

Concept Note

Corporate Sector and Biodiversity

The involvement of corporate sector is particularly important in biodiversity conservation in view of its being a major resource consumer. The need for sustainable use of natural resources, equitable benefit-sharing and environmentally sound technologies is slowly being recognised by the corporate sector, but much more needs to be done. The NBSAP process could productively involve industry associations such as FICCI, CCI, and SCOPE, **to give inputs on integrating biodiversity concerns into the attitudes, programmes, and policies of the corporate sector.** The various aspects, which could be addressed include:

1. Assessment of opinions and attitudes of the corporate sector towards biodiversity concerns
2. Identification of means of integrating biodiversity concerns into corporate sector planning, including new methods of valuation of biodiversity and its elements;
3. Creating new models of corporate sector development that take into account long-term costs and benefits of biodiversity conservation and sustainable use. This would include, for example, the monetary investment needed in appropriate R&D, and assessing how these models could be replicated for industries of different scales.
4. Exploring long-term benefits of investments in R&D and conservation/sustainable use related activities. This would include assessing benefits of ecofriendly, sustainable and biodegradable products/technologies as alternatives.
5. **Exploring measures to engage the corporate sector on issues of moral responsibility going beyond monetary and material considerations, such as respecting the sanctity of critical natural habitats and threatened species, respecting the traditional knowledge and resource rights of villagers, considering the rights of future (unborn) generations rather than concentrating on short-term profits, and so on.**
6. Assessment of related institutional problems, such as the encouragement of bureaucratic corruption to gain access to resources in fragile ecosystems.
7. Analysis of the instances where biodiversity concerns have been integrated into the policies and programmes of the corporate sector, in order to replicate or learn from them.
8. Exploring untapped opportunities for the corporate sector to finance biodiversity conservation projects including awareness programmes, R&D, regeneration of degraded ecosystems, etc.
9. Exploring educational and training methods to instil a biodiversity-conscious culture within management.

Possible ways of involving the industry associations are to:

1. **Suggest that they set up their own internal working groups to look at these aspects and report back to the NPD/TPCG;**
2. **Request them to nominate members to the Thematic Working Groups, and perhaps SSCs;**
3. **Ask for orientation sessions with their members, to explain the process of the NBSAP and the concerns relating to biodiversity, where members of other TWGs can make presentations;**
4. **Invite them to the National Workshops and relevant state level workshops.**

Thematic Concept Note

WILD BIODIVERSITY

The wild species biodiversity of India has a very wide taxonomic range, in proportion to the enormous diversity of ecosystems and geographical conditions which these species inhabit. This enormous diversity at the species, subspecies and variety level, is a result of evolutionary processes.

However, in the last couple of centuries, and in particular in the last few decades, this diversity has faced increasing erosion. Habitat loss, hunting and over-exploitation, introduction of exotics, poisoning, and other factors have caused this loss. The dimensions of the loss are as yet unclear, as baseline data, research and monitoring are poorly developed in the country. Some elements of the loss which have remained undetected or severely under-studied, include *erosion of the sub-species and varieties* of a species. This silent erosion are not necessarily due to any anthropogenic factor, but often due to complex and less understood environmental factors.

While a number of conservation measures (notably legal protection against hunting and trade, and creation of protected areas) have been taken by the Indian government and NGOs in India, there remain critical deficiencies. The distribution of the wild biodiversity is not restricted to protected areas only, and the distribution does not follow any political or administrative guidelines. Hence, a true **national approach** is required, on the basis of the **local and regional** characteristic of the wildlife. Also, the focus for conservation work has to also be put on wild plants, and 'lesser' species of animals, as on the megafauna.

The Wild Biodiversity thematic working group's work should be based on the recognition that:

- the wild biodiversity which is physically protected in the PAs, continue to face threats from human sources and from factors such as isolation and fragmentation of habitats and populations, reduction in distribution range, and so on;
- a large number of wild species are distributed in non-protected areas and face severe threats to their future;
- a large number of flora and fauna are *endemic* to India in general and to specific ecological regions in particular, and need special attention;
- basic research and information on various aspects of wild species is still seriously deficient in India;
- wild species and their diversity are critical for the well-being of the country, in terms of the ecological functions they provide, the aesthetic, cultural and spiritual inspiration that humans derive from them, their economic importance including of the relatives of cultivated plant and domesticated animals species, and so on. In particular, a major section of the population in rural (including tribal) areas are dependent on and associated with wild biodiversity for their livelihood and culture.
- there continue to exist strong traditions of conservation of wildlife in many sections of India's population, with a great potential for use in conservation programmes;
- there is need for a diversity of measures for conservation, including legal protection to species and habitats, countering commercial-industrial-biotic threats, people's participation, economic incentives, and so on.

Given the above, the Working Group should identify the following:

To consider situations where the species could be appropriated by vested interests from similar

eco-regions outside the country

*Why don't we
reanalyse the
data base in the
US reported by
containing an
entire document
you had it?*

Master

Corporate Sector and Biodiversity

Biological diversity affects us all. Life sustaining systems such as clean air, productive oceans, fresh water and fertile soils depend upon a healthy and well balanced environment. Recent decades have witnessed growing concern over the continuing degradation and loss of biological diversity worldwide. The impact of a rapidly growing human population and the increasing demands for food, water and industrialization are the main causes for the loss of species and impoverishment of ecosystems. Deforestation, as a result of clear felling and slash and burn cultivation, together with soil erosion, pollution of inland and marine water bodies, and over harvesting of species have all resulted in a serious depletion of the global biodiversity.

Delek
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Biodiversity is a vital component of the corporate sector, too. A wide range of biological resources is used in industry to provide foods, medicines, fabrics and an assortment of other products. As a number of industries rely on using or having access to natural resources of one type or another it is clearly in their best interest to ensure that the supply of those resources is not interrupted, diminished or lost forever. In fact, ensuring that these resources are continuously available is essential for business. Further biodiversity is of great importance for industries such as pharmaceuticals and agriculture as it provides them with a rich source of genetic materials. Some of these materials are likely to contain unique compounds or properties which one day may provide remedies for currently untreatable diseases. Conservation of biodiversity is therefore important in economic as well as ecological sense.

Despite this resource dependency, corporate sector has not so far actively involved itself in biodiversity conservation process. With the Convention on Biological Diversity launched in 1992 and 105 countries signing the same including India, it has the potential to affect several business sectors involving the use of biological sources. Some of the areas, where the Convention's effects are likely to be felt are as follows:

- Long-term access to, and availability of, biological resources
- Restrictions on land and marine access for exploration and development
- More stringent requirements for environmental impact assessments
- National strategies to conserve biological resources
- Restrictions on trade in products determined to be "biodiversity unfriendly"
- Voluntary versus legislative measures to protect biodiversity
- Liability for not protecting biodiversity
- Strict codes for ensuring safety in biotechnology
- Public perception in the marketing of "biodiversity friendly" products.

Although biodiversity has a broad impact on all business operations, it is an essential foundation for development in many sectors. Biodiversity related concerns in some of these sectors are as under:

- | | | |
|----|----------------|---|
| 1. | Pharmaceutical | <ul style="list-style-type: none"> • Access to biological resources • Intellectual property rights • Technology transfer • Sharing of benefits • Training of local counterparts • Development of research and management facilities |
| 2. | Agriculture | <ul style="list-style-type: none"> • Use of genetic resources • Inappropriate use of agrochemicals that affect biodiversity • Managing the risks associated with the use of living modified organisms |

↓ Inconsistent
some +ve
some -ve

From webster@physics.unimelb.EDU.AU Wed Jan 11 07:42:05 1995
From: Rachel Webster <webster@physics.unimelb.EDU.AU>
To: nabhan@iucaa.ernet.in
Subject: IAU 173
Date: Wed, 11 Jan 1995 09:49:35 +1100

Dear Paddy,

You should proceed on the assumption of full support for the meeting.
In the next week or so the registration form will be online, and
you can let us know what your costs will be.

Look forward to seeing you in July.
Cheers
Rachel.

3. Forestry
 - Use of native species in establishing new forests
 - Avoidance of chemicals
 - Developing the interest of forest owners in maintaining the forests.
 - The participation of local and regional population.
4. Fisheries
 - Sustainable use of marine resources and 'mariculture' practices.
 - Introduction of new (alien) species
5. Petroleum
 - Access to land, marine and coastal areas
 - Detailed environmental impact assessments (EIAs)
6. Retail
 - Public interest in biodiversity-friendly products.
7. Manufacture
 - Technology transfer
 - Pollution control measures in manufacturing process

Keeping in view the above, it is vital that corporate sector should actively participate in biodiversity conservation initiatives so that its interests are represented in the development of government policies and programs, guidelines and other management tools. Business activities could be greatly strengthened if they are set within the framework of coordinated national and international actions.

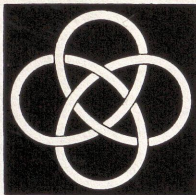
India has a long history of conservation and sustainable use of resources. After becoming a Party to the Convention on Biological Diversity in 1994, India has taken many important steps in further strengthening the existing strategies. In 1999, the Ministry of Environment and Forests (MoEF) prepared a National Policy and Macrolevel Action Strategy on Biodiversity through a consultative process. That document was a macrolevel statement policies, gaps and strategies needed for conservation and sustainable use of biological diversity. MoEF is now implementing the National Biodiversity Strategy and Action Plan (NBSAP) project under UNDP-GEF funding. Its execution is being done by a Technical and Policy Core Group (TPCG) headed by Kalpavriksh and comprising experts from various fields and parts of India, while its administration is being coordinated by the Biotech Consortium India Limited (BCIL). The process of developing NBSAP will be highly participatory in nature, reaching out to a large number of village-level organizations and movements. NGOs, academicians and scientists, government officers from various line agencies, the private sector, the armed forces, politicians and others who have a stake in biodiversity.

In the light of the above, the NBSAP process proposes to involve corporate sector through industry associations such as FICCI, CII, ASSOCHAM and PHD Chamber of Commerce, to give inputs on integrating biodiversity concerns into the attitudes, programmes and policies of the corporate sector. The various aspects, which could be addressed include:

1. *Need for policies and strategies*

Individual companies need to develop their own biodiversity strategies and policies to reflect or recognize the national biodiversity strategies. Companies which fail to do so may find themselves unaware of the main issues and isolated from the formulation of current government policies. They should therefore contact the government institution responsible for biodiversity and planning in order to establish a dialogue and to discuss possible ways of collaborating under the framework of the national strategy. Corporate sector should keep abreast of the discussions and developments on national guidelines for incentive measures, biosafety, intellectual property rights, monitoring of biodiversity indicators and other related topics.

Need for national policies & laws



Inter-University Centre for Astronomy and Astrophysics
An Autonomous Institution of the University Grants Commission

July 4, 1995

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The University of Melbourne,
School of Physics,
Parkville 3052,
Australia.

Fax +61-3-347-4783

Dear Rachel,

Thank you for your email. I will proceed directly to Hotel Ibis on my arrival.

I have sent you the title and small abstract already twice, once from Pennstate and once from my account 'paddy' at IUCAA. I am sorry that neither of this has reached you. The title is "Structure Formation: Model, Dynamics and Status". In case you need the abstract I can email or fax it to you.

With regards,

yours sincerely,

M. Mahabal

for Paddy

p.s. This message has also been emailed to you. Pl. acknowledge this fax.

During NBSAP process means should be identified to encourage corporate sector participation in national and interaction activities related to biodiversity conservation.

2. ^{Integrating} *Managing biodiversity within the company:* ^{Corporate policies and programmes}

Conservation of biodiversity should be at the heart of company's management strategy. This means it should try to retain natural areas wherever possible, to restore degraded areas and to harvest resources sustainably. In fact, the companies may develop a formal biodiversity policy or incorporate biodiversity into its existing environmental policies. This sends important signal to employees and to outside observers that the company is taking its responsibility seriously for managing biodiversity sustainably. Regular and continuing education of employees, suppliers, stake holders and local communities is important, both to increase public awareness and to ensure biodiversity conservation is considered in all the company's activities.

In the NBSAP process, opinions and attitude of corporate sector towards biodiversity concerns may be assessed. Various means of integrating biodiversity concerns into corporate sector planning should be identified. This would also include new methods of valuation of biodiversity and its elements. Methods for education and training to instill a biodiversity conscious culture within company management may be explored. The instances where biodiversity concerns have been integrated into the policies and programmes of the corporate sector may be analyzed in order to replicate or learn from them during NBSAP process.

3. *Sustainable use of resources:*

In situ conservation is the single most comprehensive article in the convention of biodiversity. Essentially it aims to promote and maintain the diversity of species and ecosystems. Although, the precise figures cannot be given for the number of species lost each day, it is clear that species extension rate has accelerated in recent decades. Even if each loss seems trivial by itself, cumulatively the effects are significant on the global biodiversity and environment in the long run. The corporate sector's strategy should be to ensure that there is no threat to, or loss of, native species, populations and ecosystems. This would also help in ensuring regular supply of resources to the companies. Activities such as contract farming, culture of marine and other organisms etc. should be encouraged to prevent their unsustainable extraction from the world.

For NBSAP process, the measures to engage the corporate sector on sustainable use of resources may be studied. Measures may be explored for moral responsibilities of corporate sector going beyond monetary and material consideration such as respecting the sanctity of critical natural habitats and threatened species, considering the rights of the future generations rather than concentrating on short term profits.

4. *Access to genetic resources and sharing of benefits:*

Biodiversity prospecting or bioprospecting for genetic resources is another resource use that has captured considerable public and corporate attention in recent years. In particular the value of biodiversity as a source of pharmaceutically active substances has been well documented. While nature as a rich storehouse holds great promise for the pharmaceutical industry, the importance of many of these plants for local communities should not be overlooked. Bioprospecting if properly structured remains a considerable hope for future conservation and development efforts. More and more companies are becoming involved with new investigations and technological developments, particularly in the cosmetics, food and pharmacological sectors.

NBSAP process may explore the ways of ensuring that bioprospecting and collection of biological resources by national as well as international companies in the country is done within the framework of guidelines and with minimal damage to the habitat. Awareness needs to be created regarding the need for patenting within the country.

The Changing Context for Higher Education

- **Increasing Economic Integration across the world**
- **Changes in the Labor Market**
- **Changing Structure of the Economy-Public and family**
- **New Communications & Information Technology**
- **Socio-Cultural & Demographic Changes**
- **School and Further Education**
- **Developments in Higher Education elsewhere**

5. *R&D and transfer of technologies:*

Policies and programmes securing technological capacity building of the country need to be encouraged for realizing the actual and potential value of biodiversity along with conservation. Investments in R&D are required to be made by the industries to develop ecofriendly, sustainable and biodegradable products/ technologies as alternatives for sustainable development.

In NBSAP process efforts may be made to create new models of corporate sector development that take into account long term cost and benefits of biodiversity conservations and sustainable use. Assessment should be made on how these models could be replicated and the technologies transferred to industries of different scale.

6. *Incentive measures:*

With the Convention on Biodiversity coming in force, all the countries are reviewing existing legislation and economic policies in order to identify incentive measures and take appropriate action on those activities that threaten biodiversity. Biodiversity Legislation Bill is already under consideration by the parliament in India.

In the light of the above, initiatives to be taken by corporate sector in ensuring that its business activities are within the provisions of legislation should be explored in the NBSAP process.

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7. *Sharing information, knowledge and practices:*

Many business sectors have already realized the benefits of applying indigenous knowledge. In the agricultural sector, for example a blend of new and traditional knowledge, technologies and strategies has been used to improve agro systems in many parts of the world. Pharmaceutical sectors especially Indian systems of medicine has also benefited from the knowledge of local communities. Corporate sector should ensure a due share of the local communities in the benefits realized from such knowledge, innovations and practices. The relationship with local communities needs to be harnessed in a positive way, both for the company and the people by developing agreements which promote the equitable sharing of information, knowledge and practices with suitable compensation.

In NBSAP process, models of equitable sharing between corporate sector and local communities may be analyzed.

The industry associations could be involved in studying the above aspects in the following ways:

- Suggest that they set up their own internal working groups to look at these aspects and report back to the NPD/TPCG.
- Request them to nominate members to the Thematic Working Groups, and perhaps SSCs.
- Ask for orientation sessions with their members, to explain the process of the NBSAP and the concerns relating to biodiversity, where members of other TWGs can make presentations.
- Invite them to the National Workshops and relevant state level workshops.

configuration space. One can decompose these into positive and negative frequency parts and construct the ("one particle") Hilbert space of physical states. This is well-known¹⁸. However, to our knowledge, the operators corresponding to physical observables such as the anisotropies have not been carefully discussed in the literature. The naive definitions face infra-red problems which must be satisfactorily resolved before one can get predictions, e.g. on the fate of anisotropies under quantum evolution. However, this is a relatively simple problem and the required analysis is likely to be straightforward. In this model, there does not seem to be any substantial advantage in working with new variables: On the real slice of the phase-space, $GA_a^i = -iK_a^i$, whence the Hamiltonian description in terms of E^i_j and A_i^j is identical to that in terms of the traditional canonical variables. However, for reasons discussed below, it *would* be instructive to understand how the above quantum theory arises if one begins, not with E^i_j and A_i^j , but with Q^i_j and $(Q^i_j)^*$ of (10).

In other type D models, the Hamiltonian description in terms of the old and new variables is substantially different and the use of new variables may well have significant advantages. A particularly attractive strategy would be to use the classical formulation in terms of Q^i_j and $(Q^i_j)^*$ as the point of departure. Since one now has a "universal" constraint for all type D models, presumably one would also have a "universal" space of physical quantum states, i.e., states which are annihilated by the quantum constraint. As we saw above, one understands the space of physical states of type I models quite well in the E^i_j and A_i^j description. Therefore, if one could see how this space can be recovered in the type I model in terms of Q^i_j and $(Q^i_j)^*$, one would obtain the physical quantum states in *all* type D models! This "universality" seems surprising at first. After all, we know that various type D models contain quite distinct physics. How would this difference show up in the quantum theory? Since the difference manifests itself in the classical theory via reality conditions, in quantum theory it would lie in the choice of the inner-product. Thus, the distinct physics underlying various quantum models would manifest itself in the distinct *Hilbert* space structures in the quantum theory.

We shall conclude by mentioning a conceptual issue that is sometimes raised in quantum cosmology and, more generally, in quantum general relativity. It is argued that "most" non-linear differential equations are not exactly integrable and are likely to exhibit some chaotic behavior. Are there not inherent obstructions to constructing quantum theories of such classical systems? As an extreme case, the possible chaotic behavior in Bianchi models is taken as a hint that it may be impossible to obtain a quantum theory of gravity in the spatially compact context. This difficulty is supposed to exist at the level of constructing a consistent mathematical framework and is meant to be quite distinct from issues of interpretation of the theory, measurement problems, etc.

We would like to argue that this line of reasoning is flawed on two accounts. Our first point refers just to classical dynamics. For systems with infinite number of degrees of freedom, it may well be that the chaotic behavior is not really "generic" in the entire phase space but occurs

Thematic Concept Note:

Private (Corporate) Sector and Biodiversity

(Note: It is not yet decided whether this topic will remain a cross-cutting theme, or become the subject matter of an independent WG, or be dealt with as a commissioned review)

The private (corporate) sector is central to biodiversity concerns (conservation, sustainable use, equitable benefit-sharing) since it is not only a producer, but a resource-consumer on a giant scale. While this is acknowledged often enough, and while this is a cross-cutting concern of all the thematic reviews, there is not sufficient emphasis put on the active involvement of private industrial decision-makers in the conservation of biodiversity. From the perspective of private industry the focus has been on producing consumer goods and creating an ever-increasing base of consumers for a variety of goods, with the valuation of progress and success being based on economic and monetary indicators. However from the perspective of conserving biodiversity, these indicators have only a limited value since they do not take into account costs in terms of the biodiversity and health of natural resources / ecosystems in the nation. Conventionally, the private sector has hardly been responsive to biodiversity concerns.

Therefore it is important to develop a means of integrating the concerns of biodiversity into the plans and ideologies of the private sector. Aspects of this ^{which} could be addressed within this theme are:

1. Opinions and attitudes of the private sector towards biodiversity concerns:
2. Identification of means of integrating biodiversity concerns into private sector thinking and planning, including new methods of valuation of biodiversity and its elements;
3. Creating new models of private sector development that take into account long-term costs and benefits of biodiversity conservation and sustainable use. This would include, for example, the monetary investment needed in appropriate R&D, and assessing how these models could be replicated for industries of different scales.
4. Exploring long-term benefits of investments in R&D and conservation/sustainable use related activities. This would include assessing environmentally sustainable alternatives to methods of production, alternatives to non-biodegradable contents used in a product, alternatives to siting practices, and others.
5. As a largely urban, elite sector without any direct stake in the conservation of biodiversity, there should be an emphasis on engaging members of the private sector on the question of moral responsibility which go beyond monetary considerations, such as respecting the knowledge and resource rights of villagers. What possibilities are there for the private sector to sacrifice short-term gains for long-term ones?
6. Assessment of related institutional problems, such as the encouragement of bureaucratic corruption to gain access to resources in fragile ecosystems.
7. Analysis of the instances where biodiversity concerns have been integrated into the policies and programmes of the private sector, in order to replicate or learn from them.
8. Exploring untapped opportunities for the private sector to finance biodiversity conservation and sustainable use, including through education, R&D, regeneration of degraded ecosystems, involvement of public.
9. Exploring educational and training methods to instil a biodiversity-conscious culture within management.



5.4.7 The National Forest Policy 1988, Provisions Relating to Wood based Industries Development- Impact in the Forestry Sector

A critical review of the National Forest Policy, 1988 with particular reference to provisions affecting forest-based industries, with special reference to section 4.9 the extent of current procurement of raw material by the forest-based industries from non-forestry sources (farm forestry and agro-forestry) and the degree to which the requirements of the industries are being met from such non-traditional sources is an important issue. The investigation provides information based on field survey and dialogue with the industry representatives and farmers' on the initiatives taken by the industry to expand agro-forestry practices on non-forest lands (as indicated in sec. 4.9 of the 1988, National Forest Policy) for promoting raw material development to meet industries long-term needs. It has demonstrated that there are factors and issues that have limit the applicability of 1988 policy provisions with respect to adequate raw material supply to the forest based industries from these non traditional sources. The constraints faced by the industries in the long-term development of raw material either by involving farmers in a partnership arrangement with the industries or raising their own captive plantations on non forest waste lands, have been many. The issue has also been examined from the point of view whether there is any justification for changes in the existing strategy in the light of this critical analysis of the factors involved.

A historical analysis of the forest policy formulation process in India reveals that the role of "national forest" for supplying timber for forest-based industries and meeting other national needs were mandated very early in Indian forestry ethos. The working of such national forests on scientific management principle were considered the primary function of forestry profession. This policy was the guiding principle of forestry management activities in India till mid 1980s.

The policy of supplying forest raw material to larger forest-based industries from government forests under long-term contracts, as in earlier policies, (to secure sustained supply) even at prices below the market value of the raw material had stimulated industrial development in India from 1950-1980. However this resulted in a sense of complacency by the industries on two accounts: first there was no incentive to invest in raw material development for future security of raw material supply as long as forest resources were available at prices they could make good profit; and second there was always the option for small and medium level industries to close down the mills when cheap raw material was not available and put the funds in other ventures. This encouraged unsustainable harvesting specially of bamboo forests.

This attitude of the industries coupled with growing concept of the endangered species and preservation of ecosystem movement to a large extent contributed to the subsequent policy of complete banning on green fellings from forests (even at the detriment of the forest health and against scientific principles of management of forests). The revised working plan code of 1983 recommended stoppage of all fellings above 1000 meter elevation for a few years. It also recommended removal of 50% of available yield from rest of the forests. The

10. Exploring ways of eliminating or reducing the indiscriminate consumerism of industrial products that is negatively impacting on biodiversity.

Clearly, there will be a great deal of overlap with the thematic reviews on "Economics and Valuation of Biodiversity", "Policies, Laws, Institutions and Planning" and "Technology, Industry and Biodiversity". These working groups would benefit from working in close consultation with each other, avoiding duplication, and synergising their efforts.



Central Board of Forestry in its meeting held on 7th & 8th December 1987 while discussing implementation of the Forest Conservation Act 1980 passed a resolution, without even a specific agenda item " That extraction of wood from forests be stopped and all requirement be met by imports and farm forestry . This was objected to by many states on the ground of mismanagement of forests.

However , the 1988 National Forest Policy, with its predominant conservation, orientation adopted a much more holistic approach providing for scientific management of forests and optimum use of natural resources for local and national use with due regard for eco-system and biodiversity conservation. This was to be achieved by preparation of working plans with technical and research inputs to enhance productivity as well as through massive afforestation and plantation activity. The new policy also directed forest departments of the States to stop the practice of selling forest raw material at concessional prices and the industry to obtain their raw material as far as possible from farm forestry sources. It also provided for a special section 4.9 for adoption of a new approach for growing of raw material for industry, obviously of fast growing species, through an industry-farmer nexus.

The industries are not fully satisfied with the adoption of only this approach because sourcing from innumerable farmers scattered over a long catchment area is not economical. Further even though the farmers may supply large part of the requirements of the short rotation pulp wood, this source cannot satisfy the demands of the sub-sectors of the industries which need long rotation hard woods specially the construction, small scale and cottage industries, saw mills etc. The medium and large scale industries are now subjected to a lot of uncertainty regarding the supply of raw material and have put forward several suggestions to involve the private sector industry in the development of raw material on degraded forest land .

These issues and options including the prevailing views of all stakeholders and proposals of the consultants are summarised as under:

5.5. A New Approach.

The wood based industries can be broadly classified into two categories (i) those predominantly using long rotation hardwoods e.g. construction, plywood, furniture, packing cases, sports goods, agriculture implements, boats etc and (ii) those using a short rotation softwood eg. Pulp, paper, chip board etc. The present requirement and future demand scenario of both kinds of wood raw material are summarised at para 5.2 above.

5.5.1.A. Component 1 - Hardwood

The hardwood species are mostly, found in natural forests or plantations of high value tree species like Teak, Shisham, Rosewood etc. Keeping the local and national requirements in view the 1988 Forest Policy has made following provisions for enhanced and optimum supply.

Revised note (Ver. 7) in ~~email~~ ~~from~~ ~~Samir~~ folder

Involving Corporate Sector in ^{the} NBSAP ^{potential} process

The public & private

Corporate sector has an important contribution to make in conserving biological diversity and promoting sustainable development. A wide range of biological resources is used in industry to provide foods, medicines, fabrics and an assortment of other products. As a number of industries rely on using or having access to natural resources of one type or another it is clearly in their best interest to ensure that the supply of those resources is not interrupted, diminished or lost forever. In fact, ensuring that these resources are continuously available is essential for business. Further biodiversity is of great importance for industries such as pharmaceuticals and agriculture as it provides them with a rich source of genetic materials. Some of these materials are likely to contain unique compounds or properties which one-day may provide remedies for currently untreatable diseases. Conservation of biodiversity is therefore important in economic as well as ecological sense.

Agri. not an industry

Also as a sink

Despite this resource dependency, ^{the} corporate sector has not so far actively involved itself in biodiversity conservation process. Further, with the Convention on Biological Diversity launched in 1992 and 105 countries signing the same including India, it has the potential to affect several business sectors involving the use of biological sources. Some of the areas, where the Convention's effects are likely to be felt are as follows:

and indeed, has largely had a negative impact in terms of over-exploitation of bio-resources (eg. med. plants), habitat destr. by diversion of pollution, displacement and so on.

- Long-term access to, and availability of, biological resources
- Restrictions on land and ^{water} marine access for exploration and development
- More stringent requirements for environmental impact assessments
- National strategies to conserve biological resources
- Restrictions on trade in products determined to be "biodiversity unfriendly", incl. threatened spp.
- Voluntary versus legislative measures to protect biodiversity
- Liability for not protecting biodiversity
- Strict codes for ensuring safety in biotechnology
- Public perception in the marketing of "biodiversity friendly" products.

Although biodiversity has a broad impact on all business operations, it is an essential foundation for development in many sectors. Some considerations are common to all sectors such as research, the training ^(including by local people), funding and the conservation of land around operations, whereas a few issues are specific to a sector. Biodiversity related ^{particular} ^{issues} concerns in some of these are as under:

As society becomes increasingly aware of the critical need to protect natural env., such behaviour will cannot last long. Sooner or later, the corp. sector has to move towards a more responsible & just mode of functioning.

1. Pharmaceutical
 - Equitable sharing of benefits
 - Access to biological resources including ^{from use of bio-resources & local knowledge} bioprospecting for collection, use & transfer
 - Technology transfer
2. Agriculture
 - Use of genetic resources for agriculture
 - Minimizing the use of agrochemicals affecting biodiversity
 - Use of living modified organisms from biotechnology ^{determined to be safe}
3. Forestry
 - Use of native species in ^{afforestation} establishing new forests
 - Avoidance of chemicals
 - Maintenance of forests by ~~participation~~ ^{participation} of local and regional population

Points, with one or two people doing full-time networking, would be considered. This would be subject to the Core Forum's advice, and would respond to the felt needs of the wider network.

At the 3rd Consultation, it was decided that the Network Hub will initially be based at Kalpavriksh,

Pune, where a group of individuals have been performing some of the above roles in their personal or professional capacity.

MAJOR ACTIVITIES

Specific activities of the Network would include:

1. Rapid field investigations (ecological and social) in conservation areas, to respond to threats (including from commercial/developmental forces) or opportunities.
2. Dialogues, workshops, negotiations at PA, state, and national levels, focused on concrete resolutions to conflicts and progress towards participatory management agreements.
3. Exchange visits of community members, NGO representatives, and government officials to various sites where participatory conservation is taking place or proposed.
4. Joint press and public campaigns on specific issues/threats, including those on which field-level investigations are conducted.
5. Production of relevant material in printed and audio-visual form, and their dissemination to relevant audiences.
6. Maintenance of databases of human resources, literature, audio-visuals, and other aids, which can be accessed by all members and others.
7. Long-term work in specific conservation areas, or on specific themes (such as mining in PAs), where necessary and feasible.
8. Policy/legal analysis and advocacy for changes, if necessary, to enhance conservation status of wildlife habitats and related livelihood security.
9. Regular communication through newsletters and mailers.

The Network would *not* be a funding agency

Some of the activities in the last few years that have led to the formation of the network include:

- Workshop: Possibilities of Joint Management of Protected Areas, New Delhi, Sept. 1994
- Jungle Jeevan Bachao Yatra, Guj./Raj./Mah./M.P./U.P., January-February 1995
- South Asian Regional Workshop on Community-Based Conservation, New Delhi, February 1997
- Building Bridges: 1st, 2nd, and 3rd Consultations on Wildlife Conservation and People's Livelihoods, Bhikampur, Raj., (1st and 2nd, Apr. 1997 and Apr. 1998), and Bhopal, M.P. (May 1999).

The main vehicle for information dissemination and networking has been the *Protected Area Update* (formerly called the *JPAM Update*), a bi-monthly newsletter on protected areas and people.

MEMBERSHIP

Potential members of the Network, many of whom are already involved at an informal level, or have formally agreed to be a member, include the following (this is a tentative list, and is open to others):

Tarun Bharat Sangh, Society for Sustainable Development, ARAVALLI (all Rajasthan); Ekta Parishad, Kisan Adivasi Sangathan, Jabalpur Nature Society (all MP); Society for Promotion of Wastelands Development, Tiger Trust, World Wide Fund for Nature-India, Development Alternatives, Ranthambhore Foundation, Indian Institute of Public Administration, Kalpavriksh (all Delhi); Sanctuary Asia, Bombay Natural History Society, Vrukshamitra, Amravati Nature Conservation Society, Vidarbha Natural History Society, Vidarbha Paryavaran Parishad, YUVA, KHOJ, Satya Shodh, Kalpavriksh (all Maharashtra); Mysore Amateur Naturalists, Environment Support Group, Parisar Samrakshana Kendra (all Karnataka); Wildlife Institute of India, Vikalp (all U.P.), Salim Ali Centre for Ornithology and Nature Conservation (Tamil Nadu); ATREE (West Bengal); Nature's Beckon (Assam). Officials of the Union Ministry of Environment and Forests, and of state Forest Departments, would be invited to be members in their personal or official capacity.

- 4. Fisheries
 - Sustainable use of marine resources and 'mariculture' practices.
 - ~~Promotion~~ ^{Priority to} of small-scale fisheries over large-scale commercial farms
- 5. Petroleum
 - Access to land, marine and coastal areas
 - Detailed environmental impact assessments (EIAs)
- 6. Manufacture/Retail
 - ^{Appropriate} Public interest in biodiversity-friendly products.
 - Technology transfer
 - Pollution control measures in manufacturing process
 - ^{the} Boost to small-scale biodiversity enterprises

Keeping in view the above, it is vital that ^{the} corporate sector should actively participate in biodiversity conservation initiatives by accepting responsible roles in implementing and managing various conservation and sustainable use programmes. A key entry point for corporate sector is through the country's national biodiversity planning process where its knowledge and expertise can be utilized effectively. It would also help corporate sector ~~in strengthening its business activity~~ as its ^{legitimate} interests would be represented in the development of government policies and programs, guidelines and other management tools. Conservation of biodiversity should be at the heart of ^{the} company's management strategy. This means, it should ^{help to} try to retain natural areas wherever possible to restore degraded areas and to harvest resources sustainably. In fact, ^{the} companies may develop a formal biodiversity policy or incorporate biodiversity into its existing environmental policies. Biodiversity strategy and policies of individual companies should reflect or recognize the national biodiversity strategy. They should keep abreast of the discussions and development on national guidelines for incentive measures, biosafety, intellectual property rights, monitoring of biodiversity indicators and other related topics.

In the light of the above, it is proposed that corporate sector may be involved in ^{into} the NBSAP process ~~for~~ taking inputs for the process as well as integrating biodiversity concerns into the attitudes, programmes and policies of the corporate sector. The instances where biodiversity concerns have been integrated into the policy and programmes of the corporate sector may be analyzed in order to replicate or learn from them during NBSAP process. The various aspects, which should be addressed during action plan preparation include:

1. Encouraging participation of representatives from progressive industries and industry associations in the action plan process in the Thematic Working Groups (TWG) at national level ^{and} in State Steering Committees (SSC) at the state level.
2. Encouraging corporate sector for developing in-house biodiversity policies and strategies to manage the biological resources the company affects and also ^{and} the concerns of local communities and other stakeholders. Methods for education and training to instill a biodiversity conscious culture within company management should be explored.
3. ~~By~~ Developing and analyzing models of equitable sharing of information, knowledge ^{and} practices, ^{and} with the local communities. ^{examples such as the benefit-sharing arrangement between}
4. Encouraging corporate sector to adopt measures, which ensures sustainable use of biological resources. The measures may be explored for the moral responsibility of corporate sector going beyond monetary and material consideration such as respecting the sanctity of critical natural habitats and threatened species.
5. Creating awareness regarding the need for ^{and} patenting within the country by respecting the knowledge, innovations and practices of indigenous and local communities and ensuring that ^{and} bioprospecting and collection of biological resources is done within the ^{given} framework/guidelines ^{of such respect}.
6. Encouraging active ^{and} partnership amongst corporate sector, research institutions and biodiversity conservation organizations as well as with the general public/local communities for sharing information and knowledge about the management of ^{and} significant species and ecosystems. The research collaborations should be encouraged to have ^{and} compensation component by financial agreements, ^{and} the training ^{of/by} the scientist, ^{and} transfer of technologies.

and genetic of/by and appropriate important

It should also respect & support the livelihoods & rights of communities dependent on biodiversity, & promote cultural diversity & values relevant to biodiversity. It should attempt to link up enterprise with & benefits to the Kanis tribe, the Tropical Botanic Garden & Research Institute, & the Arya Vaidya Pharmacy Ltd., to develop a herbal drug based on adivasi knowledge, can be learnt from)

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CONSERVATION AND LIVELIHOODS NETWORK

WHY THIS NETWORK?

Recognition of the need to reconcile wildlife conservation and people's livelihood needs, and promote people's participation in wildlife conservation, has grown considerably in the last decade or so. Across India, a range of options for community participation and benefit-sharing are being tried out, including formal and informal joint management schemes in protected areas (PAs) which have been historically managed by centralised bureaucracies: eco-development by state agencies; self-initiated forest and wildlife protection committees by villagers; NGO participation in conservation, and others. There is also increasing collaboration in resisting the destructive industrial/developmental forces that threaten natural habitats and local communities.

However, there is as yet no national support structure for this move towards reconciling wildlife and human needs, or the efforts at co-management or community-based management of natural habitats, focused both on protected areas and outside. Individual NGOs and forest/other government officials are attempting to provide such support, but these are sporadic and

uncoordinated. An ideal support structure would assist communities, NGOs, forest officers, and others to access information and expertise needed to build up and implement participatory conservation programmes; facilitate exchange of ideas and information; help in conducting participatory action research; and work towards appropriate administrative, legal, policy, and educational changes which would facilitate participatory conservation processes. *This would be a relatively neutral process, aiding various stakeholders, rather than taking a one-sided view of the issue.*

As a step in the direction of creating such a support structure, a **CONSERVATION AND LIVELIHOODS NETWORK** was agreed upon and created at the 3rd Consultation on Wildlife Conservation and People's Livelihood Rights that was held in Bhopal from May 1-3 1999. This Consultation was attended by several social action and conservation groups, forest officials, and independent experts.

THE GUIDING PRINCIPLES

The principles guiding the Network are:

- 1) The fundamental right to existence of all wild animals and plants, and the need for protected/conservation areas and legal measures to ensure this right;
- 2) The fundamental right of local communities to the survival and livelihood resources which they have traditionally enjoyed, and to participate equitably in conservation programmes;
- 3) The need for the full protection of threatened wildlife species across the country, for which certain inviolate zones (demarcated in a participatory manner), and changes in existing resource use activities, may be necessary;
- 4) The unacceptability of forced displacement of traditional communities from PAs or other habitats.
- 5) The unacceptability of imposing large-scale destructive modes of 'development' on wildlife habitats and local communities, and the necessity of finding alternative paths of achieving human welfare.

STRUCTURE AND MODE OF WORKING

The network would consist of the following:

1. A **Network Hub**, fully funded through the Network, with two or three full-time people.
2. A **Core Forum** of 20-25 groups and individuals from various sectors, who would provide the concrete support for the Network, be available for quick decisions, and be willing to take joint actions. The Network Hub would be accountable to this core forum, which, if funds permit, would also meet once a year. Critically,

the Core Forum would ensure that the network decisions are balanced and open to all stakeholder interests.

3. A wider, loose, **open network** of groups and individuals, from government, NGOs, local communities, and other stakeholders, who would feed into and be assisted by, the activities mentioned below.

At some point in the evolution of the Network, the possibility of establishing **Regional Coordination**