. The guidelines prepared by NBA may be sent to Ministry of Environment for sending to other Ministries for comments.

Action: Secretary NBA

3. The Secretary reiterated the purchase of land in the prime location of the city for construction of NBA office Building at the earliest.

Action: Secretary NBA

4. PBR process should be taken up with 8000 Eco-clubs funded by the Ministry of Environment and the Teachers of all the schools have to be trained for PBR by BSI and ZSI. The results may be validated using Technical experts.

Action: Secretary NBA

5. The benefit sharing of the use of Traditional Knowledge will be decided by the locals and for the Genetic diversity the NBA and SBB will decide. This should be incorporated in the Guidelines prepared by NBA.

Action: Secretary NBA

6. NBA should prepare a procedure for Notification of Heritage site. The Section 37 is to be amended by NBA for which The Chairman NBA may prepare a proposal and send it to MOEF for amendment.

Action: Secretary NBA

7. Any Bioresource occurring within the State then SBB will regulate and if the same bioresource is occurring beyond one state, then NBA will regulate.

Action: Secretary NBA

8. 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. Mr. D.D. Verma J.S. agreed to organize a discussion meeting at MoEF with experts.

Action: Addl. Director, MOEF, New Delhi

9. The Non official member for the next term should be one member from Flora, the others from Fauna, Microbial, Natural Ecosystem Economics and the 5th one from Environmental Law and IPR.

Action: Secretary NBA

10. The Organizational structure as per the flow chart given below, A new Proposal is to be given for four Technical officers at the advisor Scale and it should be in Flexible Complimenting Scheme so that at any level the Technical Officer can be posted.

Action: Secretary NBA

11. Prepare a proposal for E Governance and submit it to Ms Veena Upadhyaya, J. S. MoEF, New Delhi and call for E Governance Expert for his opinion.

Action: Secretary NBA

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

**11. Proposal on *Indian Biodiversity Information System (IBIS)*
A Pilot project on testing the feasibility and utility of
establishing Indian Biodiversity Information System**

Submitted to **National Biodiversity Authority, June 2006**

Major Title: Towards Establishment of Indian Biodiversity Information system (IBIS)

Title of the proposal : A Pilot project on testing the feasibility and utility of establishing *Indian Biodiversity Information System (IBIS)*

Coordinator : **Dr. Vishwas Chavan,**
Information Division, National Chemical Laboratory, Pune 411 008

Principal Investigators:

1. Dr. Vishwas Chavan,
Information Division, National Chemical Laboratory, Pune 411 008
Vs.chavan@ncl.res.in

2. Dr. K N Ganeshiah,
Department of Plant Genetics, School of Ecology and Conservation
UAS GKVK Bangalore, 560 065, kng@vsnl.com

Co- Principal Investigators:

Prof. Madhav Gadgil, IISc., Bangalore, *Prof. Dharshan Shanker*, FRLHT, Bangalore
Dr. Irfan Ullah, ATREE, Bangalore, *Dr. Lakra* NBFGR, Lucknow
Dr. Sharma, NBPGR New Delhi, *Dr. V K Gupta*, NISCAIR, New Delhi
Dr. Kethrapal, NBAGR, Karnal, *Dr. K N Ganeshiah*, UAS Bangalore
Dr. V Chavan, NCL. Pune

Period : 3 Years

Budget : Rs. 4,84,59,120/- (Four crore eighty four lakh fifty nine thousand one hundred and twenty only)

**12. Discussion on the note submitted by Shri Asish
Kothari**

1. **The Rules as drafted have in many aspects diluted the letter and spirit of the Biological Diversity Act 2002,** and in other aspects have not significantly taken the

Act further. In particular, the Rules in no way empower local communities to carry out their conservation, sustainable use, and equitable benefit-sharing responsibilities, since they specify that the “main function” of the Biodiversity Management Committees is to prepare Biodiversity Registers. It seems that MoEF does not trust communities with anything else, which is a violation of the government's own direction towards decentralisation and panchayati raj. Moreover, by leaving many crucial terms (like “local body”, “equitable”, and “endangered”) unexplained or undefined, the Rules allow serious misuse or varying interpretations that could undermine the intent and spirit of the Act. There are even points where basic science has been ignored in the Rules. These points are elaborated further in the attached note.

2. We are shocked that **MoEF has shown disregard for the democratic process in completely ignoring the very many public inputs** that had been made to the draft Rules after they were put up on the MoEF web site last year. Many of us who are writing this letter had given in detailed and specific comments to the draft Rules, well within the time limit specified by MoEF, but we find to our dismay that ***not a single one of our substantial points have been incorporated.*** This leads us to believe that the comments were simply ignored by MoEF officials. This belief is strengthened because even mistakes in terminology that we have pointed out (e.g. the use of the word “selection” instead of “collection” in Form 1), have not been corrected!
3. We are concerned that **the composition of the National Biodiversity Authority (NBA) completely leaves out representatives from tribal or other communities, and from independent NGOs**, thus violating the letter and spirit of the Act. The relevant provision of the Act clearly states that the NBA should include “five non-official members to be appointed from amongst specialists and scientists having special knowledge of, or experience in, matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, representatives of industry, conservers, creators and know ledge-holders of biological resources”. MoEF has ignored the need for a wider stakeholder process, by filling all the non-government posts with scientists/academics, and no “conservers” or “creators” of biological resources. Nor are any of these posts filled by women, though it is widely acknowledged that gender issues need serious consideration in biodiversity matters. We are *not* commenting on the competence of those selected, but rather expressing disappointment that an opportunity to make a truly representative NBA has not been availed of by MoEF.

In view of the above, we would request you to urgently convene a national consultation on the Biological Diversity Rules 2004, including all those who sent in comments to the draft Rules, and representatives of various stakeholder and rightholder sectors especially local communities. A fresh set of Rules needs to be drafted, taking into consideration the views and inputs of all these sectors. This would also be important to do before placing the Rules before the Parliament, as is required under the Act. Only then will MoEF have taken the Biological Diversity Act to its true potential of conserving India's biodiversity, sustainably using its biological resources, and ensuring equity in such conservation and use.

Ashish Kothari, Kalpavriksh, Pune

P. V. Satheesh, Deccan Development Society & AP Coalition in Defence of Diversity, Hyderabad

13. APPROVAL OF EXPENDITURE FINANCE COMMITTEE PROPOSAL FOR THE 11th PLAN

A total requirement of Rs 27.00 crores for the purpose of Land and Building and other establishments has been proposed for **Expenditure Finance Committee (EFC)** for the 11th 5 year Plan.

The document containing the above information is circulated separately during the meeting for discussion.

APPENDIX 1. MINUTES OF THE 6TH AUTHORITY MEETING

NATIONAL BIODIVERSITY AUTHORITY MINUTES OF THE SIXTH MEETING

20th APRIL, 2006

NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES
KARNAL

DATE : 20th APRIL 2006

TIME : 10.00AM to 6:00PM

VENUE: NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES, KARNAL

The proceedings of the fifth meeting of the National Biodiversity Authority commenced at 10.30 am on 20.4.2006 at NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES, KARNAL. The Chairman, NBA **Prof. S. Kannaiyan** extended a warm welcome to the members of the Authority to the 6th meeting and briefed them the major achievements made by NBA during the period between 5th and 6th meeting.

The Chairman Prof. S. Kannaiyan gave a brief account on NBAGR's background and its achievements in Research and Development. NATIONAL BUREAU OF ANIMAL GENETIC RESOURCES, KARNAL is playing a significant role in Animal genetic resources Research in India. The institute is catering to the need of the India's domesticated animal research and technology transfer. The Chairman, NBA, Prof. S. Kannaiyan has also briefly indicated the significant achievements of NBAGR to the members of National Biodiversity Authority.

1 . MAJOR ACTIVITIES OF NBA

MEETINGS CONDUCTED BY NATIONAL BIODIVERSITY AUTHORITY

- Seventh meeting for organizing “**National Conference on Agro Biodiversity**” organized by National Biodiversity Authority on 29.1.2006 at conference Hall, National Biodiversity Authority, Chennai – 600041
- Second Meeting for “**Expert Group on Database on Biodiversity and Traditional Knowledge**” organized by National Biodiversity Authority on 3.2.2006 at DIRC Auditorium, National Chemical Laboratory, Pune.
- “**National Conference on Agro biodiversity**” organized by National Biodiversity Authority on 12th Feb – 15th Feb, 2006 at NIOT Campus, Pallikaranai, Chennai.
- Second Meeting for “**Expert Committee on Threatened, Endangered and Endemic Species**” organized by National Biodiversity Authority on 28.2.2006 at conference Hall, National Biodiversity Authority, Chennai – 600 041.
- “**One day workshop on Bird Flu**” organized by National Biodiversity Authority on 6.3.2006 at conference Hall, National Biodiversity Authority, Chennai – 600 041.
- “**National Conference on Forest Biodiversity Resources: Exploitation, Conservation and Management**” Organized jointly by National Biodiversity Authority and Centre for Biodiversity and Forest Studies, School of Energy, Environment and Natural Resources on 21-23 March 2006.

- **Expert Committee meeting on preparation of guidelines for collaborative research projects** on 07.04.2006 at Conference hall, National Biodiversity Authority, Chennai
- **Subcommittee meeting of the Expert Committee meeting on Threatened, Endangered and Endemic species** on 17-18, April, 2006 at Conference hall, National Biodiversity Authority, Chennai.

PUBLICATIONS BY NATIONAL BIODIVERSITY AUTHORITY

PAPERS PUBLISHED BY Prof. Dr. S. Kannaiyan, Chairman, NBA, Chennai.

1. **Kannaiyan S.** 2006. Biological Diversity Act – 2002. National Conference on Agrobiodiversity held during 12-15th Feb, 2006 organized by National Biodiversity Authority, Neelankarai, Chennai. Tamil Nadu. P 1-5.
2. **Kumar K and S. Kannaiyan** 2006. Genetic diversity of Diazotriphs in rice ecosystem. National Conference on Agrobiodiversity held during 12-15th Feb, 2006 by NBA, Chennai, Tamil Nadu, p 133
3. **Kumar, K and S. Kannaiyan.** 2006. Ectomycorrhizal Diversity in Tropical forest ecosystem. National conference on Forest Biodiversity Resources, Exploitation, Conservation and Management held during March 21-22, 2006 at Madurai Kamaraj University, Madurai, Tamil Nadu p. 78.
4. **Kannaiyan. S.** 2006. Abstracts. National Conference on Agrobiodiversity. (ed. S. Kannaiyan). National Biodiversity Authority, Neelankarai, Chennai. P.1-269.
5. **Kannaiyan, S. and K. Muthuchelian,** 2006. Abstracts National conference on Forest Biodiversity Resources, Exploitation, Conservation and Management (ed S. Kannaiyan and K. Muthuchelian) National Biodiversity Authority and centre for Biodiversity and Centre for Biodiversity and Forest studies, Madurai Kamaraj University, Madurai, Tamil Nadu. P.

2. CONFIRMATION OF MINUTES OF FIFTH MEETING

DATE : 20th January 2006
TIME : 10.00AM to 6:00PM
VENUE : Indian Institute of Spice Research, KOZHIKODE

The Members of the Authority appreciated the achievements made during the period of 5th Authority meeting. The following points were raised by the members while approving the minutes of the minutes of the 5th Authority meeting.

The following are the comments made by Dr RK Rai, Addl. Director, MoEF, New Delhi on the minutes of the 5th meeting of the Authority.

1. **Approval of applications received by NBA for access of genetic material:** It was generally agreed that wherever prescribed “Conditions” in the Act are not possible to be fulfilled due to logistic and absence of certain institutional arrangements, such reasons need to be recorded in the Minutes on case to case basis.
2. **Approval of proposal for funding:** The list of proposals placed before the “Authority” for endorsement was reviewed. Some proposals such as establishment of Botanic Gardens and funding to international organization neither were nor found appropriate. It was also pointed out that Authority should focus its activities within its mandate.
3. **Placement of additional agenda at the time of the meeting:** Normally policy issues such as guidelines on collaborative research should not be placed at the time of the meeting but should be circulated well in advance to ensure benefit of inputs from members of the Authority. This will ensure inputs from various concerned departments of Govt. apart from experts.

General comments made by the Members of the Authority:

Prof Anil Gupta made the following are the comments:

1. The publication of other members of the Authority should also be included in the achievements made by the Authority for which the members agreed to send the relevant achievements related to Biodiversity issues to be included in the Achievements of the Authority.
2. The awareness meeting of NBA should be conducted throughout the country.
3. The norms for approval of projects should be as per the protocol developed by the authority.
4. NBA should evolve norms for reply to the members and the civil society.
5. The way in which the Biodiversity Act 2002 was formed, same spirit should be maintained in implementing the Authority,

Dr Pushpangadan made the following comments:

1. Botanical Survey of India, Kolkata is another place where next Authority meeting can be held.
2. Agenda for the meeting should reach the members before 15 days of the meeting and 20 days before the meeting the venue and date should be informed.

Dr A K Ghosh made the following comments:

1. At present, NBA has the limitation due to inadequate supporting staff.
2. Adequate supporting staff should be in place to get the required output.

Shri D D Verma made the following comments:

1. National Biodiversity Authority and Biodiversity Act, 2002 are the strength for the country and it is first among all countries.
2. Process through which clearing of application need to be developed.
3. NBA should not loose the central sight of the Act
4. The agreements prepared by the Authority are very good and it is well appreciated. It will be circulated to a few more persons and corrections will be indicated before it is being sent to the Law ministry for notification.
5. The funding of awareness projects is objected by the Finance Department.
6. Other problems of NBA are being discussed with the Chairman in the Review meeting conducted by Ministry of Environment.
7. Ministry of Environment and Forest, Government of India will extend all kinds of support to NBA.

Prof S. Kannaiyan, Chairman NBA's response to the above comments:

1. At present NBA has minimum skeletal staff. The members should also share the responsibility of the NBA.
2. Proper notice will be made well in advance: Agenda and date of the meeting will be sent by Email as well as by speed post.

Following are the specific comments made by individuals on the ACTION TAKEN ON THE MINUTES OF THE 5TH NATIONAL BIODIVERSITY AUTHORITY MEETING

*Page No 110 of the 6th Authority meeting Agenda Circulated
Item: Approval of Application Received by NBA:*

Comments by Mr. DD Verma:

- All cases of GM Crop unless and until cleared by GEAC, MoEF, NBA cannot take up for approval,
- Approval of GM Crops is not the mandate of the NBA
- NBA needs GEAC permission for approval of application.
- NBA should withdraw the approval given to **GEAC**.
- Send a copy of the approval letter sent to GEAC to Joint Secretary, MoEF, New Delhi

Action: Member Secretary

Comments by Dr A K Ghosh:

Correction to be made on the 16th and 17th Application Forms not featured in the Agenda.

Action: Member Secretary

Comments by Mr. DD Verma:

Expert Committee on Normally Traded Commodity (as per Section 40 of BD Act 2002) should meet immediately and prepare the list of NTC (i.e.: the items of different Normally Traded Commodity) for notification in different stages instead of all in one.

In this connection The Secretary NBA should write to **Prof. Dr Anil Gupta**, IIM, Ahmedabad and **Dr J.P. Mishra**, ADG, ICAR, New Delhi and get additional informations. Also the NBA may get information from Trade division of Agricultural Ministry, Commerce Ministry, Food and Consumer Affairs, DGFT, AYUSH and other relevant agencies.

NBA should conduct the meeting of the Expert committee on Access, Benefit sharing and Material Transfer immediately with the support of TERI, NBA should insist TERI that **Mr. Yogesh Gokle** (who left MoEF recently) to be persuaded to take up the post of Expert Consultant.

NBA should convene the Expert Committee meetings immediately with the Secretary, NBA as the Expert Consultant for those EC where Expert Consultants are not available.

Action: Member Secretary

Page No 123 of the 6th Authority meeting Agenda Circulated

Item: Approval of Proposals for Funding by NBA:

Comments by Dr A K Ghosh:

1. SBB to be informed to take up awareness programmes to different stake holders by themselves or through other relevant institutions.

Comments by DR Anil Gupta:

1. Capacity building programme for SBB to conduct awareness programmes on BMC and PBR.
2. Forest Department is to be involved in the awareness programmes

Comments by DR L Kannan:

1. Capacity building programme for Union Territories to conduct awareness programmes on BMC and PBR

Comments by Mr. D. D. Verma:

1. Proposals for funding related to Commissioning of studies relevant to Biodiversity Act can be taken up by NBA.
(As per page 34 of the Biodiversity Act and Rule book (Biological Diversity Rules 12. (viii): organize through mass media a comprehensive programme regarding conservation of biodiversity, sustainable use of its components and fair and

equitable sharing of benefits arising out of the use of biological resource and knowledge.)

Action: Member Secretary

Page No 124 of the 6th Authority meeting Agenda Circulated

Item: Approval of Terms of Reference on the Preparation of Guidelines by Expert Committees:

Comments by Mr. DD Verma:

NBA to convene the Expert Committee meetings immediately with the Member Secretary of NBA as the Expert Consultant where ever Expert Consultant is not available.

Action: Member Secretary

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Item: Approval of Microbial Cultures Import

Comments by Mr. DD Verma:

NBA not to entertain applications which are not under the purview of the Biodiversity Act 2002.

NBA to write to the applicant and enquire whether any other organization has been approached for permission and whether the permission has been denied by any other organization etc. before bringing the case to the Authority.

Approval of Import of Microbial Cultures is only through GEAC, Ministry of Environment and Forests and NBA not to entertain such applications.

Action: Member Secretary

Page No 130 of the 6th Authority meeting Agenda Circulated

Item: Sanction Power of Chairman

Comments by Mr. DD Verma:

The sanctioning power of Chairman is as per Rule 13 sub section 5: The Chairperson, either himself or through an officer of the authority authorized for the purpose, may sanction and disburse all payments against the approved budget.

Action: Member Secretary

Page No 130 of the 6th Authority meeting Agenda Circulated

Item: Appointment of Expert Consultant on Expert Committee on Access and Benefit Sharing by TERI, New Delhi.

Comments by Mr. DD Verma:

NBA to convene the Expert Committee meeting at the earliest with the Expert consultant.

Comments by Dr Pushpangadhan:

Dr Pushpangadhan, Chairman of the Expert committee on Access, benefit sharing and Material Transfer has agreed to prepare the background paper for the meeting and agreed to convene the first meeting in May 2006.

Action: Member Secretary

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Item: 14. Number of plant material per each application for access for commercial purpose/Bioassay/Screening etc.

The members of the Authority opined that **only one species** per application will be allowed.

Action: Member Secretary

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Item: 15. Expert Committee on Database meeting recommendations.

While discussing the recommendations of the Database meeting, **Dr Anil Gupta** mentioned that he may be contacted by the Member Secretary, NBA send proceedings of the two meeting to NBA.

It was also decided that **Dr Pushpangadan** will send a proposal for funding to NBA for the Ethanobiology Database.

Shri **D D Verma** informed that Dr Pushpangadan can arrange to send the Ethanobiology data base to MoEF, New Delhi first and later it will be decided for the publication.

Action: Member Secretary

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Item: 6. Honorarium for NBA Bulletin.

The Authority members while approving the agenda on Honorarium for NBA Bulletin informed that the Chairman NBA has the power to sanction such payment as

honorarium and such agenda should be kept separate under the title AGENDA FOR INFORMATION.

Action: Member Secretary

Page No 139 of the 6th Authority meeting Agenda Circulated
Item: Guidelines on Collaborative Research Projects.

The Authority while discussing the guidelines on Collaborative Research Projects opined that ETHICAL GUIDELIENES is missing. Dr Anil Gupta informed the Authority that Ethical Guidelines is to be incorporated and he will send his comments as well as the Ethical guidelines to be incorporated in the Guidelines on Collaborative Research Projects.

Action: Member Secretary

Page No 150 of the 6th Authority meeting Agenda Circulated
Item: 10. Minutes of the Meeting on Expert Committee on Collaborative Research Projects conducted on 7th Jan 2006.

Shri DD Verma, JS, MoEF, New Delhi informed that under the **C. Guiding Principles** Page 157 of the Agenda – the first sentence should be changed as -The National Biodiversity Authority abides by all relevant National laws concerned with management of biological diversity.

Action: Member Secretary

Page No 169 of the 6th Authority meeting Agenda Circulated
Item: Meeting on Finalization of Agreements on 17th Jan 2006.

Shri DD Verma appreciated the finalization of agreements prepared by the NBA. He informed the Authority that he had some comments on the agreements submitted for approval. Also he circulated the agreements for comments. These comments/corrections have to be incorporated after consulting the Legal Consultant as well as the Chairman of the Expert Committee constituted for this purpose.

Action: Member Secretary

3. DISCUSSION ON THE AGENDA FOR THE 6TH AUTHORITY MEETING

Page No 210 of the 6th Authority meeting Agenda Circulated
Item: 1. Budget Estimates for the year 2006-2007.

The members of the Authority approved the budget for the year 2006-2007 as Rs 192 lakhs on the same heads sanctioned during 2005-2006. Over and above this, The Chairman, NBA is authorized to propose additional budget of Rs. 100 lakhs for grants in aid the State Biodiversity Board and Rs. 50 lakhs for the Projects to be initiated by State Biodiversity Boards including awareness programmes.

A total of Rs 342 lakhs (Rs 192 (same as on 2005-2006) + 100 lakhs more for State Biodiversity Boards and Rs 50 lakhs for Projects to be initiated by State Biodiversity Boards) was approved by the Authority and for the additional budget the Chairman NBA has to send a proposal with justification to Ministry of Environment Forests.

NBA should also provide Budget proposal for Land and Building as a separate item.

Action: Member Secretary

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Item: 3. Extension of period from Feb 2006 for expert consultants

The Members of the Authority approved the period of extension for the Expert consultants till June 2006 or completion of the guidelines which ever is earlier.

Action: Member Secretary

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Item: 5. Pay Fixation

The Authority informed that the pay fixation in the higher post as per FR 49 (iii) of Dr K Venkatarman for the period he has worked has been recommend by the Authority and the same to be sent to DOPT for approval.

Also the Authority Members unanimously approved that Dr K. Venkataraman be appointed as Member Secretary, NBA on deputation. For this purpose Dr Venkataraman should write a proposal letter through the Chairman, NBA to the Administrative Ministry (MoEF) at the earliest.

Action: Member Secretary

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Item: Setting up of India Herbal Garden at World Health Organisation Head Quarters, Geneva

The Authority members informed that as per the Act it was not possible to approve the application. However, NBA should write to NBPGR, New Delhi, IARI, New Delhi and Botanical Survey of India, Kolkata for their opinion and consultation.

Action: Member Secretary

Page No 222-226 of the 6th Authority meeting Agenda Circulated
Item: Comments of Prof Anil Gupta, Member of National Biodiversity Authority

The Comments on the action taken on the agenda raised by Prof. Anil Gupta was discussed in detail and the following points emerged.

Point No 1. The Chairman informed that more meetings will be conducted in other parts of India in the coming years.

Point No 2. The Chairman informed that the publications of members will be included in the agenda. Members of the Authority may periodically send their list of publication to be incorporated in the agenda.

Point No 3. The Chairman agreed to the points raised by Prof Anil Gupta and informed that before finalizing the important matters such as agreements, issues of IPR and other relevant matters, sufficient time will be given to the members to go through the content for discussion and wide consultation will be made with civil society through NBA web site.

Point No 4. The Chairman informed that necessary action will be initiated.

Point No 5. The Note submitted by **Shri Asish Kothati** to be placed before the authority in the next meeting.

Point No 6. The frame work of prioritization of activities of NBA will be informed.

Point No 7. The Chairman NBA informed that the Expert Committee on Database Chaired by Prof Madhav Gadgil has incorporated the activities of NIF in the Guidelines prepared. The final meeting of the EC on Database is due to be conducted in the coming month and the guidelines prepared by the Committee will incorporate the NIF as part of the BIS database.

Point No 8. The Chairman informed that the Act and Rule Book has been prepared in different national languages for the local people for empowerment.

Point No 9. The Chairman informed that the Ethical Code will be included in all the activities of NBA.

Point No 10. The Chairman NBA informed that NBA is preparing common guidelines for all the different Ministries of India. Also NBA will have a dialogue and discussion on the commonalities with the Chairperson of PVPV and FR Act, New Delhi in June, 2006.

Point No 11. The Chairman NBA informed that there were 14 SBBs established till date and NBA will give priority to the establishment of more SBB in the future.

Point No 12. The Chairman informed that the list prepared was only preliminary in nature and it was open for modification.

Point No 13. The Chairman informed that proper care was be taken to prepare the list of Expert committees. Also the Chairman, NBA requested the members of the authority to send the names of Women Experts to be included in the final list of Experts and panels.

Point No 14. The Chairman informed that many points submitted as minutes of the meeting were edited as per suggestions given by the members.

Point No 15. Shri DD Verma JS, MoEF informed that NBA should take up the notification of Normally Traded Commodity through EC on Normally Traded

Commodity step by step in different stages. The NBA should come out with the first list of NTC during July meeting of the Authority.

Point No 16. The Chairman informed that Expert Committee for the ABS guidelines was in place and only after the preparation of the Guidelines on ABS the activities pertaining to export of specific species could be restricted.

Point No 18. The Chairman informed that the permission to Coral snake was not approved in the 5th Authority meeting.

Point No 19. The Chairman informed that the matter was already discussed in this meeting and the suggestions of the members will be implemented.

Point No 20. The Chairman informed that a Committee approved by the Authority went through the project proposals before recommending the same for approval by the Authority. The Members informed that these projects are not being approved by the Authority and NBA can take up funding of proposals only made by the SBBs.

Point No 21. The Chairman informed the members that NBA was planning to invite the Expert consultant to give presentation on ABS before the Expert Committee. The Secretary NBA informed that the Director TERI informed him telephonically that an experienced person will take up this work. **Shri. D.D. Verma** informed that NBA should insist TERI for **Mr. Yogesh Gokle** to be the Expert Consultant for the EC on ABS and informed that he has wide experience on ABS and has served in the LMMC, MoEF.

Point Nos 22, 23 and 24. The Chairman informed that these points will be taken up in future.

Action: Member Secretary

Page No 1 of the 6th Authority meeting Agenda Circulated

AGENDA ITEMS: WITH THE PERMISSION OF THE CHAIR

1. Report of the Committee on Jatropa Germplasm at Indira Gandhi Agricultural University, Raipur.

The Authority members after going through the Report of the Committee constituted by NBA informed that NBA should issue a notice to 1. The Scientist Involved with a copy to the State biodiversity Board and 2. D1 Oil Company

Action: Member Secretary

Page No 2 of the 6th Authority meeting Agenda Circulated

AGENDA ITEMS: WITH THE PERMISSION OF THE CHAIR

1. Date of the next meeting before the close of each meeting and announce it in the minutes.

It was decided by the members of the authority that the next meeting will be held on **20th July 2006** and the Venue would be **Botanical Survey of India, Kolkata** or **NBA office, Chennai.**

Action: Member Secretary

**APPENDIX 2: MINUTES OF THE MEETING TO
EVALUATE THE ACCESS, PATENT, TRANSFER OF
RESEARCH RESULTS AND MATERIAL TRANSFER
APPLICATIONS.**

1. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No : F. No. 9-5/2003- Tech

Particulars of Charges Paid: Paid Rs.10000/-. D.D.No.:501786 (ICICI) dt.17-08-2004

1. Name and address of applicant : **Ms. Rikako Kimura Ph. D.**
1037, PocketA-SectorA,
Vasant Kunj, New Delhi – 110 070.
(The above address is in Form iv)
Visiting Researcher,
Equine Museum of Japan
3-21-4, Omachi, Kamakura,
Kanagawa, Japan-2480007
2. Date of application in the prescribed form : 25th April, 2006
3. Type of form used : Form I (Application form for seeking approval of NBA for access of bioresource)
4. Name of the project : To analyze karyotypes and Satellite DNA of Indian Wild Asses and also compare to Hybrids.
5. Type of Bioresource : Hair and blood sample of Indian wild ass *Equus hemionus khur* from captivity.
6. Application supported by any other Government Institution : Permission Lr- 1-1/ 93 WL-1 (pt) dt. 20.4.04 from DIG (WL) MoEF , New Delhi.
7. Collaborating Agency Name and Address : **Dr. S. Shivaji**, Scientist F (Deputy Director), has written a letter dt 20th Apr, 2006 certifying that the samples of hair and blood of Indian Wild Ass would be analysed at CCMB, Hyderabad
8. Remarks : **In the third authority meeting held on 15th July, 2006 the above application was placed for approval subsequently the authority did not permit the above applicant to transfer the bioresource to the third party. However the same applicant has again submitted an application for approval for the same Bioresource for which she has already obtained permission from Ministry of Environment and Forests. The applicant has also received a supporting letter from Dr. S.Shivaji, CCMB, Hyderabad. A letter for confirmation was sent on 17.05.2006 to Dr Shivaji and no reply was received till date. A reminder was also sent on 6.6.2006 to get his confirmation of collaboration with the applicant.**

2. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No : F. No. 9/71/2006

Particulars of Charges: Paid Rs.10000/- . Cheque No.139958 dt. 30-12-2005(BNP Paribas, Koregaon Road, Pune)

1. Name and address of applicant : **Dr. Faujdar Singh**
Adviser – Biotechnology,
M/S. Syngenta Seeds India Pvt. Ltd.,
1170/27, Revenue Colony,
Shivaji Nagar,
Pune – 411 005.
2. Date of application
in the prescribed form : **05-01-2006**
3. Type of form used : **Form IV**
4. Name of the project : **Transfer of imported *vip3A gene***
from *Baaccillus thuringiensis* to
Cotton and these were multiplied and
utilized for making various crosses.
***vip3A gene* is resistant to Lepidopteron**
insect pests
5. Type of Bioresource : **Transfer of imported *vip3A gene***
from *Baaccillus thuringiensis* to
Cotton and utilized by Syngenta’s
breeder to develop new lines which is
now available for testing and
permission is sought to export the
Hybrid 02-92Vip(transgenic) and
its non-transgenic hybrid 02-92 non-
Vip
6. Application supported by any
other Government Institution : **Permission has been given by**
RCGM and NBPGR to import *vip3A*
gene* from *Baaccillus thuringiensis
7. Collaborating Agency, Name
and Address : **Dr. Douyale Trarore**
Mandataire Syngenta
01, B.P. 1963, Bobo-Dioulasso 01
Burkina Faso, Africa
8. Remarks : **The above proposal has been submitted**
to GEAC Committee, MoE&F and this committee cited Section 20 of
Biodiversity Act, 2002 requesting comments from NBA.

3. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No : F. No. 9/72/2006

Particulars of Charges: Paid Rs.10000/-. D.D. No.042425 dt.20-12-2005 (State Bank of India, Tokyo)

- 1. Name and address of applicant** : **Prof. Masaru Nonaka**
Department of Biological Sciences,
Graduate School of Science, The Univ. of Tokyo,
7-3-1 Hongo, Bunkyo – Ku, Tokyo – 113-0033
- 2. Date of application**
in the prescribed form : **05-12-2005**
- 3. Type of form used** : **Form I**
- 4. Name of the project** : **To collect and analyse two Indian**
***Oryzias* species, *O.carnaticus* and**
***O.dancena* for the possible presence of**
Major Histocompatibility complex
(MHC) lineages to elucidate evolution
and polymorphism of the vertebrate
MHC – Mammalian MHC
- 5. Type of Bioresource** : **Two Indian *Oryzias* species,**
O.carnaticus* and *O.dancena
- 6. Application supported by any**
other Government Institution : **Contact person in India**
Dr. Alex Eapen
Research Scientist,
Malaria Research Centre (ICMR),
332-A, Spartan School Road,
Panneer Nagar,
Mogappair, Chennai – 600 037.
- 7. Collaborating Agency, Name**
and Address : **Not mentioned**
- 8. Remarks** : **Education and Research purpose. The**
bioresources ornamental fish 50 males and 50 females of *O.carnaticus* and
***O.dancena* from ten locations (10x100 = 1000 individuals). The material is to**
be collected from Eastern India.

4. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No : F. No. 9/73/2006
Particulars of Charges: Paid Rs.10000/-. D.D. No.485177 dt.07-02-2006 (Indian Bank,
Nandanam, Chennai)

1. Name and address of applicant : D1 Oils India Ltd
504, Kirti Mahal,
19, Rajendra Place,
New Delhi – 110 008.
2. **Date of application
in the prescribed form** : **08 – 02 - 2006**
3. **Type of form used** : **Form I**
4. **Name of the project** : **Providing the technology, plants,
machinery and expertise in growing
the feedstock and and converting the
Vegetable oil into bio-diesel to the
standard stipulated by the European
union**
5. **Type of Bioresource** : **Ratanjyot (*Jatropha curcas*)**
6. **Application supported by any
other Government Institution** : **Nil**
7. **Collaborating Agency, Name
and Address** : **Nil**
8. **Remarks** : **The applicant proposed to collect 500
gm to 1 kg of seeds of *Jatropha* throughout India at every 1⁰ latitude. Collection
is proposed for plants having high yield and oil content. The superior seeds
collected from these trees will be utilized for developing high yielding varieties.
If approved, the mechanism of benefit sharing to be prepared in the authority
meeting.**

5. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference No: F. No. 9/77/2006/Tech Appl/
Particulars of Charges: Paid Rs.10000/-. D.D. No.102587 dt.12-04-2006 (Citizens Bank,
International Division)

1. Name and address of applicant : Ms. Emily Rebecca Ladlow

32, Pearl Street,
Somerville,
MA 02145,
U.S.A.

2. Date of application
in the prescribed form

: 04 – 04 - 2006

3. Type of form used

: Form I

4. Name of the project

: Internship study on MSSRF's
Methods to preserve India's
Biodiversity, traditional knowledge
and also studying sustainable
agriculture and their community
based biodiversity projects at
MSSRF Project centre, Wayanad,
Kerala

5. Type of Bioresource

: Native varieties of food crops

6. Application supported by any
other Government Institution

: MS Swaminathan Foundation,
Chennai.

7. Collaborating Agency, Name
and Address

: Community Agrobiodiversity Centre,
MSSRF, Kalpata.

8. Remarks

: The applicant is pursuing her Master
degree with interning with MSSRF. She will be studying the methods MSSRF
uses to preserve India's biodiversity and traditional knowledge at community
level. If approved the collaborator and the applicant should sign an agreement
with NBA not to transfer the research results obtained during the study period.

6. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference F. No. 9/78/2006/Tecl.

Particulars of Charges: Paid Rs.10000/-. Cheque No. 918388 dt. 15-05-2006 (ICICI Bank, Kalidasa Road Branch, Mysore)

- 1. Name and address of applicant** : **Mr. Farshid Ahresrani,
C/o. Nature Conservation Foundation
(NCF)
3076/5, IV Cross,
Gokulam Park Road,
Mysore – 570 002.**
- 2. Date of Application in the prescribed Form** : **15-05-2006**
- 3. Type of form used** : **Form I**
- 4. Name of the project** : **Study and Research on Gaur**
- 5. Type of Bioresource** : **Gaur (*Bos gaurus*)**
- 6. Application supported by any other Government Institution** : **Nil**
- 7. Collaborating Agency, Name and Address** : **Nature Conservation Foundation (NCF)
3076/5, IV Cross, Gokulam Park Road,
Mysore – 570 002.**
- 8. Remarks** : **The applicant has proposed the study Gaur in the Nilgiri Biosphere Reserve which includes Mutumalai wildlife sanctuary, Nagarahole National Park, Bandipur National Park for which he has to obtain permission from Chief Wildlife Warden, Tamilnadu. In this regard the letter was sent to the local CWW. A reply dt 26th May, 2006 from CWW, Chennai stated that the decision for giving permission by the forest department can be taken only after NBA takes a decision. If approved, an agreement should be signed by the applicant with NBA for not transferring the research results to any third party.**

7. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference F. No. 9/79/2006/Tecl. Appl/
Particulars of Charges: Paid. Rs.500/- DD. No. 616517 dated 28-04-2006 (Syndicate
Bank, Vani Vihar, Bhubaneswar)

- 1. Name and address of applicant** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007, Orissa.
- 2. Date of Application in the prescribed Form** : 03-05-2006
- 3. Type of form used** : Form III
- 4. Name of the project Extract** : Water detoxication by using Coconut Coir
- 5. Type of Bioresource** : Coconut Coir
- 6. Application supported by any other Government Institution** : Nil
- 7. Collaborating Agency, Name and Address** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007
- 8. Remarks** : The applicant has mentioned that Coconut Coir can be collected from all over India for the above patent application however in particular the applicant has used Coconut Coir from Bhubaneshwar, Orissa for the above IPR. If approved an agreement has to be signed by the applicant as well as benefit sharing mechanism has to be worked out by the authority.

Reference F. No. 9/80/2006/Tecl. Appl/
Particulars of Charges: Paid Rs.500/- DD. No. 616518 dated 28-05-2006 (Syndicate Bank, Vani Vihar, Bhubaneswar)

- 1. Name and address of applicant** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007, Orissa.
- 2. Date of Application in the prescribed Form** : 03-05-2006
- 3. Type of form used** : Form III
- 4. Name of the project** : Water detoxication by using Bacha
(*Acorus calamus*) rhizomes Extract
- 5. Type of Bioresource** : Bacha (*Acorus calamus*) rhizomes
- 6. Application supported by any other Government Institution** : Nil
- 7. Collaborating Agency, Name and Address** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007
- 8. Remarks** : The applicant has mentioned that Bacha (*Acorus calamus*) rhizomes can be collected from all over India for the above patent application however in particular the applicant has used Bacha (*Acorus calamus*) rhizomes from Bhubaneswar, Orissa for the above IPR. If approved an agreement has to be signed by the applicant as well as benefit sharing mechanism has to be worked out by the authority.

Reference F. No. 9/81/2006/Tecl.

Particulars of Charges: Paid Rs.500/- DD. No. 616519 dated 28-Apr-2006 (Syndicate Bank, Vani Vihar, Bhubaneswar)

- 1. Name and address of applicant** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007.
- 2. Date of Application in the prescribed Form** : 03-05-2006
- 3. Type of form used** : Form III
- 4. Name of the project** : Water detoxication by using Syzygium cumini seed Extract
- 5. Type of Bioresource** : Jamun seed (Syzygium cumini (L.) Skeels)
- 6. Application supported by any other Government Institution** : Nil
- 7. Collaborating Agency, Name and Address** : Vasundhara,
15, Sahid Nagar,
Bhubaneswar – 751 007
- 8. Remarks** : The applicant has mentioned that Jamun seed (Syzygium cumini (L.) can be collected from all over India for the above patent application however in particular the applicant has used Jamun seed (Syzygium cumini (L.) from Bhubaneswar, Orissa for the above IPR. If approved an agreement has to be signed by the applicant as well as benefit sharing mechanism has to be worked out by the authority.

Reference F. No. 9/82/2006/Tecl.
Particulars of Charges: Nil.

- 1. Name and address of applicant** : National Botanical Research Institute,
(CSIR),
Rana Pratap Marg,
Lucknow – 226 001.
- 2. Date of Application in the prescribed Form** : ---
- 3. Type of form used** : Not applied in prescribed form
- 4. Name of the project** : Export of plants for setting up of India
Herbal Garden at WHO HQ, Geneva
- 5. Type of Bioresource** : *Aconitum heterophyllum* wall, *Angelica glauca* Edgew, *Arctium lappa* L., *Allium wallichiana*, *Berberis aristata* DC, *Berberis lucium* Royle, *Berginia ciliata*, *Cinnamomum tamala* Nees, *Ephedra geradiana* wall, *Hedychium spicatum* Buch.-Ham., *Mallotus philippinesis* Muell.-Arg., *Picrorrhiza kurrooa* Royle ex Benth, *Rheum emodi* wall, *Saussurea costus*, *Swertia chirita*, *Taxus baccata* L. / *Abies webbiana*, *Zanthoxylum alatum* Roxb., *Zinger Officinale*
- 6. Application supported by any other Government Institution** : Dr. B.S. Sajwan, I.F.S.,
Chief Executive Officer,
National Medicinal Plants Board
Department of AYUSH,
Ministry of Health & Family Welfare
- 7. Collaborating Agency, Name and Address** : WHO, Geneva.
- 8. Remarks** : The application received from NBRI to export 18 medicinal plant species from India to WHO, Geneva has been supported by Ministry of Health and Family Welfare. Due to urgency the application was put up to the sixth authority meeting and the authority informed NBA to get opinion from NBPGR, BSI, IARI and ICAR, besides not approving the proposal.

11. APPLICATIONS TO NATIONAL BIODIVERSITY AUTHORITY FOR APPROVAL

Reference F. No. 9/84/2006/Tecl Appl/

Particulars of Charges: **SENT BY SWIFT MAIL NOT YET RECEIVED**

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 : Diversity of *Thelotremataceae* in the Indian Sub Continents to understand the evaluation of the family.
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 : Nil
8. Remarks : The applicant has proposed to collect Lichens from Karnataka, Kerala, Tamil Nadu (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. Dr. D. K. Upreti was contacted to confirm his collaboration with the applicant and Dr Upreti has sent a recommendation letter (dated 8.6.2006). If approved an agreement has to be signed by the applicant for not transferring the bioresource collected.

12. a. INDIAN WHEAT GENOTYPES TO KENYA

With reference to the letter No.4-2/2004-IC-II dated 20th May, 2006 **Rajeev Kumar Jain, Deputy Secretary (IC), Department of Agricultural Research and Education, Ministry of Agriculture, New Delhi** has informed that DARE has sent screening of advance generation material of Indian origin in Kenya for the purpose of breeding of resistant variety is scheduled. It is, therefore, imperative to send Indian wheat genotypes to Kenya through CIMMYT/Global Rust Initiative. Advance material of 102 varieties (As per list enclosed) is being exported to Kenya with the approval of Secretary (DARE) for screening and developing resistant varieties against new virulence Ug 99 of stem rust.

List of wheat materials to be sent to Kenya for stem rust screening

SINo	Entry	Pedigree	Status
1	DBW 17	CMH 79A, 95/3*CNO79//RAJ 3777	AVT final year
2	HD 2922	HP 1731/CPAN 4073	AVT - 1 st year
3	PBW 547	WH 594/ RAJ 3814//DL 788-2	AVT final year
4	PBW 550	WH 594/RAJ 3856//W 485	AVT final year
5	PBW 554	PBW 343/W 5349	AVT final year
6	PBW 563	F6KB 90/PBW 343	AVT 1 st year
7	PBW 564	WH 581/RAJ 3856//PBW 352	AVT -1 st year
8	PBW 568	W 485/PBW 343//HD 2160	AVT -1 st year
9	PBW 570	PBW 457/W 9217	AVT -1 st year
10	AKAW 1032	HD 2554/RAJ 3520	AVT -1 st year
11	HUW 598	WH 581/HUW 395//RAJ 3765	AVT -1 st year
12	PBW 573	WH 594/RAJ 3814	AVT -1 st year
13	PBW 574	HD 2643//CS/AE.SQ	AVT -1 st year
14	PBW 575	PBW 343/HUW 235	AVT -1 st year
15	PBW 576	PBW 154/PBW 373	AVT -1 st year
16	PBW 579	W 7554/PBW 427	AVT -1 st year
17	UP 2659	CPAN 4073/UP 2382	AVT -1 st year
18	WH 1021	NYOT 95/SONAK	AVT -1 st year
19	WH 1023	IWP 72/WH 283	AVT -1 st year
20	BCW 16-6	HUW 234/HUW 452	AVT -1 st year
21	HD 2946	DOVE/BUC//HD 2647	NIVT 1A
22	HD 2948	PBW 277/HD 2681//HW 2001	NIVT 1A
23	HD 2949	DL 803-3//WR 251	NIVT 1A
24	HP 1894	PBW 343/HP 1761// HW 2045	NIVT 1A
25	HP 1895	HD 2687/HP 1761	NIVT 1A
26	HP 1896	HD 2733/HP 1731	NIVT 1A
27	HUW 600	ATTILA/HUW 468//HD 2733	NIVT 1A
28	HUW 601	HD 2189/TR 380//WH 595/NW 1012	NIVT 1A
29	JKW 30	CGDD 99 B 00015-099Y-099M-099Y-099M-81Y-0-0B	NIVT 1A
30	JKW 31	CGSS 99 B 00015F - 099Y - 099M - 099Y- 099M - 36Y - 0B	NIVT 1A
31	K 501	Z5/CB 85	NIVT 1A
32	KO 502	K 9006/HUW 533	NIVT 1A
33	NW 3079	NW 2006/MG	NIVT 1A
34	NW 3093	OPATA/RAYON//KAUZ	NIVT 1A
35	PBW 580	UP 2332 MEI 319	NIVT 1A
36	PBW 581	RL 6043/RAJ 3765	NIVT 1A
37	PBW 582	PBW 343/PBW 346	NIVT 1A

38	PBW 583	CPAN 3048/DL 788-2	NIVT 1A
39	PBW 584	WH 594/RAJ 3814//W 485	NIVT 1A
40	RAJ 4119	RAJ 3777/WR 413	NIVT 1A
41	RAJ 4120	PBW 373/V 1	NIVT 1A
42	RAJ 4121	UP 2441/K 9330	NIVT 1A
43	RAJ 4122	RAJ 3765/HD 2329	NIVT 1A
44	RAJ 4123	PBW 343/ UP 2442/WR 258/UP 2425	NIVT 1A
45	RSP 459	PFAU/HUW 528	NIVT 1A
46	RSP 505	WH 542/HUW 528	NIVT 1A
47	UP 2678	AKW 2571/HW 2001 A	NIVT 1A
48	UP 2680	UP 2382/[SW 89-5124/OPATA]	NIVT 1A
49	UP 2682	PBW 343/HW 2008	NIVT 1A
50	WH 1035	SKUZ*2/SRMA	NIVT 1A
51	WH 1036	NIAW 231/WH 542	NIVT 1A
52	WH 1038	PBW 343*2/KUKUN	NIVT 1A
53	HD 2950	IWWPN XIV-201/HW 888/HD 2329/MARIS DOVE/K68/BH 4375*2KAVKAZ	NIVT 1B
54	HD 2951	SFW/DL 784-3	NIVT 1B
55	HD 2966	DL 509/2/DL 377 – 8//ATTLA/3*CNO79/*2SERI	NIVT 1B
56	HP 1897	K 9107/HP 1761	NIVT 1B
57	HP 1898	WH 736/UP 2358//32 nd IBWSN 248	NIVT 1B
58	HP 1899	HD 2733/HW 2044	NIVT 1B
59	HP 1900	HD 2733/ CP 305.RK 45	NIVT 1B
60	HP 1901	PBW 343//CNO 79/RAJ 3777	NIVT 1B
61	HUW 603	JB 1002/HUW 510//WG 2780/K 9107	NIVT 1B
62	HUW 605	K 8027/HUW 318//HP 1761	NIVT 1B
63	HUW 606	PBW 343/2*KUKUN	NIVT 1B
64	JKW 32		NIVT 1B
65	K 0 503	K 9006/K 8565	NIVT 1B
66	K 0 505	K 8027/K 9533	NIVT 1B
67	K 0 506	K 9533/HD 2402	NIVT 1B
68	K 0 507	K 9533/HD 2402	NIVT 1B
69	K 0 509	NW 1012/K 9161	NIVT 1B
70	NW 3083	CROC.1/AE.SQUARROSA(205)//KAU Z/3/ SASIA	NIVT 1B
71	NW 3084	MILAN/KAUZ//BABAX/3/BABAX	NIVT 1B
72	NW 3085	ATTLA*/PBW 65	NIVT 1B
73	NW 3087	ATTLA*/STAR	NIVT 1B
74	PBW 585	PBW 342/HD 2652	NIVT 1B
75	PBW 586	RAJ 3765/WH 581	NIVT 1B
76	PBW 587	PBW 342/HD 2652	NIVT 1B
77	PBW 588	RL 6043/RAJ 3765	NIVT 1B
78	RAJ 4124	RAJ 3777/WR 413	NIVT 1B
79	RAJ 4125	UP 2441/K 9330	NIVT 1B
80	RAJ 4132	RAJ 3777/WH 67	NIVT 1B
81	UP 2683	UP 2363/MDRSN - 7	NIVT 1B
82	UP 2684	[CHEN/AE.SQUARROSA(TAUS)/TUR ACO] / UP 2426	NIVT 1B
83	UP 2685	UP 2377/HW 1085	NIVT 1B
84	WH 1042	AKW 2293/PBW 343	NIVT 1B
85	WH 1039	NIAW 231/UP 2338	NIVT 1B
86	DDK 1009	NP 200*4//NP 200/ALTAR84	Released variety 1998

	(dic)		
87	DL 788-2	K 7537/HD 2160/HD 278//L 24/K4-14	Released variety 1997
88	GW 173	TW 275/7/6/1/LOK 1	Released variety 1994
89	GW 273	CPAN 2084/VW 205	Released variety 1998
90	GW 322	PBW 173/GW 196	Released variety 2002
91	HD 2781	BOW/C 306//C 591/HW 2004	Released variety 2002
92	HD 4672 (D)	BIJAGA RED/PBW 34//ALTAR 84	Released variety 1999
93	HI 1077	GALL-AUST-II-61-151/CNO-NO66-K 913	Released variety 1989
94	HI 1500	HW 2002*2//STREMPALLI/PNC 5	Released variety 2003
95	HI 8381(D)	JC 89'S'//AA'S/FGO'S'	Released variety 1995
96	HI 8498 (D)	CR'S'-GS'S'/A-9-30-1//RAJ 911	Released variety 1999
97	K 9644	HD 2402/K 8305	Released variety 2000
98	MACS 2496	SERI'S''	Released variety 1991
99	MACS 2846(D)	CPAN 6079/MACS 2340	Released variety 1998
100	MP 4010	IWP 19 E 6254*KS2 IWP 74	Released variety 2003
101	NIAW 34	CNO 79/PRL''S''	Released variety 1997
102	DWR 162	KVZ/BUHO//KAL/BB	Released variety 1993

12. b. EXPORT OF WHEAT VARIETIES TO CIMMYT, MEXICO

With reference to the letter No.4/2/2002-IC-II dated 23rd May, 2006 **Mr. Rajeev Kumar Jain, Deputy Secretary (IC), Department of Agricultural Research and Education, Ministry of Agriculture, New Delhi** has informed to send 19 more wheat varieties (list enclosed) to CIMMYT, Mexico for screening against the Ug 99 of stem rust under the collaborative project.

List of varieties for Dr.R.P.Singh, CIMMYT

1. HD 2733
2. GW 322
3. HW 2045
4. PBW 443
5. HS 420
6. PBW 502
7. NW 2036
8. HI 1500
9. PBW 396
10. HD 2824
11. HUW 510
12. HS 375
13. K 9644
14. KRL 19
15. VL 804
16. DBW 14
17. MP 4010

18. RAJ 4037

19. HD 4672

**12.c. GERMPLASM SEED PLANTING MATERIAL TO THAILAND, BHUTAN
AND SRILANKA**

With reference to the letter No.F.4-11/2000 – IC.II dated 3rd May, 2006 D.K.Chhatwal, Under Secretary to the Govt. of India, Department of Agricultural Research & Education, Ministry of Agriculture, New Delhi has directed that the supply of the required germplasm seed planting material to the authorities concerned may be referred to National Biodiversity Authority for their approval.

Sl.No (1)	Name of Organization (2)	Material required (3)	Remarks of NBPGR (4)
1 No.4-5/06 – IC.II.	Ambassador, Royal Thai Embassy, New Delhi	10 Indian mango trees of different varieties which have red skin. (Relevant communication attached)	NBPGR has recommended the supply of planting material of two red skinned mango varieties (Malgese & Pairi) to Thailand and in exchange we require two varieties of mango namely Nam Dok Mai and Ok Rong from Thailand.
2 F.No.4-2/06- IC-II	Renewable Natural Resources Research Centre (RNRRC), Royal Govt.of Bhutan	Sunflower oilseeds crops varieties: 1. Open: Pollinated: KBSH – I, KBSH – 44, MSFG – 8, MSFH – 17, PAC - 1091, Sugarcane – 85, Jwalamukhi, Pro sun – 09(Relevant communication received attached)	After obtaining the views of DOR, Hyderabad and Director, CPCRI, Kasaragod, Director, NBPGR, N. Delhi has proposed that the supply of seed material of exotic variety Mordan and five hybrids namely MSFH – 8, MSFH – 17, PAC-1091, Jwalamukhi and Pro Sun – 09 be considered in exchange of arecanut variety/ germplasm having characteristic from diseases like phytophthora, yellow leaf disease and inflorescence dieback; giner varieties with low fibre, extra hold rhizomes and high yield types from Bhutan as required by the CPCRI, Kasaragod.
3.	Sri Lanka Council of	Import of Coconut Germplasm of	NBPGR, New Delhi in

<p>No.4-11/00 – IC.II</p>	<p>Agricultural Research Policy (CARP) Colombo, Srilanka</p>	<p>3 Indian released varieties namely (i) Chowghat Orange Dwarf, (ii) Philippines ordinary and (iii) Arasampatti Tall to Sri Lanka under ICAR – CARP Work Plan, 2006 – 07(Relevant communication received attached)</p>	<p>consultation with the CPCRI, Kasaragod has proposed to import 6 Sri Lankan varieties namely (i) Sri Lankan Brown Dwarf, (ii) Sri Lankan Tall Ambakelle, (iii) Pan Tehembili, (iv) Brazilian Green Dwarf, (v) Sri Lankan Tall Spicana and (vi) Sri Lankan Tall Moorock in exchange of their above three coconut germplasm varieties.</p>
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APPENDIX 3: Proposal on *Indian Biodiversity Information System (IBIS)* A Pilot project on testing the feasibility and utility of establishing Indian Biodiversity Information System.

Proposal on
***Indian Biodiversity Information System
(IBIS)***

**A Pilot project on testing the feasibility and utility of
establishing Indian Biodiversity Information System**

Submitted to

National Biodiversity Authority

June 2006

Major Title : Towards Establishment of *Indian Biodiversity Information System (IBIS)*

Title of the proposal : A Pilot project on testing the feasibility and utility of establishing *Indian Biodiversity Information System (IBIS)*

Coordinator : Dr. Vishwas Chavan,

Information Division

National Chemical Laboratory

Pune 411 008

Vs.chavan@ncl.res.in

Principal Investigators :

1. Dr. Vishwas Chavan,

Information Division

National Chemical Laboratory

Pune 411 008

Vs.chavan@ncl.res.in

2. Dr. K N Ganeshiah,

Department of Plan Genetics

School of Ecology and Conservation

UAS GKVK Bangalore, 560 065

kng@vsnl.com

Co-PIs

Prof. Madhav Gadgil, IISc., Bangalore; *Prof. Dharshan Shanker*, FRLHT, Bangalore
Dr. Irfan Ullah, ATREE, Bangalore; *Dr. Lakra* NBFGR, Lucknow
Dr. Sharma, NBPGR New Delhi; *Dr. V K Gupta*, NISCAIR, New Delhi
Dr. Kethrapal, NBAGR, Karnal; *Dr. K N Ganeshiah*, UAS Bangalore
Dr. V Chavan, NCL. Pune

Period : 3 Years

Budget : Rs. 4,84,59,120/- (Four crore eighty four lakh fifty nine thousand one hundred and twenty only)

A Pilot project on testing the feasibility and utility of establishing *Indian Biodiversity Information System (IBIS)*

Project Summary:

There is wealth of information on the Indian biodiversity elements and new data is being generated at an exponential rate owing to ongoing survey, inventory and exploration activities. However, this data is not accessible when one needs it the most, as it is distributed, disparate and in heterogeneous, non-interoperable form and formats. To overcome this, National Biodiversity Authority is visualizing establishment of “Indian Biodiversity Information System (IBIS). IBIS will contribute towards economic growth, ecological sustainability, and social outcomes through increasing the utility, availability and completeness of new and existing biodiversity and ecosystem information resources. This proposal seeks support for undertaking pilot phase implementation to demonstrate the proof of concept, as detailed in the technical concept papers commissioned by the NBA Expert Group on Biodiversity and Traditional Knowledge Databases. This pilot phase proposes to establish open-ended, scalable, web services architecture that would integrate databases developed by 9 agencies, which agree to be part of this initiative. Once implemented it would demonstrate the workability of IBIS in its larger context, role, and responsibility to realizing a dream open and free access to biodiversity information at a click of a mouse.

Preamble

A wealth of information exists about Indian biodiversity and its biotic resources. However, this information is scattered in several structured and unstructured information sources, which are distributed, heterogeneous. These are developed on different platforms, using variety of database management systems. They also differ in their format, content types, database structure (data models), as well as access mechanism. Efficient, appropriate, authentic and current information retrieval is not only like researching, but also time consuming. This adversely affects the sustainable utilization of our biotic resources and their conservation. There is an urgent need for development of a

web based interoperable and collaborative framework for interconnecting these distributed and heterogeneous databases by establishing resource discovery and access control mechanism.

To address this **National Biodiversity Authority** (NBA) constituted expert group on Biodiversity and Traditional Knowledge Databases under the chairmanship of Prof. Madhav Gadgil. Expert group reviewed universe of biodiversity databases through survey of bioresources and traditional knowledge databases. Expert group also deliberated about what would be the best way that these distributed, heterogeneous databases could be integrated together so that data and information on Indian biodiversity and traditional knowledge associated with this biodiversity is accessible to anyone, anyplace, anytime. While doing so it should credit its contributors, respect and fulfill national aspirations, such as intellectual property rights, economic wealth, bio-security, and social wellbeing. Considering unique requirements in terms of data types to be accommodated, multilingual content, and state of the art of database systems used, standards being adopted currently, committee recommended establishment of web services architecture based “Indian Biodiversity Information System (IBIS)”. Technical as well governance aspects of this proposed system such as architecture, infrastructure, standards, tools, and protocols, capacity building, organizational governance, work programs were discussed through three concept papers (Gadgil 2006, Chavan and Krishnan 2006, and Chavan 2006) commissioned by the group. These papers are appended to this proposal. Committee accepted the papers in their totality and recommended the establishment of “Indian Biodiversity Information System” as detailed in the papers. It further suggested that a pilot be implemented before the detailed proposal is submitted for funding by the planning commission.

Origin:

1. The Project originated from the discussions held at the final meeting of the database expert committee of the NBA at Chennai. The database expert committee agreed in principle to the concept of setting up a federal system of a mega portal to network all databases related to biodiversity in the country with an open ended opportunity to link all existing and newly emerging databases and, all existing and newly emerging architectures of databases and to provide a service system for diverse end users- a one place bio-diversity system. However as a first step towards pursuing this major goal it was suggested that a pilot project be initiated to test the proof of the concept.
2. The Project also emerged independently from the efforts and interactions between the two PIs of this proposal to develop a network of databases that they are developing.
3. The project also emerged from the shared views of all the participant institutes who agreed to the general concept of the mega portal for the country.
4. It also emerged from the NBA’s desire to set up a national network of databases on biodiversity.

Definition:

This pilot project is aimed at demonstrating the workability and utility of the intended mega portal for the country. It is therefore envisaged to develop a network of a fairly large number of diverse group of data providers from NGOs, Government organizations, educational institutes hosting databases on thematically heterogeneous areas. Based on the experience gained and lessons learnt, the project intends to short-circuit the probable pitfalls and hurdles in the intended mega portal.

Objectives

The central objective of the proposal is establish a mini-version or a pilot version of the intended mega-portal of biodiversity for the country. The pilot proposal is aimed at demonstrating the proof of the concept and of the workability of the intended major program being envisioned by NBA on developing a mega-portal of biological diversity for the country. While the purpose is to set up a mini-version of the mega portal, the experience and lessons learnt would be capital on which the major hurdles and the problems of the mega project will be short circuited. The specific objectives of the proposal are as below:

Specific Objectives:

1. To develop an interoperable informatics framework for networking set of biodiversity databases, based on web services architecture.
2. To develop a shared convention, data encoding schema (XML schema) to integrate cross-discipline, multi-discipline databases with each other.
3. To access biodiversity and bioresources related data through single portal, which pulls together data from distributed data providers.
4. To develop guidelines, standards, tools for networking, and inter-connecting biodiversity and bioresources related databases.
5. To achieve capacity building and human resources development.
6. To ensure wider dissemination of integrated biodiversity data, leading to awareness about role of biotic resources, and their sustainable use and conservation.

Work Plan

The Structure of the Program and working Teams:

The structure: The mega portal is planned with a mirror system as it has several advantages (please see section 6.1.2 in the appended file). This program hence is also planned to incorporate the mirror system so that the mini-version being planned has all the road marks and complexities associated with the mega portal. Thus the program shall have two major components:

1. Establishment of the central Web Service and Portal – Development and management system which does
 - a) Establishes a mirrored system of web-service, and meta data protocols, service registries and schemas
 - b) Establishment of network to data providers from both mirror systems
2. Establishment of local server systems at the data providers

END USERS

Core/Mirror1 Core/Mirror2

Data Providers

DNS

Please see the details of the composition of the Core centers in Fig 3 (Chavan and Krishnan, 2006).

Accordingly the following composition of the team would work on the project.

The Team: The Project will be executed by two sets of teams as given below:

a) **The Core group:** The core group would take up the responsibility of setting up the web-service system and meta-data protocols and tools and the service registries and schemas.

Members of the core group:

PIs for the Core Group

Dr Viswas Chavan, NCL Pune;

Dr K N Ganeshaiyah, UAS Bangalore

b) The participant group:

Prof. Madhav Gadgil, IISc., Bangalore: Peoples Biodiversity Registers

Prof. Dharshan Shanker, FRLHT, Bangalore: Medicinal Plants

Dr. Irfan ATREE, Bangalore: Eco-informatics data

Dr Lakra NBFGR, Lucknow: Fish Genetic resources

Dr. Sharma, NBPGR New Delhi: Plant Genetic resources

Dr. V K Gupta, NISCAIR, New Delhi: Traditional Knowledge

Dr. Kethrapal, NBAGR, Karnal: Animal genetic resources

Dr. K N Ganeshaiyah, UAS Bangalore: Plants of India

Dr V Chavan, NCL. Pune: Indfauna

These participants have already agreed to be part of the portal being developed.

Work Elements:

1. Establishment of Infrastructure at the Core Mirrors

- i. Hardware: Registry index database, Web server,
- ii. Internet / Intranet connectivity
- iii. Software development deployment: UDDI registry, Crawler, indexer, use cases and portal development

2. Establishment of Infrastructure at the participant centers

- i. Hardware: database r and provider Server
- ii. Connectivity- Inter and Intra0net
- iii. Xml Schema, and Provider deployment

3. Workshops and meetings

- i. To Arrive at common schemas and understanding on the data exchange modalities
- ii. To train the participants in the working plan of the proposal
- iii. To train the end users in using the facility
- iv. To Evaluate and assess the performance
- v. To synthesize on experience and lessons learnt.

Time Schedule of Work Plan

Year 1:

- (a) An initiation workshop among all the PIs and Co-PIs and drawing up schedule plan of action
- (b) Procurement of equipments and manpower.
- (c) Workshop to arrive at common schemas and understanding on the data exchange modalities, policies for security, access control, intellectual property rights, security, and rules of business.
- (d) Establishment of core UDDI registry services:

Year 2:

- (e) XML schemas implementation
- (f) Development of customized interface description layer (WSDL).
- (g) Development of Access protocol layer.
- (h) Development of new data encoding layers (xml schemas), Integration with Transport layer,
- (i) Portal development, search interface development, use case development
- (j) Customization of databases of offline data providers,
- (k) Installation of Access protocol layers with Online data provider (DiGIR or SOAP),

Year 3:

- (l) Indexing and metadata creation, Beta testing and launch in multipurpose environment.
- (m) Workshop of data providers – for hands-on-training, to implement data provider services.
- (n) Documentation activities involve - Development of FAQ, Manual, Troubleshooting guide, Documentation of lessons learned, MoUs, agreements, etc.
- (o) Provider services include - Help Desk Service, training and capacity building.
- (p) An outreach workshop for demonstrating the use of data, sensitize the use of the program
- (q) Evaluation and assessment of the performance, synthesize on experience and lessons learnt.

Expected outcomes

The pilot project proposed here is expected to achieve the following:

1. Establishment of a functional network of a set of data-providers in diverse areas of biological diversity
2. Establishment of a functional service system for diverse end users of biodiversity databases of the country
3. Evaluation and Standardization of the existing data exchange tools and protocols
4. Development of a model package of standards and protocols for data

providers to be used countrywide.

5. Building the seed capacity for the country to work towards the establishment mega-portal

Annexures:

1. Gadgil, Madhav (2006) Overview of the Indian Biodiversity Information System (IBIS). Concept paper prepared for the 2nd Meeting of the National Biodiversity Authority (NBA) Expert Group on Biodiversity and Traditional Knowledge Databases, held at the National Chemical Laboratory, Pune on February 3, 2006, pp. 10.

2. Chavan, Vishwas and S. Krishnan (2006) Establishing and enriching collaborating framework for connecting biodiversity databases. Concept paper prepared for the 2nd Meeting of the National Biodiversity Authority (NBA) Expert Group on Biodiversity and Traditional Knowledge Databases, held at the National Chemical Laboratory, Pune on February 3, 2006, pp. 10.

3. Chavan, Vishwas (2006) Indian Biodiversity Information System (IBIS): Scope, modalities and implementation framework. Concept paper prepared for the 3rd Meeting of the National Biodiversity Authority (NBA) Expert Group on Biodiversity and Traditional Knowledge Databases, held at Anna University, Chennai on June 23, 2006, pp. 24.

Strengths at the PI centers

I. National Chemical laboratory

NCL's activities in scientific informatics, especially biodiversity and ecosystem informatics have been well recognized. This is demonstrated through sustained funding from various national funding agencies such as DSIR, DST and DBT. Further funding from Sloan Foundation, Global Biodiversity Information Facility (GBIF) proves that our activities are par international standards. Our progress in this area can be tracked at <http://www.ncbi.org.in/> and <http://www.indobis.org/>. Some of the salient products developed by the group so far includes (a) IndFauna, electronic catalogue of known Indian fauna, (b) SaGrIS, Sacred Groves Information System, (c) IndOBIS CoL, Catalogue of Life of Indian Ocean, (d) SAMPADA, software for digitization of natural history collections, etc.

Principial Investigator, Vishwas Chavan has been nominated to several national and inter national committees including Chair of the Outreach and Capacity Building (OCB) of the Global Biodiversity Information Facility (GBIF) which speaks of the leadership position that our activities have attained.

II. UAS Bangalore

Dr K N Ganeshiah has been involved in establishing the databases of biodiversity and bioresources for the past five years at UAS Bangalore. The following offers a brief outline of the range of databases developed at his centre.

I. Digitized inventory of Plant and Animal Resources

In this program, we have developed a number of databases pertaining to plants and animals for different regions of the country. Most of these databases are now available in a user-friendly format in CDs . A brief discription of the various products available is given hereunder.

Plant Resources of Karnataka offers information on the taxonomy, distribution and images of 4758 species belonging to 1408 genera and 178 families in the state of Karnataka. The data was compiled from 30 floras describing the angiosperm diversity of Karnataka. The CD has three search modules: the first offers geographic richness and distribution of species, genera and families at the state, district and taluka levels. The descond module facilitates the acquisition of details based on common and scientific names. The common names are compiled in 32 languages and dialects. The module also offers the taxonomic classification of species up to phylum level according to Cronquist. Finally in the third module, line diagrams of floral features, colour photographs and other relvant images of about 1000 species are made available.

Sasya Sahyadri is a CD offering information on taxonomic details, images and distribution of over 6,100 species of plants of Western Ghats, one of the two megadiversity centers in India. This CD compiles information from 148 flora from late 18th century till date and offers it at a resolution of 10x 10 square kilometers. The information on valid names and the synonyms of the plant species, common names in 80 languages and dialects along with the authors and flora names is furnished in the CD. Further, thematic maps of taxonomic richness at family, genus and species levels and of the conservation value are also featured here. Images of over 2500 plant species have been provided to help in identifying the plants of interest. Moreover, queries in any possible combination of region, taxa and common names make the CD user friendly. This database is of immense value to researchers, academicians, policy makers, naturalists, students as well as amateurs.

Sasya Bharathi provides information on taxonomic details, images, common names, synonyms, flora and distribution of over 13,000 species of plants of South India. This CD is based on the information compiled from 210 flora .The CD provides the details of plants and their diversity upto taluk level or at resolution of 6 * 6 square kilometers.

Crotalaria – Sesbania is a CD offering information on distribution, synonyms and common names of over 175 species of genera *Crotalaria* and *Sesbania* of India. It also contains digital field keys to identify the species of *Crotalaria* and *Sesbania*.

Sahyadri Pathangam offers information on about 300 species of butterflies and their

host plants and provides their distribution along the Western Ghats. The CD also offers details on taxonomy, synonyms, common names, conservation value, host plants and distribution of butterflies at a scale of 5 * 5 sq. km.

Pathanga Suchya offers taxonomic key to the identification of 120 species of butterflies of the Bangalore region through its dorsal color, ventral color, antenna, tail, wing margin, patches, stripes and eye-spots. The CD also provides images for 120 butterflies.

Bird database: The group at the UAS, Bangalore has also compiled the largest database on the birds of India. The data covers distribution and taxonomy, conservation status, habitats and migratory period of 1200 species of birds.

Other Insect databases: Databases on the distribution and taxonomy of Tiger beetle and ants is also compiled by the group.

Sasya Sampada: This program offers the digitized database of the medicinal and economically important plants of India. The CD offers information on taxonomy, biology, common names, distribution maps, propagation techniques, biochemical components, ethno-botany, phenology, reproductive biology, economic uses and economic potential of 700 medicinally important and 2200 economically important plants of the country. Several categories of use are available viz., medicinal plants, under utilized food and fodder crops, fuel wood and biomass plants, traditional beverage plants, botanical pesticides, gums, resins and dyes, sugar and starch plants and fiber and pulp, lichens, potential ornamental plants. A combination of parts used and different medicinal systems such as Ayurveda and Unani can be used for searching. For each species selected, CD provides data on taxonomic hierarchy, synonyms and common names, distribution map, and an HTML file on economic uses, products and processes, genetic variability, cultivation aspects, utilization, chemistry, ethno-botany and the linkages to other data sources. The data has been compiled with the help of 40 experts from all over the country and will be eventually made available online for the end users with suitable regulations.

Database products for other resources are currently being processed.

II Decision Support System for TAXONAMES:

At Bangalore, we have recently initiated efforts to arrive at a Decision Support System for Taxonames. The DSS operates in a virtual world called Cyber taxonomy. The motivation to develop this support system stems from the fact that often research in taxonomy is constrained by the lack of access to type specimens and to the relevant literature. This Decision Support System provides the path of evolution of the current nomenclature and one can trace back to the original and secondary descriptions of the species. It is also designed to offer synonym and basionyms and their associated literature, images and distribution details of particular species with the link to the names and authorities from different sources. Essentially, it can be used to obtain comprehensive account of the taxonomic details of a particular group at once and thus serves as a platform for resolving the taxonomic conflicts on the desk-top.

III Herbarium Image Collection and Image Repatriation

To facilitate acquisition of images of plants maintained by various herbaria, a Taxonomic Image Manager has been developed. The program has facilities for image correction and uploading. The program is available for use by taxonomists. Using the Taxonomic Image Manager, so far images of 9224 species, from both national and international herbaria have been captured. The latter activity is important in repatriating photographs of type specimens deposited in various herbaria outside the country. The images along with the DSS for Taxonames could play an important role in promoting taxonomic research in the country.

IV Web-Initiatives

Eco-Informatics Center (www.ecoinfoindia.org):

The Eco-Informatics Center (ATREE, UAS and HP joint initiative) is envisioned as a web-enabled, publicly accessible resource for integrated and value-added information on ecology and the environment that actively promotes collaboration in applied research and capacity building in the area of Ecoinformatics. The objective of the center is to assemble, organize and disseminate ecological, remotely sensed and geo-physical data in the public domain for use by researchers, students, teachers, policy makers and wide range of other professionals interested in biological research, teaching, conservation and management of natural resources; promoting research on the organization, structure and dissemination of databases through modeling and development of tools and software and to train environmental professionals in handling large databases, modeling and dissemination of information.

The three major modules available in this website are a) Geographic Information System (GIS) addressing data needs for conservation planning, research and communication. The Web GIS portal is a repository of geographically referenced spatial data with built-in functionalities that allow users to execute spatial and attribute based queries. It also allows for custom map composition and downloading of maps. b) Databases for bridging gaps in information availability for natural resource conservation. Databases under three broad heads viz. biological, geophysical and socio-economic are being compiled and archived for dissemination to all possible user groups and stakeholders c) Why and where feature that enables users to specify a set of species locations in Latitude/Longitude to model the distribution of the specified species anywhere in India. The model produces a fine scale predictive map and potential explanations for the distribution of the points. This function will be of interest to a wide range of researchers, particularly in ecology, anthropology and social sciences.

Plant Resources of India: (<http://www.plantsindia.org/>):

As an initial effort in making the information on plant resources of India available on the Internet, a website that provides information on checklist, taxonomy and distribution and images of plant resources of India has been already launched (UAS-ATREE, Bangalore, India joint venture) and continuously being updated with the newly generated data.

VII Indian Bioresources Information Network (IBIN):

This is a service and network system for all the digital databases on bio-resources being developed under the NBDB and other programs of DBT. The purpose of this effort which

was initiated in 2005 is to facilitate the use of the existing digital databases by the diverse end users, to promote the interlinking of these diverse databases through a continuous interaction and to support a continuous growth of the databases and their utility in conservation science and technology development.

The network would consist of two interacting nodes, one for serving the predominantly non-spatial data sets and the other to serve predominantly spatial data sets. Though the two nodes will be maintained and operated by the teams already involved in developing these databases, they will be linked with suitable communicating paths for exchanging the datasets that can be ported on both for the end users. Accordingly, while the two nodes will be located one each at University of Agricultural Sciences, GKVK Bangalore (for predominantly non spatial databases of the bio-resources viz., economically important and medicinal plants, marine resources, microbial resources and animal resources) and Indian Institute of Remote Sensing Agency, Dehra Dun (for predominantly spatial data sets related to Phytosis, Biospec and other biodiversity assessment related maps etc) their linkage will be facilitated by the process of suitable portal software development by the University of Pune. The entire system will be eventually launched on the existing Bio-grids of the Bio-informatics network of the DBT. Once in place, the entire system is planned to be made available on the web through suitable access and control systems as a national reference point. Along side it is also planned to have frequent training and interactive workshops to encourage the use and upgrading of the data sets by the end users.

Budget Summary

Sr. No Item Year 1 Year 2 Year 3 Total Non-Recurring (NR)

1 Equipments 2,53,00,000 - - 2,53,00,000 Recurring (R)

2 Manpower 26,44,200; 26,44,200; 26,44,200; 79,32,600

3 Contractual Services 10,00,000; 10,00,000 - 20,00,000

4 Travel 5,50,000; 5,50,000; 5,50,000; 16,50,000

5 Contingency 3,25,000; 3,25,000; 3,25,000; 9,75,000

6 Consumables 2,75,000; 2,75,000; 2,75,000; 8,25,000

7 Workshops 7,00,000 7,00,000 3,00,000 17,00,000

Total (R) 54,94,200; 54,94,200; 40,94,200; 1,50,82,600

Total (R + NR) 3,07,94,200; 54,94,200; 40,94,200; 4,03,82,600

8 Overheads @20% of total 61,58,840; 10,98,840; 8,18,840; 80,76,520

Grand Total 3,69,53,040; 65,93,040; 49,13,040; 4,84,59,120

1. Equipments

Sr.No. Items / Descriptors Quantity Unit Cost Total

For IBIS Mirrors

I National Chemical Laboratory, Pune

1. Servers (Database, Index/Crawler, Registry, and Web Servers) 04 4,50,000; 18,00,000
 2. Internet Connectivity (2 Mbps speed) 15,00,000 / annum 45,00,000
 3. Network Devices, Output and Archival Media 4,00,000
- SUB TOTAL "a" 67,00,000**

II University of Agricultural Sciences, Bangalore

4. Servers (Database, Index/Crawler, Registry, and Web Servers) 04 4,50,000; 18,00,000
5. Internet Connectivity (2 Mbps speed) 15,00,000 / Annum 45,00,000
6. Network Devices, Output and Archival Media 4,00,000

SUB TOTAL "b" 67,00,000

TOTAL "A" (a+b) 1,34,00,000

For Participant Nodes (7 nos.)

7. Database Servers (1 /node) 07 2,50,000; 17,50,000
8. Data Provider Server (1/node) 07 2,50,000; 17,50,000
9. Internet Connectivity (512 kbps speed) 07 4,00,000 / annum 84,00,000

TOTAL "B" 1,19,00,000

GRAND TOTAL (A+B) 2,53,00,000

2. Manpower

Items Amount /per month

I year II year III year Total

For IBIS Mirrors

I NCL Pune

Research Associate (Networking) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200

Research Associate (Programmer) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200

RA (Coordinating and domain expertise) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200

Total 6,10,200 6,10,200 6,10,200 18,30,600

II UAS Bangalore

Research Associate (Networking) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200

Research Associate (Programmer) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200
RA (Coordinating and domain expertise) Rs. 15,000 + HRA (13%) 2,03,400; 2,03,400;
2,03,400; 6,10,200

Total 6,10,200; 6,10,200; 6,10,200; 18,30,600

For each participant Node

Research Associate Rs. 15,000 + HRA (13%) 2,03,400 2,03,400 2,03,400 6,10,200

Total For 7 nodes 14,23,800 14,23,800 14,23,800 42,71,400

Grand Total 79,32,600

3. Contractual services

Contractual services would need for integrating open source packages, to develop deployment kits as well to undertake new development.

Year 1 - Rs.10.00 lakhs

Year 2 - Rs.10.00 lakhs

4. Travel

Items Amount /per month

I year II year III year Total

For IBIS Mirrors

I. NCL Pune 1,00,000 1,00,000 1,00,000 3,00,000

II. UAS Bangalore 1,00,000 1,00,000 1,00,000 3,00,000

Total 2,00,000 2,00,000 2,00,000 6,00,000

For each participant Nodes 50,000 50,000 50,000 1,50,000

Total For 7 nodes 3,50,000 3,50,000 3,50,000 10,50,000

Grand Total 16,50,000

5. Contingency

Items Amount /per month I year II year III year Total

For IBIS Mirrors

I. NCL Pune 75,000 75,000 75,000 2,25,000

II. UAS Bangalore 75,000 75,000 75,000 2,25,000

Total 1,50,000 1,50,000 1,50,000 4,50,000

For each participant Nodes 25,000 25,000 25,000 75,000

Total For 7 nodes 1,75,000 1,75,000 1,75,000 5,25,000

Grand Total 9,75,000

6. Consumables

Items Amount /per month
I year II year III year Total
For IBIS Mirrors

I. NCL Pune 50,000 50,000 50,000 1,50,000
II. UAS Bangalore 50,000 50,000 50,000 1,50,000
Total 1,00,000 1,00,000 1,00,000 3,00,000

For each participant Nodes 25,000 25,000 25,000 75,000
Total For 7 nodes 1,75,000 1,75,000 1,75,000 5,25,000
Grand Total 8,25,000

7. Workshops / Trainings

Total No. of Workshops : 5 (five)
Frequency of Workshops : 2 each in 1st & 2nd year and 1 in 3rd year
Participants / Workshop : 20
Duration / Workshop : 2 days
Items Amount /per month
I year (2 wksp)
II year (2 wksp)
III year (1 wksp)

Total Travel for workshop participants
5,00,000 5,00,000 2,00,000 12,00,000
Food / Accommodation 1,00,000 1,00,000 50,000 2,50,000
Local Transportation / venue charges 50,000 50,000 25,000 1,25,000
Contingency / Communication / Stationary 50,000 50,000 25,000 1,25,000

Total 7,00,000; 7,00,000; 3,00,000; 17,00,000

BIOGRAPHY OF DR. GANESHAIAH, K. N.

Department of Genetics and Plant Breeding
School of Ecology and Conservation
University of Agricultural Sciences
GKVK, Bangalore-560 065, India
Tel. No.: 091 080-3636276; Fax No.: 091 080 353 0070
E-Mail: kng@ vsnl.com,

EDUCATIONAL QUALIFICATION

Ph. D. Genetics and Plant Breeding, University of Agricultural Sciences, Bangalore, India, 1983.
M.Sc. (Agriculture: Genetics & Plant Breeding), University of Agricultural Sciences, Bangalore, India, 1979
B.Sc (Agriculture), University of Agricultural Sciences, Bangalore, India, 1976.

DESIGNATION

Professor in Department of Genetics and Plant Breeding,
Principal Scientist, All India Coordinated Project on Chickpea, University of
Agricultural
Sciences, Bangalore, India.

AREA OF SPECIALIZATION

Evolutionary Ecology
Plant Reproductive biology,
Biodiversity and Conservation Science
Genetic improvement of crops

AWARDS AND RECOGNITIONS

Fellow, Indian Academy of Sciences, Bangalore, India (1991-)
Fellow, Indian National Science Academy, New Delhi (1997-)
Honorary Senior Fellow, Jawaharlal Nehru Center for Advanced Scientific Research,
Bangalore, India (1996).
Parisara Prashasthi, Environment Award, Government of Karnataka, India. (1997-98)
Fulbright Fellow, USA (1991)
Senior Fellow, Ashoka Trust for Research in Ecology and Environment, Bangalore
(1996)
Member, National Committee for Biological Sciences, **India (for International Union
for Biological Sciences)-2003**
British Petroleum (BP) Conservation International Award-2003

EMPLOYMENT RECORD

Instructor, Department of Genetics and Plant Breeding (1983-1988)
Assistant Professor, Department of Farm Forestry (1988-1989)
Associate Professor, Breeder, (AICRP) on UU/UE Plants (1989-1996)
Professor, Breeder, (AICRP) on UU/UE Plants (1996-2000)
Principal Scientist, AICRP on chickpea (2001-)

MEMBER IN EDITORIAL COMMITTEE

Editorial Board, *Current Science* (1991-)
Editorial Board - *My forest* (1991-)
Editorial Board- *International Journal of Phytomorphology* (2001-)
Editorial Board- **Life Scape of India** (Indian Academy of Sciences series on Biodiversity
of India)

MEMBERSHIP OF PROFESSIONAL SOCIETIES

International working group on Dipterocarps, Pondicherry, India (1995 -)
Expert Committee on Medicinal and Aromatic Plants, CSIR, Govt. of India;
Research Council, Dept. of Forest Ecology and Environment, Govt. of Karnataka, (1994)

Expert Panel, Research Advisory Committee, Rubber Research Institute of India, Kottayam, Kerala (1996 -)

Expert Committee, Central Silk Board, Bangalore (1995 -)

Research Advisory Council, Salim Ali Centre for Ornithology and Natural History, Coimbatore (1994 -2000)

Member, Programme Advisory Committee (Animal Behavior and Ecology), Dept. of Science and Technology, Govt. of India (1991- 1994)

Member, Management Advisory Committee (Young Scientist), Dept. of Science and Technology, Govt. of India (1992-1998)

Founder member, International Union for the study of Social Insects; Ecology and Natural Resource Unit, Bangalore; Ethological Society of India

Expert committee on Eastern and Western Ghats, Ministry of Environment and Forests, Govt. of India (1996-)

Executive Member, International Union for the Study of Social Insects (IUSI), Indian Chapter, Bangalore (1993-)

Founder TRUSTEE, Ashoka Trust for Research in Ecology and Environment, Bangalore India

Research Advisory Council Member, SERBIOTECH, Bangalore (1993)

Member, Expert group on Application of Biotechnology for biodiversity conservation, NBDB, DBT, GOI, New Delhi.

PUBLICATIONS

Type of publications Total Number

Research papers (referred journals) 119

Papers in proceedings 13

Review articles 04

Books edited 09

Chapters in book 34

Popular articles 13 , Total 192

BIOGRAPHY OF VISHWAS CHAVAN

Mr. Vishwas Chavan is currently working at the National Chemical Laboratory (NCL), Pune, India and lead activities in the field of Biodiversity Informatics, which has achieved several recognitions in this emerging discipline both nationally and globally. One of his recent achievements includes his unanimous election as “Chair” of the

Outreach and Capacity Building (OCB) Committee of the Global Biodiversity Information Facility (GBIF).

Vishwas has been using information and communication technologies to create collaborative environment for biologists and ecologists ensuring that rate of exchange and sharing of information on our biotic resources improves. One of the significant and impact making activity is the development of **Electronic Catalogue of Known Indian Fauna (IndFauna)**. **SAMPADA** (www.ncbi.org.in/sampada/) is another classic example aggressive biodiversity informatics plan of activities that Vishwas is leading in the subcontinent. In addition to this, Vishwas has been placing greater emphasis in developing linkages with biological, ecological organizations and individuals both locally and internationally.

Before joining NCL, Pune, Vishwas was employed at the Centre for Cellular and Molecular Biology (CCMB), Hyderabad as a scientist since June 1998, facilitating the activities of Bioinformatics Centre and preparing a master plan for bioinformatics activities. Prior to this, he was introduced to the role of computers in data management and secured a job at the National Institute of Oceanography (NIO) as Information Officer (November 21, 1992 - June 19, 1999).

Vishwas has published more than 60 research and review papers, developed a dozen databases and program packages that have been employed in the service of the scientific community. Some of Vishwas's recent achievements include Fulbright Professional Fellowship in Information Sciences & Technology (2000-2001).

Some of his memberships to professional bodies includes GBIF Science Sub Committee on Digitization of Biological Collections (DIGIT), and Outreach and Capacity Building (OCB), Ocean Biogeographic Information System (OBIS) Management Committee, and Informal Advisory Committee of the ClearingHouse Mechanism of the Convention on Biological Diversity.

His work in the area of archival, digitization and collation of legacy S&T information has earned him a seat on CODATA working group on S&T data archiving in developing nations. Additionally, Vishwas is also Co-Chair of the Information Management Committee of Global Invasive Species Program (GISP). He is also Vice Chair of the Species2000 Asia Oceania Steering Committee.

He received a Bachelor of Science in Zoology from N. Wadia College, after which he joined School of Environmental Sciences, University of Pune and received a Master of Science degree in Environmental Sciences in June 1990.

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