

Participation in Access and Benefit-Sharing Policy
Case Study no 3

Experiences with Biodiversity Policy-Making and Community Registers in India

R.V.Anuradha, Bansuri Taneja and Ashish Kothari

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ACRONYMS

AVP	Arya Vaidya Pharmacy
BRP	Block Resource Person
BCPP	Biodiversity Conservation Prioritisation Programme
CBD	Convention on Biological Diversity
CSIR	Council for Scientific and Industrial Research
DGFT	Directorate General of Foreign Trade
DRP	District Resource Person
EIPRC	Ethnic Intellectual Property Rights Committee
FRLHT	Foundation for Revitalization of Local Health Traditions
IIM	Indian Institute of Management
IISc	Indian Institute of Science
IPR	Intellectual Property Right
KFRI	Kerala Forest Research Institute
KIRTADS	Kerala Institute for Research, Training and Development Studies of Scheduled Castes and Scheduled Tribes
KSSP	Kerala Shastra Sahitya Parishad
MoEF	Ministry of Environment and Forests
MSSRF	M.S.Swaminathan Research Foundation
NBA	National Biodiversity Authority
NST	Nagrika Sewa Trust
PBR	People's Biodiversity Register
PBRP	People's Biodiversity Register Project
PFM	Participatory Forest Management
PRP	Panchayat Resource Person
RFSTE	Research Foundation for Science, Technology and Environment
SBB	State Biodiversity Board
TBGRI	Tropical Botanical Garden Research Institute
TERI	Tata Energy Research Institute
TIFAC	Technology, Information, Forecasting and Assessment Council
TIPRC	Tribal Intellectual Property Rights Council
VLA	Vruksha Laksha Aandolan
WRP	Ward Resource Person

EXECUTIVE SUMMARY

The Convention on Biological Diversity mandates state Parties to undertake measures to ensure the conservation of biological diversity, its sustainable use and the equitable sharing of benefits arising from the use of genetic resources. This case study analyses the development of India's biodiversity law and action plan, and the experiences of two southern States, Karnataka and Kerala, with formulating peoples' biodiversity registers (PBRs). The report considers the extent to which the processes in question have been participatory and have taken into account the interests of various stakeholders. It examines the development of biodiversity policy as a whole, but focuses in particular on policy relating to access to genetic resources, traditional knowledge and benefit-sharing. It was prepared on the basis of interviews with people involved in the processes and a review of relevant documentation.

The first section of the report deals with the national level processes, namely the Biodiversity Bill and the macro-level National Action Plan and Strategy on Biodiversity. The process for drafting the Biodiversity Bill began in 1994 when a core group of experienced individuals, including NGOs and research institutes, reviewed the existing legal framework and recommended the development of a law dedicated to the objectives of the CBD. The National Action Plan was envisaged at the same time as the Biodiversity Bill. NGOs, researchers and government scientists were consulted through core groups established for its development. In 1997 and 1998, the Ministry of Environment and Forests (MoEF) organised two national consultation seminars involving a range of stakeholders to discuss the proposed biodiversity law and action plan.

While these consultations could not claim to be comprehensive, the process of drafting the Biodiversity Bill was a radical development because it entailed numerous consultations with a variety of stakeholders, on a scale unprecedented in the history of legal drafting in India. Prominent among these stakeholders was the non-governmental sector, including NGOs, research institutes, academics and industry. The process involved a high level of informed debate and generated a wealth of information, ideas and possibilities. Local communities were not directly consulted, although certain NGOs, by virtue of long experience and interaction with local communities, helped to reflect their interests in the policy process. NGOs have played an instrumental role in raising awareness and stimulating discussion on biodiversity and access issues amongst local communities through the development of PBRs and other initiatives.

The consultation process has, however, drawn some criticism for being rather ad-hoc, with no planned or sustained approach and insufficient allocation of resources. Some people expressed concern at the lack of direct consultation with local and tribal communities. While NGOs helped to reflect the interests of local communities, the efficacy of this method alone is debatable since NGOs cannot be equated with 'elected representatives'. Other stakeholders, notably State governments and industry representatives, felt that they had not been sufficiently involved in the process.

It has been suggested that State level legislation on biodiversity should be developed to complement the national law, through State level consultation processes. The decentralised governance system in India, which recognises institutions of self-governance at village level (*Panchayats*), would offer opportunities for community participation in such processes. However, in practice, the level of decentralisation depends largely on the will of the State government. Furthermore, securing effective community participation would require the dissemination of information in local languages and seminars and discussions at local level to elicit responses.

The MoEF came up with a draft National Policy and Macro-level Action Strategy on Biodiversity in December 1999. This forms the basis for the ongoing formulation of a micro-level National Biodiversity Strategy and Action Plan which began in early 2000 and aims to identify detailed activities at local level. The Plan is being developed through a highly participatory and decentralised process, with workshops to develop plans at state and sub-state level.

The state of Kerala has witnessed significant developments relating to the devolution of control over biological resources. Local institutions of self-governance have become very active in Kerala over the past decade. The “People’s Campaign for Decentralised Planning,” launched under the Ninth Five Year Plan for the state, has made remarkable headway in making the process of administration more participatory. In addition, a State Biodiversity Committee has been constituted, comprising a variety of representatives from the local self-government institutions, academic and research organisations and a local NGO.

The State Plan for Kerala has actively promoted documentation of local knowledge relating to biodiversity in People’s Biodiversity Registers (PBRs). One pilot project has been completed in Ernakulam District, in which the NGO Kerala Shastra Sahitya Parishad played an instrumental role. Two other projects at Panchayat level have been initiated by the Tropical Botanic Garden and Research Institute and the Kerala Forest Research Institute (both of which are autonomous institutions under the Government of Kerala). The issue of control over the information documented in PBRs is, however, causing some concern and is being discussed at many levels in the state.

Another interesting development in Kerala is the establishment of a benefit-sharing agreement between the Tropical Botanical Garden Research Institute and the Kani tribe, based on whose knowledge a drug was developed and marketed. The issues and controversies generated by this experience hold significant lessons for the development of policy on access to genetic resources and traditional knowledge. A Tribal Intellectual Property Rights Bill has been developed in Kerala by an NGO and an autonomous research institute affiliated to the Government of Kerala, in consultation with representatives of tribal communities. However, the government is yet to take up the bill for discussion.

The state of Karnataka presents a unique example of NGO initiatives in the formulation of PBRs, envisaged as a tool to document local knowledge of biodiversity and generate discussion on how to conserve biodiversity. The development of PBRs is also seen as an

exercise in regenerating faith in local wisdom and capacity for self-governance. It has been pointed out that without legal standing and clear control over the information in the register, or the resources to which the information pertains, the PBR exercise is incomplete.

The Karnataka Biodiversity Conservation Order was recommended in 1996 by experts and NGOs who were part of the State Planning Board. The proposed Order included the establishment of biodiversity boards at state and sub-state levels, with membership from a wide range of stakeholders, and responsibility for PBRs. The Order has, however, been criticised for giving insufficient attention to community participation in its application, and has not been issued because it is not considered a political priority.

India's experience shows that PBRs could play a valuable role in addressing the objectives of the CBD, as tools for improving local management of biodiversity and promoting equitable benefit-sharing from the use of biodiversity and related knowledge. The development of PBRs has helped to regenerate faith in the value of traditional knowledge in many local communities, and there is firm belief that once there is recognition of the wealth one has, systems to control access to it can be better exercised. However, there is a risk that PBRs could facilitate unapproved commercial access unless control over the information they contain is formally vested in local communities and their institutions of self-governance.

1. INTRODUCTION

This report forms part of a project coordinated by IIED (London), on participation in the formulation of policies on access to genetic resources and traditional knowledge. Together with case studies of Peru, the Philippines and South Africa, it has been used to develop recommendations for securing effective participation in the development of such policy. A Synthesis Report has been prepared containing the key findings and recommendations from the studies³.

The purpose of this study is to document how participation has been achieved in the formulation of biodiversity law and policy in India, and assess the processes through which the views of different stakeholders were elicited and incorporated. The study focuses on the following processes:

1. At the national level, the consultations for developing the proposed Biological Diversity Act and the 1999 National Policy and Macro-level Action Strategy on Biodiversity.
2. In Kerala, the State Planning Board's role in promoting decentralised planning, the formulation of Peoples' Biodiversity Registers as part of Kerala's Ninth Development Plan, and local control over access to PBRs.
3. In Karnataka, NGO initiatives to develop Peoples' Biodiversity Registers and efforts of the State Biodiversity Committee to introduce a system for vesting control over PBRs in local institutions of self-governance.

The impetus for this study is two-fold: (a) the very essence of a democratic structure and the constitutional mandate of a decentralized form of governance, is that planning should be the result of effective consultation and participation of local communities; (b) at the international level, the Convention on Biological Diversity has stressed that stakeholder participation in the development of biodiversity policy is critical for effective implementation, and that the process by which such policy is developed is as important as the product. Furthermore, when access to biological resources and sharing of benefits resulting from such access are critical components of the biodiversity law and policy, participation and informed consent of the affected communities and other interests becomes crucial.

1.1 Methodology

This study was conducted through interviews with representatives from relevant Government agencies and departments, individuals and organisations that played a critical part in the policy-making processes and in the development peoples' biodiversity registers, including NGOs, academics and scientific institutes, and representatives from the pharmaceutical industry. A list of people interviewed is included in Annex I, and a list of questions used to guide the interviews in Annex II. These interviews were conducted between October 1999 and January 2000.

³ Swiderska K. (2001): Stakeholder Participation in Policy on Access to Genetic Resources, Traditional Knowledge and Benefit-Sharing: Case studies and Recommendations.

The report attempts to reflect the range of views and concerns of the people interviewed, but does not quote any specific person or organisation. It should therefore be borne in mind that every person interviewed had differing perceptions on the law. Relevant documents, newspaper and journal articles on the Biodiversity Bill and macro-level Action Plan were also consulted.

1.2 Structure of the report

The remainder of this report is organised in five sections. Section 2 gives an introduction to the constitutional structure of decentralised governance in India, which has relevance for control over biodiversity and some of the developments discussed later in this paper. Section 3 outlines the provisions of the Biodiversity Bill. Section 4 deals with the national level processes and developments leading to the draft Bill and the macro-level Action Plan on biodiversity, including the role of various stakeholders in the consultation process. Section 5 deals with the experience of the State of Kerala with decentralised governance and planning, biodiversity registers and benefit-sharing. Section 6 outlines some developments in Karnataka relating to biodiversity registers and proposals to the State Government to decentralise governance with respect to biodiversity.

2. INSTITUTIONS OF DECENTRALISED GOVERNANCE

Given the focus of this report on processes of participation and consultation, it is important to understand the legal framework for decentralised governance in India. Such an understanding is useful to analyse the provisions of the proposed biodiversity law as well as how 'participation' and consultation have been achieved in its formulation. It is particularly relevant for examining how decentralised structures are being used by the state of Kerala to develop biodiversity registers (discussed in detail in Section 5).

The Constitution of India envisages a clear separation of powers and responsibilities between the Union (i.e. central or federal) and State governments. The legislative powers of the Union and the State are clearly demarcated in three lists appended as a schedule to the Constitution. Both the Union and the State Governments have the power to legislate on issues relating to forests. The State Governments have exclusive jurisdiction over matters relating to land, rights over land and land tenure. For the purposes of administration, each state is divided into districts, blocks and villages. *Panchayats* (local institutions of self-governance) have been in existence in India since pre-independence times; the extent of their strength, however, was, and continues to be, largely dependent on the political will of a particular State Government to recognise and delegate powers.

Article 40 of the Constitution of India is a directive to all states to take steps to organize village *panchayats* and endow them with such powers and authority as may be necessary to enable them to function as units of self-government. But its actual operationalisation leaves a great deal to be desired. At the same time, throughout the history of India, there are innumerable examples of local initiatives in planning and management of resources at the

local level - initiatives ranging from irrigation techniques to conservation, to dispute resolution etc. Political thinkers, academicians and NGO activists have played a role in stimulating debate on the need to legally recognise the process of the *Panchayat* institutions.

As a result of the on-going debates at the time, the Constitution (73rd Amendment Act), was passed by the Indian Legislature in 1993, whereby the *Panchayati Raj* system, devolving administrative powers to the local village level, was institutionalized as a third level of governance. In essence, the *Panchayati Raj* comprises the following: each village has an assembly of all the adult members called the *Gram Sabha*; a group of villages have a *Panchayat*, whose members are elected by the members of all the *Gram Sabhas* constituting the *Panchayat*. The gist of the Constitutional amendment is that states are mandated to recognise *Panchayats* as institutions of self-government, and have the responsibility to prepare plans for economic development and social justice. A greater role for the *Panchayat* in ecosystem management was envisaged by the Constitution 73rd Amendment Act, 1993, by placing new matters under its jurisdiction, including land improvement, land consolidation and soil conservation, social forestry and minor forest produce. These provisions therefore provide scope for local communities to play a role in governance relating to natural resources.

Certain areas, designated as Scheduled Areas and Tribal Areas, are dealt with separately under the Constitution of India. These areas are inhabited by tribals whose socio-economic and political situation, being distinct from the rest of the country, means they have special status. The Constitutional provisions provide for the creation of Tribal Advisory Councils in each state having Scheduled Areas, which ensures representation of the scheduled tribes in the State Legislative Assembly. A State having no designated scheduled areas has the discretion to create a similar Council for the Scheduled Tribes. However, in practice, not all areas inhabited by tribals have been brought under the purview of this provision, and this has had adverse impacts for tribals.

The tribal Councils have legislative powers for certain matters, including the control of trading by non-tribals. However, it is not clear whether this power has been extended to regulate trading of knowledge and information by the tribals. With regard to biological resources, the extent to which the Council, other state entities such as the Forest Department, or even private entities, would have jurisdiction is an issue which has yet to be addressed. This issue will acquire further ramifications once the Biodiversity Bill is passed.

The provisions of the *Panchayati Raj* amendments do not yet apply directly to Scheduled Areas. However, the *Panchayats (Extension to Scheduled Areas) Act*, 1996, has been enacted to extend the scope of the same to scheduled areas. This law has far more progressive provisions with regard to control of resources by local communities. It provides that the *Gram Sabha* is empowered to safeguard the traditions and customs of the people, their cultural identity, community resources and customary mode of dispute resolution. It has the power to approve plans, programmes and projects for social and economic development, and is responsible for identification of beneficiaries under different programmes. It is endowed with ownership over minor forest produce. It is also empowered to prevent

alienation of land in the scheduled areas. Consultation of the Gram Sabha is mandatory before making acquisition of land in scheduled areas.

Each state having scheduled areas is mandated to enact laws to give effect to the *Panchayats (Extension to Scheduled Areas) Act, 1996*. However, as mentioned earlier, there are a number of states in India having tribal populations, but no designated scheduled areas. Such tribals, therefore do not get the benefits of the stronger provisions of the *Panchayats (Extension to Scheduled Areas) Act, 1996*.

3. THE BIODIVERSITY LAW: SALIENT FEATURES

A draft law on Biological Diversity has been prepared, and, after discussion in the Cabinet, is expected to be placed for consideration before the next session of the Parliament. In essence, the law puts in place a mechanism for regulating access to genetic resources and traditional knowledge. Some of its key features are:

- The objectives of the Bill are the conservation of biological diversity, sustainable use of its components, and equitable sharing of benefits arising out of the use of *biological resources*. The term *biological resources* is defined as 'plants, animals and micro-organisms and parts thereof, and their genetic material and by-products, with actual or potential use or value, but does not include human genetic material'.
- The Bill proposes to set up bodies at three levels to carry out its functions, including regulating the transfer and use of biological resources and related knowledge. A National Biodiversity Authority (NBA) is to be established with representation from the Government, scientists conversant with biodiversity issues, conservers of biological resources, creators and holders of knowledge and information relating to biological resources, and industry.
- The NBA's functions include the screening of proposals for transfer of genetic resources abroad, advising the central government on measures for conservation, sustainable use and benefit-sharing, and opposing, where necessary, IPRs in India and abroad which violate the Act's provisions. It has been proposed that when patents are sought on any 'invention' based on research and information on a biological resource occurring in India, the Controller of Patents shall refer it to the NBA for permission.
- While granting approvals, the National Biodiversity Authority (NBA) shall ensure that the terms and conditions of approval secure equitable sharing of benefits. Such benefits may include transfer of technology, location of Research and Development (R & D) and production units, association of Indian scientists and local people with R & D, setting up venture capital funds and direct monetary compensation.
- Any person, corporate body or organisations which is foreign, or which has non-Indian participation in equity or management, must obtain prior approval from the NBA for

obtaining any biological resource or associated knowledge from India for research or commercial use. Approval of the National Authority is also required for the transfer of material from any citizen of India to a foreign person, company or organisation.

- At the state level, there will be State Biodiversity Boards (SBB), which will oversee use and conservation of biodiversity within the state's jurisdiction. Indian citizens or companies are required to give *prior intimation* to the concerned state Biodiversity Board before use of biological resources and knowledge for commercial or research purposes. The State Biodiversity Board may restrict their activities if they do not comply with the objectives of conservation, sustainable use and benefit sharing.
- The law provides for local Biodiversity Management Committees to be established, constituted by institutions of self-governance at village level. The BMCs would have to be consulted by the National Authority and the State Biodiversity Boards in all decisions relating to the use of biological resources and associated knowledge within their jurisdiction.
- The Bill states that: “the knowledge of local people related to biodiversity shall be respected and protected through measures such as registration of such knowledge at local, state and national levels, and development of and adjustment in *sui generis* systems for intellectual property protection of such knowledge”.
- A National Biodiversity Fund will be established for, *inter alia* “a) channelling benefits to the conservers of biological resources and creators and holders of knowledge; b) socio-economic development in such areas in consultation with the local self-government concerned”. SBBs will manage State Biodiversity Funds. There is also provision for the creation of local biodiversity funds at the level of local self-government, composed of transfers from the State Biodiversity Fund and other grants. Rules are to be framed for the administration of all funds under the proposed law.

The Biodiversity Bill contains some provisions that could potentially be used for community involvement. Local communities were not directly involved in the drafting process, but these provisions indicate that there was a certain degree of indirect integration of community views. This can be attributed to the active involvement of NGOs that are in touch with local communities and that attempted to represent their concerns; though the extent and efficacy of this method alone to represent ‘local community concerns’ is debatable (see section 4.3.3).

4. PARTICIPATION AND CONSULTATION IN THE BIODIVERSITY LAW AND ACTION PLAN

At the national level, this report reviews two processes: the drafting of the biodiversity law and the evolution of the biodiversity action plan (the 'macro strategy'). The latter led to the publication of a National Policy and Macro-level Action Strategy on Biodiversity in 1999, which forms the basis for the current process to develop a more detailed micro-level National Biodiversity Strategy and Action Plan, initiated in early 2000.

The two main consultation processes for both the law and macro-strategy on biodiversity were the national consultations held in June 1997 and August 1998. Being of central importance for these policies, the consultations are discussed separately below.

4.1 The formulation of a Biodiversity Law

4.1.1 Initial drafting process (1994-1997)

Even prior to India's signing of the CBD, the Ministry of Environment and Forests (MoEF) had been interacting with NGOs and experts in the field of biodiversity since the United Nations Conference on Environment and Development was concluded in 1992. This was also a result of NGO initiatives, pressure and pro-active suggestions to some officials within the ministry to make the process consultative. Suggestions were made at that point to constitute a legal expert group for drafting a law regulating access to biological resources, and to undertake various other actions which would become mandatory subsequent to ratification by India of the CBD. The MoEF requested two lecturers at the Indian Institute of Public Administration to prepare a report on the legal structure relating to biodiversity conservation and use in India. Their report made broad recommendations on the direction that a biodiversity law should take, including on conservation, sustainable use, access to genetic resources and intellectual property rights.

India became a signatory to the Convention on Biological Diversity in December 1993. A core group was constituted in January 1994 to discuss elements of national law that would have to be enacted to give force to the provisions of the CBD. The core group consisted of representatives from different ministries of the Government, and the non-governmental sector, including leading environmental NGOs, researchers and activists. It initiated a process of discussion and debate on the various possibilities for implementing the provisions of the CBD, and examined whether a separate law was necessary for this purpose, or whether existing laws could take care of the issues.

One of the first suggestions of the group was to regulate the export of biological material from the country. To this end, the group prepared a draft Notice on Transfer of Indigenous Genetic Material, which was to be issued by the Ministry of Commerce under the Foreign Trade Development and Regulation Act, 1992. The Preamble of the notice recognised the important contribution of farmers and local communities in protecting and improving genetic resources, and the need to ensure adequate returns derived from the use of community resources, knowledge, skills, innovations and practices. It basically provided the

procedure for obtaining approval from a designated government authority for transferring indigenous genetic material.

The Director General of Foreign Trade (DGFT), Ministry of Commerce, also played a significant role in the development of the Transfer Notice. The notice specified that the "negative list of exports" shall include 'indigenous genetic material'. Export of "genetic material, genetic resources, and/or their by-products and soil" would be subject to certain terms and conditions, including prior consent of the relevant authorities.

However, problems were envisaged with the implementation of the notice. The DGFT, which would have been the authority responsible for its implementation, was of the view that a notice which broadly sought to cover all 'biological material' might adversely affect the export of cereals, crops and animal products that constituted a large proportion of exports from the country. It therefore suggested that agricultural products for consumption or processing should be excluded. Even with these exemptions, problems of monitoring the movement of biological resources at the customs check-points would remain.

Around mid-1994, there was general consensus that a separate law would be required to achieve the objectives of the CBD. Taking into account the discussions with experts and NGOs, the MoEF drafted a document with elements of a comprehensive law on biodiversity. The draft was circulated to all the experts consulted in the process, refined through their comments and suggestions, and, in May 1994, a proposal for a biodiversity law was sent to the Cabinet. A 'go-ahead' from the Cabinet is normally followed by the law-making process. However at that stage, because of serious differences of opinion between various Government departments (especially as regards the previously discussed difficulties in imposing export restrictions), no Cabinet meeting was held to discuss the matter. The view prevalent at the MoEF was that there had to be greater clarity on the manner in which the law would have to be drafted and implemented. Largely as a result of the differences in opinion within government, there followed a two year lull in the drafting process.

In 1996, a discussion paper on the CBD was circulated to all State Governments and NGOs which had played an active role on the issue. State Governments were encouraged to hold consultations to formulate their views on the policy and strategy presented in the discussion paper.

An internal workshop was then held by the MoEF to identify the various concerns that would have to be addressed through legislative and other measures, based on discussions with NGOs, academics and other Government departments. The results of the workshop were presented at an inter-ministerial meeting, but the legislative process did not take off, perhaps because the new bureaucrats responsible for biodiversity in MoEF were not very pro-active in promoting the biodiversity agenda.

In May 1997, the NGO Gene Campaign came up with a draft law on biodiversity, incorporating some of the basic concerns of the CBD and suggestions for their

implementation. The draft was presented to the Minister in charge of the MoEF and circulated for wider discussion.

4.1.2. The National Consultation Seminar of June 1997

In June 1997, a one-day national seminar was organised by the Ministry of Environment and Forests to discuss the broad outline of the proposed biodiversity legislation and the draft Macro-Strategy and Action Plan, elicit comments and develop a feasible approach for the conservation and use of biodiversity. The aim of the seminar was mainly technical, although, in the process, it managed to garner some amount of political support, since, at the time, there had been considerable pressure on MoEF to open up the discussion.

Discussion papers on both documents were circulated to the participants. Attendance was largely by invitation from the MoEF, although public announcements were also made through the media. The seminar had seventy-seven participants representing State Governments, various ministries and departments of the Central Government, scientific and technological bodies under the Central Government, NGOs, academics and experts from different fields.

Four working groups were constituted at the seminar on the following issues:

- a) biodiversity legislation,
- b) the macro-strategy on biodiversity,
- c) sustainable use and biotechnology, and
- d) indigenous knowledge systems and benefit-sharing.

The development of biodiversity legislation was discussed in depth, including a review of previous drafting attempts; objectives and scope of the proposed legislation; and access and benefit-sharing issues. The general conclusion was that the legislation should be a broad umbrella, with scope for flexibility and transparency, covering all aspects of biodiversity. It was suggested that a framework for regulating access to genetic resources for research and commercial use should be developed, allowing exchange of biological resources for research and academic purposes, whilst requiring commercial users to provide equitable compensation in the form access fees and sharing of commercial benefits, commensurate with the tremendous commercial potential of the biodiversity resources. The designation of a competent authority was emphasized.

The MoEF has in general been commended for its efforts in organizing the National Consultation, but has also received some criticism. Many people have expressed that a one-day seminar can only be described as a token effort without any intent to secure 'real' participation; and that processes similar to the National Consultation should have been held in all States, and, to the extent possible, at the level of districts and villages. A number of participants felt that the time constraints meant that meaningful discussion was virtually impossible, and that the outcome was merely a reiteration of issues that had already been thrashed out in previous meetings. The MoEF's point of view, however, is that it had, through smaller meetings of experts in the field, made a fair bit of headway with respect to

both the law and macro-strategy. They stressed that the purpose of the National Consultation was to reach out to a wider audience, to whom the discussion papers had been sent in advance, and to obtain specific inputs, which was largely achieved.

It is true that State level consultations were absent, but such consultations have never been held for law-making in India. The fact that all States were sent the Bill for comment and invited to the consultation was a positive step – perhaps not adequate – but better than before. The MoEF points out that the State Governments could have taken the initiative to hold consultations at State level. However, there remains some criticism from certain officials in Kerala and Karnataka (the States visited as part of this study) that there was no serious attempt by the MoEF to take the debate to the State level and that attempts of their government to take up the issue were largely self-motivated.

4.1.3. The Swaminathan Committee

Subsequent to the National Consultation of June 1997, a committee under the chairmanship of the M.S.Swaminathan Research Foundation, was constituted to 'draft' a law on biodiversity. The Expert Committee comprised representatives from scientific institutes and NGOs, the MoEF, Departments of Biotechnology and Ocean Development, Ministry of Law, and two universities. As mentioned in the Committee's report, its basic concern was the protection of biological resources against unregulated use by foreign individuals, institutions and companies. The draft biodiversity law as circulated at the June seminar was examined in two consultative meetings of the Committee. The Committee prepared a draft law, which was discussed within the MoEF and with the Prime Minister of India. The draft was subsequently circulated to NGOs, academics and others, and the Committee came up with the final version in October 1997, which was released by the Minister of Environment and Forests.

Views on the Committee's draft

Members of the Committee feel that they held some very interesting discussions. Some admit that the draft does not go far enough in the decentralization of institutions envisaged under the law, but point out that it did provide the basic framework for the biodiversity law.

While the basic principles and approach of the Swaminathan Committee has been commended, some people feel that it failed to draw on the processes preceding it and that the process was not sufficiently participatory. There is a general sense of affront that the individuals and groups involved in the earlier process were not consulted or even informed about the activities of the Swaminathan Committee. One prevalent view is that, after a deep slumber of two years between 1995 and 1997, the MoEF started the process afresh.

NGOs and interested individuals reacted to the draft through written comments to the MoEF and statements in the media. Substantive objections to the draft included:

- its focus was limited to transfer of biodiversity to foreign agencies and did not extend to domestic companies;

- it did not cover issues relating to role and rights of local and indigenous communities; and
- the structure and composition of the proposed National Biodiversity Authority was unrepresentative and bureaucratic.

Although the Swaminathan Committee's draft elicited comments from a number of State Governments and NGOs, nothing conclusive came out of the process of critique until later in 1998.

4.1.4 Circular issued by the MoEF

In January 1998, a Circular was issued by the MoEF titled *Transfer, exchange of biological material and information related thereto*. The Circular, which was essentially the initiative of the Joint Secretary at the MoEF, sought to put in place certain basic guidelines for the transfer of biological material pending finalisation of the law. It stated as its purpose "to advise universities and technical institutions to institute a system of signing agreements before transferring any biological material or knowledge to any other person or institution". Although it does not specify the nature of the recipient, the guidelines indicate that they are meant to be applied in the context of transfer from an Indian to a foreign person or institution. The Circular was welcomed as a long over-due first step towards legislation. However, it has also been pointed out that the circular is not a binding law, but advisory in nature, like a code of best practice.

4.1.5 The National Consultation of August 1998

With the advent of a new government in 1998, the drafting process received fresh impetus. The new MoEF Minister invited numerous NGOs, government officials from various departments and state governments to participate in critiquing and improving the existing draft. Between June and August 1998, comments were invited and received by the MoEF on the draft legislation. This was followed by a National Consultation seminar in August 1998.

The process for organising this National Consultation was very similar to the earlier one of June 1997. A slightly modified version of the Swaminathan Committee's draft biodiversity law was widely circulated, and representatives from the Central and State Governments, NGOs, private sector, the media, scientific institutions and academics were invited. Comments received on the Bill were presented to the seminar of about 300 people. Those present at the meeting felt that although limited progress was made on the actual drafting of the Bill, there was a fair exchange of ideas at the meeting. The consultation was also praised for the breadth of participants.

The scope and definitions of the proposed law were discussed. Some NGOs and experts felt that the law should cover all biological resources and derivatives originating from India, including those stored *ex-situ* in or outside India, as well as 'derivatives with chemical alterations'. However, representatives from industry felt that finished products should not be

included in law. It was suggested that the law should require material transfer agreements even for collaborative research.

The discussions also highlighted the need for mechanisms to safeguard knowledge of local and indigenous communities, and to enable local level institutions to regulate use of their biological resources. It was felt that IPR applicants should disclose the origin of the resources and knowledge used. Suggestions for norms for benefit-sharing by IPR holders were made, including criteria for determining the mode and level of benefit-sharing. Participants highlighted the need for benefit-sharing to take account of the rights of concerned parties over biodiversity and to be determined through a consultative process, to ensure that communities such as tribals are not deprived of their rights (as has occurred in the past with projects such as dams and road building). At the same time, some people felt that there should be a provision for time-bound clearances to ensure that potential partnerships with biodiversity-poor, technology-rich countries would not be constrained by the legislation.

The composition of the National Biodiversity Authority and the scope of its work also came under discussion, along with the fact that there were no provisions for local level involvement in the existing draft. It was suggested that the NBA should include people involved with the welfare of Scheduled Castes and Tribes, the Council for Scientific and Industrial Research, members from universities, chairpersons of State Biodiversity Boards and women. It was also suggested that there should be a standing committee of the NBA dealing with Prior Informed Consent, access and benefit-sharing.

Ministers from North-Eastern States of India expressed some concern regarding the role of local communities in the protection of biodiversity, an aspect recognised to a large extent in their State and local laws. They felt that the national biodiversity law, by arrogating to the National Authority the power of decision-making on access, should not dilute or vitiate other existing laws. They also felt the law should give concrete powers to the State, while keeping the National Authority as a supervisory authority, with primary responsibility for regulating access by foreign entities.

State Biodiversity Boards also came under discussion, and here it was suggested that local Biodiversity Management Committees should be represented on the State Biodiversity Boards, and that detailed composition and ambit of functioning of State Biodiversity Boards should be included in the Act. It was also suggested that the local level biodiversity committees should have close partnerships with *Panchayat* institutions (local institutions of self governance).

The contributions of widespread attempts to document local level knowledge, resources and innovations in the form of biodiversity registers were discussed. Some NGOs emphasized that People's Biodiversity Registers could be included in the provisions relating to local Biodiversity Management Committees, as these could help in the allocation of benefits by enabling claims of knowledge to be cross checked.

After the consultation of August 1998, the MoEF held further discussions with leading NGOs, scientific and academic institutions, the Confederation of Indian Industry and relevant government ministries. The draft outline of the Biodiversity Bill was produced by this group, over two meetings. The Legislative Department of the government then refined and produced the draft in legal language. This was presented to various ministries and the Committee of Secretaries, based on whose comments a final draft was presented to the Lok Sabha (lower house of Parliament).

As of early 2001, the draft is being reviewed by a Joint Parliamentary Committee consisting of about 30 members of Parliament. The Committee is reviewing additional comments received from NGOs, experts, domestic industry groups and research institutions, and conducting public hearings in locations across the country to seek further feedback on the proposed law.

4.2 The Biodiversity Action Plan

In 1994, in tandem with the initiative to develop the biodiversity law, the Ministry of Environment and Forests held consultations with representatives from ministries, government agencies, NGOs, and academics to discuss the need for a national macro-level action plan on biodiversity. Although an action plan is not legally binding, it provides a policy guide for the government, administrators and the judiciary, and reflects the direction that the law should take.

A core group was set up to examine the requirements for such an action plan, comprising various Government authorities, research institutions for science, technology and biological and genetic resources, NGOs and academics (including those playing a leading role in the development of PBRs and activists working for local community rights). The core group was further sub-divided into sub-groups, including for:

- sustainable use, public participation and benefit-sharing,
- formulation of policy, planning and finance, and
- the role of the industry in the transfer of technology under the CBD.

Each sub-group was entrusted with developing a draft action plan for the area assigned to it. A series of six consultative meetings were organised by the Ministry of Environment and Forests for the entire core group, where intensive discussions on various issues occurred. However, not all the sub-groups were able to come up with blue-prints for the areas assigned to them.

The task for coming up with the conceptual framework for the action plan was initially entrusted to a few environmental NGOs and researchers. The draft prepared by the group was sent for comment to various parastatal scientific institutions. Not all these institutions were responsive, however. The revised draft Action Plan dated July 1994, was discussed at the core group meeting, wherein it was decided that based on the draft conceptual framework and the inputs from the sub-groups, a 'nucleus team' comprising parastatal

organisations (the Forest Survey of India, Botanical Survey of India, Zoological Survey of India and the Wildlife Institute of India), would finalise the main document. The Forest Survey of India coordinated the efforts of this 'nucleus team', which held further discussions with scientists and NGOs and came up with its draft in June 1995. The latter was severely criticised for not taking into account the discussions and intensive debate that had formed an integral part of the process of drafting the action plan.

There followed a time-lag of a couple of years, before the National Consultation seminar of June 1997, discussed in the section on the biodiversity law. The discussion paper on the macro-level Action Plan circulated at the consultation focused on an evaluation of on-going strategies and programmes and assessment of current and future needs for the conservation and sustainable use of biodiversity. Eleven subject areas were identified on which inputs were sought: legal and policy framework, indigenous knowledge systems, innovations and practices, benefit-sharing, peoples' participation, the institutional framework and capacity building.

On the framework of the Action Plan, considerable emphasis was laid on the fact that the loci of action should be the State Governments and local bodies. The seminar also underlined the need for: education and capacity building for policy-makers, NGOs, industrialists and local communities; studies to assess the intrinsic and extrinsic value of biodiversity; and linkages between different departments of the Government dealing with different areas. Documentation of indigenous knowledge in the form of biodiversity registers, after detailed study of the implications of such documentation, was suggested. These processes resulted in the publication of the National Policy and Macro-level Action Strategy on Biodiversity in 1999.

Alongside these developments, UNDP approached the MoEF in early 1996 regarding the availability of funds for developing National Biodiversity Strategy and Action Plan, to detail actions at the local level. The MoEF formally applied for the grant, and the project was finally sanctioned in March 1999. The process of drafting the NBSAP, based on the macro-level strategy, began in early 2000 and is due to be completed by early 2002. It is highly participatory and decentralised, as described in the box below.

The National Biodiversity Strategy and Action Plan Process

In an innovative departure from previous planning exercises, the technical execution of the NBSAP project has been given out to an NGO, Kalpavriksh. This group has further gathered a Technical and Policy Core Group (TPCG) of expert individuals from various fields of biodiversity.

The NBSAP project entails formulation of state and sub-state level, as well as thematic and inter-regional action plans, to be executed by different working groups and nodal agencies. The various action plans developed at different geographic and conceptual levels will join together to form the National Strategy and Action Plan, which will contain considerable detail, including project proposals for further action. Issues being discussed include the role of different government agencies, development of grassroots conservation strategies, review of development strategies and

budgets and the socio-economic and fiscal dimensions of biodiversity conservation. All agencies are meant to consider cross-cutting issues, including:

- peoples' participation, which is already listed as a central tenet of the NBSAP (at all stages, including defining objectives and goals, planning and implementation;
- empowerment and equity issues, including use of indigenous knowledge and practices, and gender;
- participation of the corporate sector, private and public; and
- international issues, including cooperation for conservation and benefit-sharing.

The process of the NBSAP is as important as the product – the plan itself. The planning process is decentralised to different levels and nodal agencies, each provided with a common set of guidelines. It is also meant to be as broad based and participatory as possible. Agencies are instructed to hold public hearings, make public announcements about the process, invite contributions, and use local languages as far as possible. A media campaign has been initiated to publicise the NBSAP process, generate public awareness and promote participation.

Each SAP is being formulated by a nodal agency or working group, together with multi-stakeholder committees, which are required to undertake the following activities:

- assess existing reports, action plans, sectoral plans and policies;
- identify available information and expertise;
- solicit inputs from a wide range of individuals/agencies, through: letters, public meetings, workshops, advertisements, print, radio, TV and electronic media;
- build capacity where necessary (e.g. for the local participants); and
- identify concrete priority actions, institutions/resources to undertake them, and develop project proposals

It is also envisaged to document the process of preparation of the NBSAP. Capacity building and awareness activities are an intrinsic part of the process, as many complicated issues are being explored. It is too early to assess the efficacy of the NBSAP process. While it may not achieve all it set out to, it will serve as a useful learning exercise on how policy can be formulated in a decentralised and participatory manner.

4.3 Assessing the national level processes

4.3.1 Strengths of the processes

Most people interviewed stated that the laudable feature of the process of biodiversity law formulation was that, unlike many other laws, the consultations drew from various sectors, involved a high level of informed debate, and generated a wealth of information, ideas and possibilities. It is worth noting that there is no legal mandate in India, or any pre-determined mechanism, for consultation with all stakeholders affected by a law. Although India is the world's largest democracy, in terms of actual decision-making, the 'actors' are usually the elected representatives of the people, i.e., the legislature, and not the people themselves.

The process to develop the biodiversity law is therefore viewed by many as unique and trend-setting. It was completely self-driven, with no input deriving from external agencies,

which could have ramifications for the sense of ownership pertaining to the legislation when adopted. But perhaps the most notable of the processes reviewed is the recently initiated NBSAP project, which has opened up the planning process to public participation at all levels, from village to city, and to all sectors of society.

4.3.2 Weaknesses of the law and macro- strategy processes

Some inherent limitations pertaining to the Indian scenario came to bear on participation during the drafting of the Bill. These are the sheer size of India's population which makes consultation of even a majority of affected parties a formidable task; intense social stratification which limits the scope for effective participation; historical alienation from natural resources which diminishes the motivation of many tribal and local communities to participate; low literacy levels; limited access to information; and the lack of a legal mandate for public participation and consultation in law making. The latter meant that there was no sustained/planned approach to the consultations, which were of an ad-hoc nature, arising primarily from the personal initiative of those in charge.

One of the basic criticisms of the processes to develop the biodiversity law and macro strategy has been the prolonged time they have taken. Various reasons have been cited for this, including the vastness and complexity of the issue. There was a gap between 1995 and 1997, when nothing happened either in terms of consultation or government action. Reasons for this 'time-lag', perceived by various 'participants', are many, and can be summarised as:

- political uncertainty at the level of the Central Government, and change of officials and functionaries in the Ministry of Environment and Forests;
- lack of political commitment to the formulation of the law and the action plan; and
- divergent views between the various 'participants' which made it difficult to reach a 'consensus'.

Even more criticised was the fact that, when the processes were restarted in 1997, entirely new committees were constituted. Many who were involved in the first phase, feel affronted that most of their work and suggestions were ignored, thereby resulting in what they feel can only be described as "an enormous waste of expertise, human effort and financial resources." It has also been stated that there was.

Various other shortcomings in the process have been cited, including:

- insufficient allocation of resources, because of which the process has been described as token and not substantive;
- differences in the priorities expressed by the various wings of government and lack of coordination between them;
- failure of NGOs to take a uniform stand;
- lack of informed debate amongst the private sector and consequently lack of concerted action by them to participate;
- lack of informed debate among local and tribal communities and consequently lack of concerted action by them to participate;

- lack of any organisation or institutionalized structure under which local and tribal communities could discuss the proposals and take an informed stand; and
- inadequate consultation with State governments and dissatisfaction with the extent to which their concerns were taken on board.

The process has also been criticised on the grounds that only select NGOs and individuals were invited for most of the meetings and consultations. The extent to which NGO participation was a significant substitute for direct community participation is discussed in the next section (4.3.3).

4.3.3 The role of NGOs and local communities

How have the views and perceptions of local communities informed the process? It is evident that the national official processes were essentially non-consultative as far as the majority of India's population is concerned. This would also hold true for the processes at the level of the two States discussed later in this report. Practically all the national level consultations took place in Delhi, and mostly on invitation from the Ministry of Environment and Forests. There were no public hearings or other forms of consultations with local communities, while meetings organised by NGOs to discuss approaches for biodiversity conservation have invariably not been attended by Government officials or policy-makers.

One issue that merits attention is that of whether NGOs truly reflect the views of local communities. There is no clear-cut answer to this. The NGOs that have been involved in the consultative process have a strong local presence in the areas where they work and point out that their views and perceptions have got refined and strengthened through their constant interactions with the local communities. They have organised programmes at community level ranging from training and awareness raising to the development of biodiversity registers (see box below). Therefore, in general it can be stated that NGOs have had a critical role to play in reflecting local community concerns.

However, this is not the same as 'representing' their concerns, because: (i) NGOs cannot be equated with 'elected representatives'; (ii) one cannot assume one homogeneous 'local community' view; (iii) not all NGOs that work with local communities participated in the biodiversity law making process, in fact the process was to some extent confined to NGOs based in certain cities of India; (iv) there are areas where there exist no NGOs working with local communities. There are therefore individuals and organizations which hold the view that the process did not go far enough in seeking community participation. Although the Biodiversity Bill includes a number of provisions for community involvement, most peoples' groups feel that the Bill could have contained stronger provisions on community involvement and rights/powers.

NGOs in India have played a key role in raising awareness of the importance of the CBD, and generating discussion and debate on the stake and involvement of communities in biodiversity conservation. This has been done through writings in newspapers and journals,

lectures, discussions, and training programmes organised at local level. Newspapers at both national and local levels, as well as periodicals, have devoted space for writings by NGOs and journalists, though some NGOs feel that the media response could have been more proactive and forceful. NGOs have also come up with booklets, information papers, translations and explanations on the CBD for wider circulation. But the point to be noted is that no NGO can reach as far as the State. NGO action is invariably concerted action in certain pockets and areas where they have a presence.

Some NGOs have been instrumental in promoting recognition of the need for a biodiversity law by lobbying through signature campaigns and 'open letters' to the Government. Others have used the instrument of judicial activism and taken up the issue before the courts to direct the legislature to enact adequate legislation.

NGO initiatives to develop Biodiversity Registers

Amongst the most organised and widespread biodiversity activities of NGOs has been the development of local biodiversity registers. The efforts of the Centre for Ecological Sciences, Indian Institute of Science, Bangalore, are discussed in the section on Karnataka (Part VI). Efforts of other NGOs are described below.

Gene Campaign has undertaken work to document biodiversity and related knowledge amongst three tribal populations: the Munnars in South Bihar, the Bhils of Madhya Pradesh, and the Tharus of the Terai region. The impetus for this was the realisation that documentation was an essential necessity to conserve such knowledge and resources, and could form the basis for articulating 'community rights'. Medicinal plants and knowledge was documented with the help of educated tribal youth. Village elders, medical practitioners and traditional healers were consulted in the collection and understanding of information. The work in South Bihar was sponsored as a pilot study by the Technology, Information, Forecasting and Assessment Council (TIFAC), an autonomous institution under the Department of Science and Technology.

One of the biggest stumbling blocks faced by Gene Campaign was the fact that the knowledge was degraded and devalued to a large extent in the eyes of the community and the practitioners. Convincing them of the need to document and conserve their knowledge was therefore a challenge. The process of documentation and dialogue has however renewed enthusiasm of the extent and variety of knowledge possessed by the community. The register process is complete in Bihar, and is in the process of completion in the two other regions. One copy of the register remains with the community, another with Gene Campaign. However, Gene Campaign states that there will be no publication of the register unless its legal position is clarified.

The **Research Foundation of Science, Technology and the Environment (RFSTE)** initiated the *Jaiv Panchayat: Living Democracy* movement in early 1999. The movement aims to establish definitive sovereignty of local communities over their biodiversity resources. Activists from RFSTE and Navdanya have been interacting with local villagers in different parts of India (their strongest presence being in the state of Uttar Pradesh) to constitute informal community institutions called *Jaiv Panchayats* comprising volunteers from a village. The members of the *Jaiv Panchayat* are entrusted with the task of recording information on biological resources, and its various uses, in the form of Community Biodiversity Registers (CBRs). They are also entrusted with responsibility for maintaining and updating the registers, and developing micro-plans for monitoring and maintaining

biodiversity. RFSTE and Navdanya insist that there is no pre-determined format for the CBRs, and that this should be left for the village to decide. They feel positive with the response received in the villages where the movement has been initiated. Response from existing governmental institutions, such as the *Panchayats* and district administration has largely been non-committal, although there has been cooperation and endorsement of the *Jaiv Panchayat* movement in some areas. However, RFSTE and Navdanya feel that the *Jaiv Panchayat* should not be clubbed with existing institutional mechanisms, but should retain their identity as civil society initiatives.

The first *Jaiv Panchayat* to complete the register was in Agasthyamuni village Garhwal district, Uttar Pradesh, where in June 1999, the CBR prepared by the local people was presented. This was accompanied by the *Mandakini Milan Declaration*, in which the people of the village declared that they will not allow destructive elements to exploit their biological resources, subject them to genetic engineering, or obtain patents or other monopoly rights over them, and will ensure their sustainable use. It is estimated that efforts towards *Jaiv Panchayats* are underway in 292 sites.

The Society for Research and Initiatives for Sustainable Technologies and Institutions (Sristi), based in Ahmedabad, state of Gujarat, has been involved in documenting uses and innovations relating to biodiversity developed by individuals at the village level. The Honey Bee Network, as the initiative is called, has been growing since the late 1980s. Through such documentation, and subsequent accrual of benefits, it aims to provide a platform for the conservation of biodiversity and local knowledge.

Kalpavriksh and the Beej Bachao Aandolan (Save the Seeds Campaign), in collaboration with villagers in Jardhar, Tehri Garhwal district of Uttar Pradesh, initiated an exercise in 1995 to document the various bioresources and conservation practices of the community. The Beej Bachao Aandolan, a network of local farmers who have been involved in reviving and spreading indigenous crop diversity for a number of years, actively collaborated with Kalpavriksh. By mutual agreement between Kalpavriksh and the villagers, it was decided that one copy of the register will be kept by the village and another by Kalpavriksh, and that all the information in the register can only be used and distributed with the consent of the villagers.

4.3.4 Involvement of the Private Sector

Domestic industry groups such as the Confederation of Indian Industry (CII), the Federation of Indian Chamber of Commerce and Industry (FICCI), and the Ayurvedic Drug Manufacturer's Association (ADMA) have participated in discussions on the biodiversity law with the MoEF, and expressed their concerns and views. Domestic industry has also made its voice heard through relevant government ministries and departments such as the Ministry of Commerce, the Ministry of Industry and the Department of Indian Systems of Medicine and Homeopathy (ISMH). However, overall, the involvement of industry in the biodiversity law and policy processes has been limited.

The draft biodiversity law reflects differential treatment for Indians and foreign persons seeking access (the former need only intimate the State Biodiversity Board, whereas the latter require a permission from the National Biodiversity Authority). This is probably a result of interventions made by the domestic private sector, highlighting the fact that domestic research on biodiversity ought to be encouraged, and that it would be easier to

monitor and regulate their activities, being confined to India. However, even the requirement of 'intimation' to the State Biodiversity Board, is considered by some to be cumbersome and unwarranted. There is also concern that stringent legislation would have adverse impacts on the commercial use and returns from biodiversity.

With regard to benefit-sharing, suggestions were made to tax commercial activity based on biodiversity and pool the revenues into a fund for conservation and the provision of incentives for local and indigenous communities. In the event that commercial products are developed, a percentage of the royalties could be deposited in the biodiversity fund.

4.4 Recent developments to support bio-innovations and track IPRs

Under the provisions of the 1999-2000 budget, it was proposed that a National Bio-resources Board (NBB) should be set up under the Chairmanship of the Minister of Science and Technology to coordinate policies, research, documentation and legal protection of the country's sovereign rights over its bio-resources. The Board has been constituted and had its first meeting in January 2000. It includes representatives from relevant ministries including the MoEF, the Ministry of Agriculture, Department of Biotechnology and non-governmental experts.

It was also proposed as part of the 1999-2000 budget that a National Innovation Foundation would be set up. The foundation, launched in November 2000, is intended to build a national register of innovations, mobilise intellectual property protection, provide support for converting innovations into viable business opportunities and help in the dissemination of information across the country. The Indian Institute of Management, which has been active in the process for the biodiversity law and action plan, made a strong case for such a foundation to be set up, following experience with the Honeybee network that champions the recognition of natural resource innovations of individuals and communities. Given their critical relevance for the objectives of biodiversity law and policy, when the law is enacted and its authorities established, co-ordination and linkages will need to be established with the National Bioresources Board and the National Innovation Foundation.

Another development of relevance for the proposed biodiversity law is the establishment of an autonomous body in 1995 called the Technology Information Forecasting and Assessment Council (TIFAC) under the Department of Science and Technology. One of the major tasks of TIFAC is to watch global trends and formulate preferred options for India. A Patent Facilitating Centre (PFC) was set up under TIFAC among whose objectives is to monitor developments in the area of Intellectual Property Rights and make important issues known to policy makers, scientists, industry etc. TIFAC has played a significant role in detecting and analyzing the implications of recent controversial patents over biological resources and products based thereon, such as: basmati cell lines and grains, a herbal compositions of *jamun* and *karela*, and products developed from tamarind. Coverage of these controversial patents in the media also helped to promote awareness and informed debate of IPR issues in India during the biodiversity policy process. When the authorities

under the proposed biodiversity law are formed, the PFC could complement their activities by monitoring the implications of IPRs for biological resources.

5. KERALA'S EXPERIENCE WITH BIODIVERSITY REGISTERS

The State of Kerala provides interesting experience of processes of self-governance in the context of natural resource management. It is the only State in India to have initiated a process of local participation in biodiversity management as part of its Panchayati Raj process, through a number of local self-governance initiatives, including the development of PBRs in one district. Credit for this goes primarily to the State Planning Board (SPB). A brief background on the institutions for decentralisation is first necessary to understand the experiences of Kerala.

5.1 Self Governance in Kerala

Under the Kerala *Panchayat* Raj Act, 1994, the following levels of decentralisation are identified:

- The State of Kerala is divided into a number of districts, which each have a District *Panchayat*.
- Each district is further divided into a number of blocks, each having a Block *Panchayat*.
- Each block comprises of a number of villages, and at the level of either one village or a number of villages, there is a Village *Panchayat*.
- Each constituency of a village *panchayat* is also referred to as a village or "ward". All the people whose names are included in the electoral rolls of a village within a village *panchayat* constitute the Gram Sabha of the village. The Gram Sabha therefore, is the smallest unit of decentralised governance recognised by law.

At the level of the Central Government there is a Planning Commission, constituted by a Government Order to advise the Government on the process of economic and social planning for the country. Every State in India has a Planning Board constituted similarly by an administrative order, which has an advisory role to the State Government. The crucial role expected to be performed by the State Planning Boards is to formulate 'five-year plans' at the level of each state. The processes through which the plans are developed and the extent to which they are translated into action depends to some extent on the SPB. But the extent to which the State Planning Board (SPB) can be an active agency is largely dependent on the political will of the State Government.

The Chairman of the SPBs in all states is the chief minister, and the composition is normally a range of political, academic and social activists. The Kerala SPB comprises representatives from the State Government, as well as academic and social activists. The vice-chairman and many members at the forefront of the implementation process are renowned academics. The Kerala SPB is also acclaimed for the largely autonomous nature of its functioning. Soon after its constitution in 1996, the SPB issued a brochure, the "Peoples' Campaign for the

Ninth Plan”, which *inter alia* proclaimed: "We should be able to break the atmosphere of cynicism that exists among the people today and instill in them a new sense of optimism and direction so that the mobilization of resources for the ninth plan goes beyond the traditional confines. It should be possible thereby to tap monetary, material and labour resources at the local level for the implementation of the Plan which have remained untapped or inadequately tapped."

The SPB's initiatives have been widely acclaimed as revolutionary, and have also been criticised for being rhetorical and purporting to be a 'super cabinet'. The present government in Kerala is constituted by the Left Democratic Front, whose leftist ideology is seen as the factor responsible for the Peoples' Campaign. However, the processes it has unleashed are largely viewed with awe, and have received support from most *Panchayats*, NGOs such as the Kerala Shashtra Sahitya Parishad, and academic institutions such as the Centre for Development Studies and the Centre for Earth Science Studies.

To translate the commitments and projections of the SPB into action, it is estimated that 35 to 40 percent of the budget under the ninth plan will devolve onto the local level authorities. This is in contrast to the 5 percent which has been allotted to local communities under previous plans, and which is normally allocated in other states.

The first stage of the Peoples' Campaign was the formulation of the Ninth Plan for Kerala (1997-2002), through a process which is unique and unparalleled in India. The first phase comprised of Gram Sabha meetings to identify the "needs of the people and gaps in local development". Twelve key areas of local development have been identified under this phase. The second phase comprised a series of seminars at the Gram *Panchayat* level to work out integrated solutions to the problems identified in the first phase. In the third phase, task forces were set up for each of the twelve key areas, to assess technical, cost and time-frame considerations. In the fourth phase, each Gram *Panchayat* selected projects to implement. The fifth phase comprised of the forwarding of the Gram *Panchayat* plans to the block and district levels for further discussion and consolidation into larger plans at district level. The district plans were then integrated into the overall state plan, to which certain state level projects are further added.

Another interesting aspect of the Peoples' Campaign has been the realisation that both the Village *Panchayat* and the Gram Sabha are big and diffuse bodies through which true decentralised planning cannot be achieved. It has been perceived that in cases where the Gram Sabha comprises a number of villages, or a very large village, the voices of different sections of society get over-ridden by a "majority" which may not necessarily be representative of the various affected interests in the village. At the level of each *Panchayat*, the number of 'voters' ranges between 20,000 to 50,000, and at the level of each Gram Sabha, there could be up to 1000 or more voters.

5.1.1 "Neighbouring Units"

The State Planning Board, in consultation with the Village *Panchayats*, has suggested the formation of neighbouring units of around fifty families in each village. Some *Panchayats* have proposed further decentralisation to smaller units of 10 families. The understanding is that such decentralisation would enable voices of affected interests to be heard more effectively in the decision-making process. However, these units do not yet have legal status, and it is not clear what matters would be under their jurisdiction. Among non-tribal communities such neighbouring units are referred to as *Aayalkootams*, and among tribal communities, as *Oorukootams*.

There is no pre-determined agenda that is being followed. The process of formation of the neighbouring units is a study in spontaneity and belief in the concept of "power to the people". The neighbouring units are not conceived as "alternatives" to existing institutions, but rather as a natural consequence of the process of decentralisation. Discussions and decisions taken by these units provide valuable inputs into the decision-making process of the Gram Sabha, and progressively, at the higher levels of the *Panchayat*. The idea is that the views and opinions of a larger cross-section of the people get reflected at the time of decision-making.

Characterised by programmes for public education and awareness raising, the work that neighbouring units are involved in includes: water, hygiene and sanitation schemes, collection of information on basic problems and needs of different areas, education programmes, administrative and financial matters. The units have also been active and successful in the identification of beneficiaries under different programmes such as housing schemes, agricultural schemes and small-scale industries.

The concept of "neighbouring units" is significant for the potential activities they could undertake for biodiversity management and regulation of access. They could provide a tool for real participation of local communities and marginalised groups in the development of policy on access to biodiversity and knowledge at local and state level.

5.2 Kerala State Biodiversity Committee

Kerala is one of the few states in India to have established a Biodiversity Committee, in 1999. The committee exists under the administrative control of the Department of Science, Technology and Environment. The Government Order constituting the Biodiversity Committee states that the basic purpose of the Committee is to advise the State Government on the provisions of the Convention on Biological Diversity, particularly the conservation, sustainable use and equitable sharing of benefits. The committee is chaired by the Chairman of the Science, Technology and Environment Committee, Department of Science and Technology, and includes representatives from:

- State departments and ministries such as Forests and Wildlife, Agriculture, Fisheries, Ports, and the State Planning Board;

- research centres for biological resources (eg. Kerala Forest Research Institute, Tropical Botanic Garden and Research Institute), biotechnology, agriculture, crop development and fisheries;
- a prominent NGO, the Kerala Shastra Sahitya Parishad (KSSP); and
- *Panchayat* Presidents from five major agro-ecological regions in Kerala.

Apart from the above institutional representation, the Government Order further mentions categories of 'outstanding experts' and 'researchers from universities', in which specific individuals are named. They include Dr.Madhav Gadgil from the Centre for Ecological Sciences, Indian Institute of Science, Bangalore, who made pioneering efforts to develop biodiversity registers in Karnataka state; and Dr.P.K.Warrier who heads Arya Vaidyashala, an ayurvedic (Indian system of medicine based on plants) pharmaceutical company which is a pioneer of its kind in Kerala.

The evolution of the Biodiversity Committee is essentially viewed as a needs-based one. Concerns have, however, been expressed about the fact that the Department of Science and Technology (which has administrative responsibility for the biodiversity committee), already has a number of 'new' responsibilities for other science and environment committees. Adequate human and financial resources would therefore need to be ensured for the realisation of the objectives of the Committee. The diverse array of representatives on the Committee is viewed as its strongest point. How this will manifest itself in the shape of the laws and policies of the state remains to be seen.

The Biodiversity Committee, as envisaged under the Government Order, is an advisory body which makes recommendations to the Government. Actual decisions have to be taken by the Government. In practice, when a committee is constituted by a Government Order, the Government considers its recommendations, but the committee itself does not have any powers of enforcement. As yet, there has been no experience of advice from the Biodiversity Committee being translated into a major decision with implications for policy or law. This could be because the Committee was established fairly recently, but also, in view of the impending central legislation on biodiversity, there is a certain degree of anticipation regarding the jurisdiction it demarcates for state entities.

The matters discussed and recommendations made by the Committee include: undertaking a Biodiversity Register programme by the Kerala Forest Research Institute (discussed later); and a programme to promote biodiversity activities and raise awareness on biodiversity, IPRs, benefit-sharing etc., in colleges and organizations. So far, seminars organised to discuss these matters have mostly been confined to the scientific community. The Committee recognises the need to reach out to school and college teachers and local communities. It has recommended that a workshop be held to discuss the various implications of the CBD, involving resource persons and stakeholders, including farmers, tribals, NGOs and consumers. The Committee has also emphasized the need to compile information of forests and biodiversity in Kerala for district level planning.

5.3 Kerala's Biodiversity Registers

5.3.1 The Register in Ernakulam district

Local level resource mapping is not new in Kerala. Since the late eighties and early nineties, experiments have been undertaken through the *Panchayat* level processes to document locally available resources, and through this assess local perceptions on requirements in a particular area. For example, requirements for water, roads, transport, schools and other basic infrastructure facilities. Though these processes are not uniformly active in all of Kerala, the need for them is increasingly appreciated and recognised. Control over, and the ability to have a say in, the management of local resources is a highly significant component of the process of decentralised management. Scientific institutions such as the Centre for Earth Science Studies, NGOs such as the Kerala Shastra Sahitya Parishad (KSSP), and *panchayats* in some districts have played significant roles in such initiatives for micro-level planning.

The State of Kerala has, in its most recent five-year plan (the Ninth Plan), allocated substantial financial and administrative resources for documenting biodiversity resources in registers at the level of the *Gram Sabhas* (village assemblies), throughout the State. Guidelines and training modules are being developed by different institutions to enable the process of documentation. The plan proposes to document the plant wealth, local knowledge and uses, social set-up, healthcare situation and financial status of each village.

The Peoples' Biodiversity Register Project (PBRP) was commenced as a pilot project in the Ernakulam district of Kerala in 1997, under the aegis of the State Planning Board. It forms the umbrella project for the State's biodiversity register initiative. The Kerala Shastra Sahitya Parishad (KSSP), teachers, students and representatives from local communities have played a critical role in the conceptualisation and implementation of the project. The methodology for developing the registers was for the large part conceptualized by KSSP, inspired by efforts of the Centre for Ecological Sciences in Karnataka. The project has been funded by the Ninth Five Year Plan (1997-2002) under the Peoples' Campaign.

The Registers were considered necessary as a tool for recognising the range of local knowledge; rewarding and promoting the use of traditional knowledge, skills, techniques and conservation practices; and encouraging inter-community transfer of knowledge for capacity enhancement. It is also strongly believed that the community register could be used to protect biodiversity and local knowledge from being privatised by commercial interests which could file patents on modified products, processes and biological materials developed using local resources and knowledge.

The district of Ernakulam has 15 blocks, each of which has variable number of *Panchayats* and villages (wards). Overall, there are 86 *Panchayats* and 884 wards in the district. Within 16 months, the process to document peoples' biodiversity registers for the 86 *Panchayats* was completed. Each Register consists of an introduction, background information on the

panchayat, a summary of its biodiversity, detailed biodiversity data sheets and a bibliography. The PBRP has involved the following activities:

1. The first phase focused on training. Workshops and lectures were organised at district and village levels to create basic awareness on the need for documenting peoples' biodiversity registers. Experts in environment and natural resource management, NGOs that had developed PBRs in Karnataka and members of the State Planning Board who had initiated the Peoples' Campaign, were invited to speak on the issue.
2. Project Resource Persons were identified: three District Resource Persons (DRPs) for coordinating the entire exercise at district level; 1 Block Resource Person (BRPs) for each block; 1 *Panchayat* Resource Person (PRP) for each *Panchayat*; and Ward Resource Persons (WRPs) at the level of each village. The BRPs and PRPs were mostly college and school teachers. WRPs were mainly teachers, students, unemployed youth and other volunteers from the village. Because of budgetary constraints, the WRPs could not be retained on a salary basis. For them, the motivation was the sense of involvement in a pioneering project that had potentially beneficial implications for the entire district.
3. An advisory committee of 15 members who are experts in different fields was formed to assist in the execution of the project. A project monitoring committee was constituted at the district level comprising: the District *Panchayat* secretary, a member from the district *Panchayat*, a representative from the Kerala State Biodiversity Committee and a few natural and social scientists.
4. Information regarding biological resources was collected from 'Knowledgeable Persons' aged around 60 years. The basic premise was that wisdom regarding flora and fauna in a place was directly proportional to the age of a particular person. These people were not specialists in a particular field of medicine or treatment. They were mainly ordinary people who because of their lifestyle, were custodians of certain information regarding the flora and fauna of a place. The manner in which the entire process of documentation took place was to invite people from a particular area to meet over certain dates.
5. The information sought focused on: grain crops, oilseeds, cash crops, tuber crops, fruit trees, vegetables, pulses, medicinal plants, spices and oil producing plants, grass varieties, wild relatives of domesticated plants, garden/decorative plants, fumigants, chewing plants, plant products collected from forests, timber trees, domesticated animals, birds, animals of medicinal importance, fish, crop destroying animals, pests and weeds.
6. Information was collected on the local name of the resource (taxonomists were later asked to provide scientific names), the varieties used and purposes for which they were used; the availability and distribution patterns of the resource and any changes therein; and names of the individuals that provided the information.
7. Another heading entitled 'Traditional Knowledge' consolidated traditional practices pertaining to, *inter alia*, farming, architecture, pottery, health and crude drug collection.

Many of the traditional healers refused to show the plants, but the fact of their expertise is recorded.

The use of certain medicinal plants is often only the specialized knowledge of certain people in the community, which they may not share with others of the community. For example, plants used for certain types of pediatric treatment and treatment of snake-bites. In such cases, the records in the register state the name of the individual/s who have specialized knowledge. There have also been instances where professional 'plant collectors' (who normally collect from the wild for research institutions and companies) name a plant, but refuse to disclose its exact location. This could be for economic reasons, or because they have their own strict code for 'sustainable collection'.

There is general recognition of the fact that the Ernakulam experience holds significant lessons for the whole of Kerala. However, until the 'legal status' of the registers and control over access to them is clarified, neither the State Planning Board nor Biodiversity Committee are taking any further steps towards such documentation. Nevertheless, work to develop biodiversity registers is being undertaken in other areas, by the Tropical Botanic Garden Research Institute (TBGRI) and the Kerala Forest Research Institute (KFRI).

5.3.2 KFRI's and TBGRI's experience with Registers

TBGRI and KFRI are autonomous institutions under the Department of Science and Technology, Government of Kerala. Like KSSP (which played an instrumental role in the register process in Ernakulam), both KFRI and TBGRI, state that they learnt a great deal from the experience of Dr. Madhav Gadgil of the Centre for Ecological Sciences, Bangalore, Karnataka.

KFRI is involved in preparing the register for the Village *Panchayat* in whose jurisdiction it is located. Two KFRI officials are associated with the Ernakulam process in an advisory capacity. In their estimation, the KFRI effort is far more detailed than the one in Ernakulam district. One reason cited for this is that the district level effort is a more difficult process than one concentrating on a single Village *Panchayat*. Broadly, the KFRI register seeks to document, like the Ernakulam register, peoples' knowledge on the flora and fauna they live amidst and their uses. The past history of the area and peoples' reaction to the changes are also documented.

TBGRI is preparing a Biodiversity Register in a *Panchayat* near where it is located, concentrating separately on a Plant Register and an Animal Register. It underscores the need for close interaction between scientists, teachers, students and community representatives as crucial to the formulation of the registers.

Both KFRI and TBGRI have gone about their task in close interaction with the *Panchayat* administration. In general, the public response to the register process has been good. Like the Ernakulam experience, the TBGRI and KFRI processes rely to a large extent on the knowledge and information of "Knowledgeable Persons" in the community. In the actual

documentation, there is close participation from teachers, universities and other institutions. Information is collected through both visits to individual households and ward-level meetings.

5.3.3 Controlling access to Kerala's PBRs

What is noticeable is that though the purpose behind the biodiversity register is essentially the same for all the three initiatives discussed above, no "standard" format is being followed. Each experience is a pioneering effort in itself, but in the details of documentation, there are differences.

It is broadly recognised that the logic behind the registers is to record the valuable information that local people have about their biodiversity in order to: (a) ensure that this information does not disappear; (b) renew recognition of the fact that the knowledge and information of local people is of immense value for the community and the outside world; (c) improve control over access to such resources and related information by 'outside interests'; (d) enhance capacity to contest intellectual property rights claims over products or processes developed using their knowledge, information and resources. There is firm belief that once there is recognition of the wealth one has, the systems of control over access to it can be better exercised. Indeed one of the effects of the process has been to regenerate faith in the value of traditional knowledge in many local communities.

At the same time, there is concern about the fact that biodiversity registers may have the effect of placing knowledge hitherto regarded as "secret" by communities in the public domain, and that once this is done, it would be an invitation for corporate and research interests to freely use the knowledge available in them. Concern has also been expressed regarding the legal vacuum with regard to biodiversity registers. It is feared that documentation without a clear legal resolution of control over the information could have potentially serious consequences.

There is a distinction recognised between knowledge that is so widespread that 'ordinary people' in a community know about it, such as the use of turmeric as an antiseptic; and knowledge which is of a relatively specialized nature such as treatment of snake-bites. As the Ernakulam register reveals, this distinction is respected in the register. If certain information is regarded as secret, then only the nature of the ailment it seeks to treat is recorded, alongside the name of the person having the knowledge.

The questions now being raised in relation to the Ernakulam PBRs are: who should have control over the registers? How should access to the information and resources documented in the register be regulated? And what should be the mechanism for sharing the benefits resulting from such access?

The general feeling is that the Register should be vested in the *Panchayat*. However, there is no clarity as yet as to the exact manner in which the *Panchayat* will regulate access to the information and resources documented in the register. The general perception is that if the

resource/knowledge pertaining to it are widely held in the *Panchayat* area, the *Panchayat* should negotiate the terms for access. If, however, the knowledge is specific to an individual/s in an area, they should have a say in the negotiations with the person seeking access.

There has been some discussion at the level of the State Biodiversity Committee on the introduction of an enabling law at state level specifying that the *Panchayats* would have jurisdiction in all matters pertaining to the Biodiversity Register. A draft law that would enable the Village *Panchayats* to pass resolutions asserting control over information in the register has been formulated by KSSP, drawing on suggestions from the Centre for Ecological Sciences, Karnataka. It is also felt that, with the approval of the Biodiversity Act at the national level, there will be greater clarity on the kind of mechanism that can be put in place. There could be a conflict with the national law since it vests authority for access in the National and State biodiversity boards, though it does state that the local biodiversity management committees would have to be consulted. The Kerala Biodiversity Committee and Planning Board have taken the stand that the level of decentralisation under the national law is not compatible with that in Kerala, and that the law would have to provide for control with decentralised authorities such as the *Panchayat*, rather than with an authority at the national and state levels.

The draft national law provides that the State Biodiversity Committee would have jurisdiction over access by a domestic entity; whereas the national authority would decide over access by a foreign entity. However, local Biodiversity Management Committees envisaged under the draft are to be consulted whenever resources in their jurisdiction are sought. Whether the views of such committees will be binding on the deciding authority is not clear in the law. The implications of declaring 'ownership' over the registers is therefore not yet clear, and is presently under discussion by the members of the Kerala Biodiversity Committee.

The Act would also have implications for the Registers being prepared by TBGRI and KFRI. Both acknowledge that the control over the registers should be at the level of the *Panchayat*, and also point out the need for a law to clarify the issue of ownership of the registers.

5.4 Lessons from a benefit-sharing agreement with Kani tribals

Kerala is distinctive in another respect: it has grappled with various issues arising from a benefit-sharing arrangement between the Tropical Botanic Garden and Research Institute (TBGRI) and the Kani tribals of Kerala. The agreement concerns the development of a pharmaceutical drug using knowledge and information obtained from the Kanis about a plant locally termed *Aarogyapachcha*.

TBGRI learnt from the Kanis that the fruit of the plant *Aarogyapachcha* had anti-fatigue properties. On examination and detailed tests of the plant, the leaves were discovered to have certain medicinal properties. A herbal composition called *Jeevani*, made with the

leaves of the plant and three other plants, was then developed by TBGRI. The process for manufacturing this was licensed to an ayurvedic pharmaceutical company called Arya Vaidya Pharmacy (AVP). The Governing Council of TBGRI then resolved that 50% of the license fee and 50% of any royalties obtained by TBGRI from AVP would be shared with the Kanis.

The land in which the plant grows belongs to the Forest Department of the state. The Kanis have no tenurial rights and are dependent on the Forest Department for permission to collect any resource from the forest. To date, the Forest Department has not given permission to the Kanis to collect *Aarogyapachcha*, and hence there has been a stalemate on the issue of collection of the leaves, and thereby manufacture of the product for the past five years.

Concerns about the arrangement have been expressed by various interested governmental and non-governmental institutions and individuals. There is no uniformity in the Kanis' perception of the benefit-sharing arrangement proposed by TBGRI. The Kanis are no longer a single cohesive unit or community. TBGRI has primarily been interacting with Kanis from one Village *Panchayat* area. This section of Kanis has been supportive of TBGRI's role. However, Kanis from other areas have expressed their misgivings about the arrangement, especially in relation to the fact that TBGRI has not consulted them or their medicinal practitioners.

From TBGRI's point of view, there was no legal requirement, and they were not told of any customary requirement, to seek the permission of the medicinal practitioners among the Kanis before using the plant, a point on which they are now criticised. It points out that tribal knowledge systems have always influenced other systems; and that the use of the Kanis' knowledge to manufacture *Jeevani* will not hamper the traditional practices of the tribals. In addition, the institute emphasises that the Kani do not use the plant for medicinal purposes, but only consume the fruit as an energy-provider, whereas TBGRI is using the medicinal properties identified in the leaves through its own research.

A trust fund called *Kerala Kani Samudaya Kshema Trust* has been registered by the Kanis. The trust deeds state the objectives of the Trust to be: welfare and development activities for Kanis in Kerala, preparation of a biodiversity register to document the knowledge base of the Kanis, and evolving and supporting methods to promote sustainable use and conservation of biological resources. TBGRI believes that formation of the Trust would result in greater involvement of the Kanis in the benefit-sharing arrangement. However, Kanis from a number of areas are yet to become part of the Trust.

The benefit-sharing arrangement has been through some chaotic phases over the past four years, and even now with the Trust having been activated, a lot of questions still remain unanswered. The delay in the entire process also raises concerns about the lack of co-ordination and mechanism for dialogue between the TBGRI, the Forest Department and KIRTADS - a research institute for tribal studies – which are all part of the same State Government. It reflects an absence of law and policy that lays down who should do what. As one official from the Forest Department pointed out, TBGRI's effort is probably premature

since there are no safeguards to ensure that the tribals are not exploited and the resources under consideration misused. While this concern is well-appreciated, TBGRI and the State Department for Tribal Welfare also express indignation at the fact that, for the past five years, since TBGRI announced its scheme for benefit-sharing, the Forest Department has done little to explore mechanisms whereby Kanis can be involved in sustainable harvesting of leaves of the plant, and in joint monitoring of the forest area to prevent illegal trafficking of the plant. The Forest Department points out that a number of the above concerns will be addressed as part of a new Participatory Forest Management (PFM) programme

Although still in the conceptual stage, the Forest Department has emphasized the potential of the PFM programme to achieve the objectives of conservation of biological diversity, sustainable use of the same and benefit-sharing. It has also pointed out that it is exploring the possibility of Kani's cultivation of *Aarogyapachcha* as a part of the PFM programme, and has already had preliminary meetings with the Kani's Trust to further explore these possibilities. Considering the fact that a large part of biodiversity exists in forest areas, the extent to which the PFM programme is able to garner genuine participation of the people, will determine *who* sets the agenda for biodiversity.

The Kerala Biodiversity Committee has not considered the issue of benefit-sharing as yet; and states that this is an issue for forthcoming meetings. Neither has it yet actively considered the Kani-TBGRI issue, although it acknowledges that the lessons from this experience will be critical for the formulation of any law or policy in this regard. It has also pointed out that the issue of administrative and geographical boundaries will be a critical factor in most benefit-sharing arrangements since the knowledge and use of a resource may not be confined to one particular area or group of people. A host of complexities need to be resolved, including: who owns the resources and related knowledge when such resources occur on private land, public land, or both types of land; and when the resources and related knowledge occur in more than one state.

5.5 Kerala Tribal Intellectual Property Rights Bill

The Kerala Tribal Intellectual Property Rights Bill, an initiative of the Kerala Institute for Research, Training and Development Studies of Scheduled Castes and Scheduled Tribes (KIRTADS, an official agency), focuses on constitution of specific authorities for documenting the knowledge of tribal peoples and negotiating terms for access to it. The bill has been discussed at workshops organised by KIRTADS between 1996 and 1998, involving representatives of tribal communities with whom KIRTADS has been working actively, NGOs, lawyers, journalists and different government ministries.

The Tribal Intellectual Property Rights Council (TIPRC) would be constituted as an independent agency under the Government of Kerala, and would be responsible for approving the list of tribal communities and their intellectual property. Each tribal community would form a committee referred to as the Ethnic Intellectual Property Rights Committee (EIPRC). The TIPRC and the EIPRC would have the joint responsibility to negotiate terms with persons external to such communities in relation to the intellectual

property of the group. Intellectual Property is defined as inclusive of knowledge, skills, abilities, techniques, practices and the manifestations thereof, including products, processes, systems, presentations and performance, distinguishable as the creation of the person or a group of persons including distinguishable communities.

The Act enunciates certain conditions for agreement with a person seeking access to intellectual property, including:

- Clear definition and specification of the product/method/knowledge.
- Prior Informed Consent of the community concerned.
- Terms for determining the amount payable for access, as well as clear agreement for payment of royalties in the event of commercialisation of the material, method or knowledge, and any derivatives.
- Monitoring and reporting: the TIPRC and the EIPRC would have to be kept informed about the developments from research and related activities, and should have uncontrolled access to the research activities.
- The community, through the EIPRC, should be the co-owners of the research data and any intellectual property right obtained on any of the outputs of the research.
- Prior Informed Consent of the community is required for the further transfer of the materials/method/knowledge.

While the general idea behind the bill is welcomed, there are concerns with regard to: (a) the fact that tribal communities are not always organised, cohesive units; (b) tribals do not always have secure access to or ownership over the resources they use; (c) the relationship of the suggested authorities under the Bill to the existing formal structures such as the *Panchayat* institutions would have to be addressed; (d) the relationship with the formal system of intellectual property rights would have to be addressed more closely; (e) the Bill needs to be re-drafted keeping in view existing laws and institutions; (f) the Bill does not encompass the knowledge and practices of non-tribal communities.

Views have also been expressed that some of the provisions of the proposed Bill are far too radical and may not be implementable. At the other end of the spectrum is the optimism that the Bill essentially enshrines the concept of 'power to the people' which, when translated into action, can be the only proof of its potential. There is also general agreement that a number of aspects in the bill can be used as the basis for developing the legal structure for control over access to information in the community biodiversity registers.

At the Government level, and at the State Biodiversity Committee, there is awareness of the Bill, but little debate on it, since there is limited consensus regarding the possibilities for its implementation. There have also been recent reports that a draft law on traditional knowledge is being developed under the aegis of the Ministry of Education. However, this is at a preliminary stage and there are as yet no details available about it.

6. KARNATAKA'S EXPERIENCE WITH BIODIVERSITY REGISTERS

6.1 The development of Biodiversity Registers

Karnataka provides a unique example of how NGOs and individuals have taken the initiative to conceptualise and put into operation the formulation of Peoples' Biodiversity Registers. What is even more commendable is their work to formulate a law governing these efforts, which however, for various reasons, still waits to see the light of the day.

The genesis of Karnataka's PBRs can be traced to two individuals, Darshan Shankar from the Foundation for Revitalization of Local Health Traditions (FRLHT), and Prof. Madhav Gadgil from the Centre for Ecological Sciences (CES), Indian Institute of Science (IISc), Bangalore. Both had been actively involved in the post-CBD developments at the national level. In April 1995, the FRLHT called the first brainstorming session to launch and debate the idea of community registers. The focus of FRLHT, in tune with its broader mandate to revitalise traditional medicine in primary health care, was to document community knowledge of medicinal plants and their uses. Participants at the workshop included KSSP, Kalpavriksh, CES and a number of other NGOs from different parts of India. This was followed by the initiation of PBR activities at 24 sites in 10 states.

Drawing on this experience, the Biodiversity Register Programme evolved further at subsequent workshops organised by the Centre for Ecological Sciences, to encompass all elements of biodiversity, and the knowledge and perceptions of individuals, households, ethnic and multi-ethnic groups. Such PBRs were initiated at 10 sites in 4 states along the Western Ghats region, as part of the Western Ghats Biodiversity Network. These activities were undertaken in conjunction with a larger project, the Biodiversity Conservation Prioritisation Programme (BCPP).

6.1.1 The BCP-PBR programme

The BCPP was a nation-wide attempt to prioritise areas and strategies for conservation. Dr. Madhav Gadgil was asked to help develop micro-level strategies for prioritization, which came to be PBRs. The BCP-PBR programme was initiated through a workshop at the Indian Institute of Science in March 1996, involving NGOs from several states. It was funded by the Ministry of Environment and Forests, the Pew Foundation, and the Worldwide Fund for Nature-India Biodiversity Support Programme (a USAID funded consortium of WWF-USA, WRI and the Nature Conservancy).

The BCPP was widespread throughout India in varied biotic and social conditions, covering 56 sites across seven states. Many other organisations have since taken up the initiative, and at present about 50 villages each in Karnataka, Andhra Pradesh and the rest of India are involved in developing PBRs. The main actors in the process have been NGOs and teachers documenting the registers; local people giving information; and local scientists and officials or members from the IISc team.

The objective of the programme was to create a network of decentralised country-wide databases on, *inter alia*:

- species, their user groups, uses and other values (eg. cultural or nuisance values);
- the status of biodiversity resources (eg. localities and levels);
- factors affecting biodiversity (eg. harvests and trade from natural populations, changes in agricultural practices, or industrial effluents);
- local knowledge widely shared and publicly disclosed of the properties and uses of biodiversity resources;
- local knowledge that is only partially disclosed, e.g. claims of particular individuals to specific remedies; and
- the involvement of local communities/individuals in sustainable use and conservation, and local peoples' perceptions on participatory management.

The entire exercise focused on evolving a methodology for the development of PBRs. The PBR was envisaged as a document containing information on the entire resource catchment of the village, irrespective of distance from the village or the frequency or intensity of use. The aim of the exercise was to document and understand the complex relationship of the village society with the surrounding nature, and to develop strategies for monitoring biodiversity resources and their management. One of the aims of the BCPP-PBR process was to widen participation in developing the register, as previous attempts at making registers had concentrated on school science teachers. The programme also aimed to validate the information recorded.

The method of creation of PBRs envisaged three main components: landscape elements; user groups; and resource use, conservation and management. A landscape element is a patch within a landscape homogenous in appearance and distinct from surrounding patches, such as forest, plantations, lakes, habitation areas, roads, etc. User groups comprise a group of people who use biodiversity in similar fashion and are distinct from each other. Information pertaining to species used, economic details, past and present initiatives of conservation, external and internal market pressures, etc. would constitute the third element of the PBR. Village landscape maps were used to relate user identify and biodiversity quality, and record conflicts over biological resources. The final step in the documentation would be an action plan for conservation and sustainable use.

Thus, the scope of the registers is similar to the Ernakulam register in Kerala, but with greater emphasis on aspects such as the economic potential of resources, possible adverse effects of existing economic transactions, and ways in which these can be minimized.

As pointed out by one NGO activist, the experience of the NGOs involved in the Register process has been a fascinating reiteration of faith in peoples' ability, irrespective of the political situation. For instance, there is general skepticism regarding the law and order situation in a state like Bihar, or the state of Assam that is in political turmoil because of separatist movements. Furthermore, not all of the states covered by IISc's exercise had strong formal institutions such as *Panchayats*. For instance in Bihar, elections to the *Panchayats* have not been held for a number of years now, but the PBR exercise succeeded

in motivating people to participate through structures other than legally established institutions.

Although the BCPP process is spread all over India, the remainder of this report focuses on the experience with PBRs of NGOs in Karnataka, and their efforts to integrate this into the state planning process. Unlike in Kerala, such proposals have yet to be taken up.

6.1.2 Experiences of NGOs

At the Karnataka state level many NGOs have initiated registers in their areas, eg. Vruksha Laksha Aandolan (VLA or Million Trees Movement) in northern Karnataka and Nagarika Seva Trust (NST or Citizen's Service Trust) in the south. The IISc funded the exercise initially. However, over a period of time VLA and NST have been funding their own efforts. It has been estimated that the costs have also come down from Rs.30,000 per village to Rs. 2000 per village due to greater reliance on the local workforce. However, reliance on local volunteers has also witnessed a corresponding decline in the detail recorded in the register, underscoring the need for a more intensive training process.

Speaking on his experience in documenting the biodiversity register, one NGO activist pointed out that the reaction of local village communities solely depends upon the ability of the investigator to elicit confidence of the communities. Sensitivity of the investigator was also identified as a critical factor to avoid documenting knowledge which, by its very nature is secret and sensitive. Investigators need to distinguish between knowledge that can be placed in the public domain, and that which, if documented without understanding the legal implications, can actually prove to be counter-productive to the community. In general however, the experience with PBR documentation was described as a positive one, both for the NGOs involved and the village communities. For the latter, it generated renewed enthusiasm in the conservation and management of biodiversity resources.

Completed PBRs have been kept in the village *panchayat* and their custodians are the President and Secretary of the *panchayat*. In the experience of the NGO activists spoken to, no outsider has sought access to information in the PBRs. However, the general feeling is that control of access should be decentralized, with an institutional mechanism within the village to determine who can have access and on what terms. NGO members pointed out that the law should recognise the village as the unit with physical and intellectual property rights over the PBR, and suggested that the Panchayati Raj Act should be amended to this effect.

Acknowledging the slow process of legislative reform, the NGO Vruksha Laksha Aandolan (VLA) has been encouraging villages and *panchayats* in the areas where they work (northern Karnataka) to pass resolutions asserting that the PBRs are the wealth and property of the village. The legal status of such resolutions, however, is not clear.

6.2 PBRs and proposals for decentralized biodiversity management

The PBR process has also led to the affirmation of the belief that the only effective way towards conservation of biological resources is through decentralised systems of governance. Prof. Gadgil (Indian Institute of Science) and his colleagues prepared a detailed conceptual paper on this issue, *A Comprehensive Framework for Nurturing Practical Ecological Knowledge*. The emphasis of this paper was that the Panchayati Raj institutions are most appropriate to sustainably manage biodiversity resources, and should be involved in the development of the biodiversity information base at the village, block and district levels. It then went on to define concepts for operationalising the CBD including IPR implications, formation of a Biodiversity Conservation Fund, and Material and Information Transfer Agreements.

In 1995, the Karnataka State Planning Board was established, including experts from diverse backgrounds. A sub-group on biodiversity was formed under the Planning Board, including: the IISc, the Indian Institute of Management, the Karnataka Agricultural University, a former Chief Secretary of Karnataka (responsible for enacting the Karnataka Panchayati Raj Act) and Biocon Industries. A notable feature of Karnataka's biodiversity planning process is the involvement of Biocon India Ltd and other companies.

Prof. Madhav Gadgil took up the issues raised in the conceptual framework paper at meetings of the Planning Board and biodiversity sub-group. The sub-group prepared a report based largely on the conceptual framework, which was discussed and accepted by the Planning Board. In July 1996, the Planning Board recommended to the Government of Karnataka that a Government Order be promulgated to translate the recommendations of the sub-group into administrative action. The draft Order, entitled Karnataka Biodiversity Conservation Order, suggested the constitution of Biodiversity Boards at the level of the State and its districts, comprising representatives from the Government, NGOs, research institutions and industry. It suggests the village as the unit where Community Biodiversity Registers would be documented, and the District Biodiversity Cell as the authority to decide on access to the resources and information in the registers. The Order envisages the register as a public document that shall be available, on payment of a fee, to anyone seeking access. It however stipulates that an agreement on mutually agreed terms would be required if the information sought is put into commercial use.

Both the reports of the sub-group on biodiversity and the state Planning Board's recommendations on the Karnataka Conservation Order were widely discussed by NGOs and other interested parties within and outside Karnataka. While some felt it was a path-breaking attempt, others felt that, though the ideas were good, the operationalisation was bureaucratic and did not effectively address the issue of community participation.

6.2.1 The Government's response to PBRs and the draft Conservation Order

As mentioned earlier, part of the funding for the register process came from the MoEF, and the experience has, at various stages, been discussed at national level with the MoEF and the

Ministries for Rural Development and Human Resources. The Government, both at state and central level, has never opposed attempts to formulate registers. However, there has been no response or action in taking up the efforts on a larger scale. Nor has there yet been a response from the Government of Karnataka to the proposed Biodiversity Order, despite lobbying for state-level action. VLA has released several press statements to request the state Government to adopt the policy. As pointed out by one activist, the response of Government of Karnataka was "to listen and sit quiet". The reasons for the lack of action by the Government of Karnataka, for 6 years now since the Planning Board's recommendations were made, are various.

As aptly explained by one activist, his sentiment being largely reflective of the 'actors' in the entire process, "a biodiversity policy will not emerge from mere good-will or charity in politics. It requires demand from the electorate, sometimes rallies or gheraos and intensive lobbying. There was no perceived immediate stake for anyone to take any serious action on the policy. And those for whom it mattered- the biodiversity custodians, the tribals, small farmers, etc., their weakness was being unorganized."

Fundamentally, "the benefits of biodiversity conservation are ambiguous, require a long gestation period, and thus do not provoke any instant sustained enthusiasm or responses as might be expected, for instance, through a policy raising the price of electricity or one affecting the laying of a road or water availability. The future of the policy clearly depends upon the amount of political acumen the register movement develops. However, if the wait is too long, the fear is that the enthusiasm at the grassroots may well evaporate. For movements can hardly be run on empty stomachs. People are not particularly interested in obtaining royalties from IPRs based on their registers, rather, they want strong control over local forest/river harvests, better price for their produce, such as local crops etc. Any of these dividends, if availed, will keep them motivated for long. Today, it is the visits and appreciation by outsiders and discussions within the community that keep people glued to the register movement".

Reasons cited for the 'inaction' by the State Government can be summarised as follows:

- the decision-makers do not perceive this as a priority issue;
- there is no powerful lobby to take up the issue of the biodiversity policy and registers (the registers have not achieved mobilization to an extent which can translate into a powerful lobby);
- there is as yet no clarity on the implications of the register and there is a risk of facilitating unapproved access to traditional knowledge for commercial use;
- there is no clear consensus in the state government or the national Government; and
- the prevailing view has been that the state should wait for the enactment of the national law, or else it may later be challenged as ultra vires the national law, especially since the proposed national law envisages only certain functions for the state, and proposes to constitute centralized control through the national authority.

6.3 Reflections on PBRs in Karnataka

Those involved in drafting the Biodiversity Order counter the Government's point on the 'ambiguity regarding implications of documenting registers' with the argument that registers are needed because peoples' information, whether oral or written, is not given sufficient attention in:

- the government's determination of conservation priorities and plans;
- the price of biological resources for trade; and
- IPR laws and IPR applications for products based on the knowledge and resources of the people.

Although the need to control the 'end use' of the information and resource is recognised, the belief is that the register can only strengthen and contribute to this. It is also argued that the information in the register any way exists with the villagers, and is disclosed in the register only with their informed consent, not by force.

Many people interviewed suggested that one of the most significant outcomes of the registers was the revival of interest in what has been termed the 'practical ecological knowledge' of communities, and the serious thought given to measures to consolidate such knowledge and promote the conservation and sustainable use of biological resources. The practical implication of the register movement has been local awakening and organisation. A recent example of this was when villagers near Sringeri in Karnataka stopped the cheap sale of moss to a vendor who refused to divulge the purpose for which he used it, the markets where he sold it and his earnings. Although the villagers lost a customer and the small earnings they got from him, they had the satisfaction of preventing the vendor from making huge gains at their cost. Such actions have, however, been few and far between.

It is generally believed that PBRs could also be extremely useful tools in organizing effective systems for benefit-sharing with holders of folk knowledge. It was suggested that participatory and periodic documentation of peoples' knowledge and perceptions about biodiversity, its sustainable use and conservation, might form the basis of the benefit-sharing system.

However, it is also recognized that a great deal will depend on the central and state governments in enacting relevant laws for the conservation and sustainable use of biodiversity, and recognising PBRs as tools to achieve this. It is felt that the law will provide be important to tap the potential of PBRs as effective tools for benefit-sharing. There is the realisation that, until the legal framework is clarified, care should be taken not to document knowledge that was hitherto held secretly, thus placing it in the public domain. But given the lack of action by the Government to support and protect PBRs, the documentation of registers has so far, in the experience of the organisations involved, only generated a revival of interest amongst local communities in the conservation and use of biological resources.

It was generally pointed out that the factors necessary for long-term widespread implications of the register movement are:

1. Greater awareness and belief in the potential of biological resources, and the need to conserve them, monitor their use and ensure just returns for their use.
2. Action by the state to streamline the channels through which access to biodiversity occurs, and develop a system whereby the local community is ensured just and fair returns. For instance, collectors of non-timber forest produce rarely have a chance to sell directly to open markets. Instead in most places, there is a bureaucracy in place through which the produce reaches outside markets; and as a result the returns that accrue to the forest collector are minimal.

Another challenge is sustaining peoples' enthusiasm to record biodiversity registers and monitor the resources recorded in them. Because of the very nature of biodiversity resources, tangible long-term benefits can only occur over a period of time. Realizing this, the NGO Vruksha Laksha Aandolan (VLA) has demanded that villages which have compiled biodiversity registers must be given incentives for using them as a monitoring tool and updating their content, for example through their inclusion in beneficial schemes such as the Joint Forest Management Programme, or watershed programmes.

7. CONCLUSIONS AND RECOMMENDATIONS

There is no legal mandate for law making in India to be participatory. The principle underlying the powers that the Constitution confers on the elected representatives responsible for law making is that they reflect public opinion. Such a premise has serious limitations because there is no requirement for an elected representative to consult with his/her constituency before taking a stand on a law. Ordinarily, the legislature or concerned ministry/department announces the laws awaiting consideration. There are lobbying and pressure groups that put forward their concerns and there is of course discussion on the law in Parliament. Expert committees are sometimes constituted to suggest amendments to existing laws or enactment of new laws, especially in the area of commercial law. There is, however, no legal mandate that requires public hearings or specific concerns to be addressed.

What has been noticeable in the process of drafting the biodiversity law is the broad range of responses it has evoked - from NGOs, academicians, industry and, to a more limited extent, local communities. Not everybody's concerns have been taken on board, and the law as it stands today is not perfect. But it is a step forward for the objectives it seeks to achieve, and for the manner in which the law making processes sought to reach out to a wide cross-section of people.

The process to develop the biodiversity law is interesting particularly for the insights it provides into how non-governmental organisations (especially those with environmental concerns) have lobbied, with reasonable success, to persuade the Government to translate

international policy decisions into national law. However, complete participation and consultation was neither a planned objective nor was it achieved through any of the processes. The question then arises, what would be the ideal components of participation and consultation in any law making exercise? An indicative list of such elements could be as follows:

- announcements eliciting public opinion and response regarding the idea of a law, even before it starts being framed;
- dissemination of information regarding the law, its purpose and its components, in local and vernacular languages;
- seminars and discussions at local, state and national levels to elicit responses; and
- public hearings at local, state and national levels to take on board diverse views.

To achieve this in a country with a population of close to a billion, with 50,000 villages, thousands of local languages and diverse levels of literacy, is no mean task. This itself constitutes the most fundamental constraint to participation and consultation in law making. At local level there is also the problem of social stratification which dictates who can participate, limited access to information, and historical alienation from natural resources which diminishes the motivation of many communities to participate in biodiversity debates. Such practical difficulties do not take away the need for consultation and participation, but acknowledge that there are limits to it. Unfortunately in India these limits have never been reached.

A number of government officials interviewed emphasised that the feasible approach is to consult persons of eminence and expertise in the particular area that the law deals with, which is what was sought for the biodiversity law. These officials acknowledge that their understanding and appreciation of the subject was enhanced by inputs received from those consulted. However, they also point out that they have been subjected to unfair criticism. People at the Central Government feel that the State Governments could have played a far more proactive role to enhance participation by taking initiatives within their states. The reasons for the limited consultation at state level could be a combination of: a lack of concerted effort from the Central Government to elicit their participation; lack of action by state governments; lack of political priority of biodiversity; lack of incentive for consultation; lack of funds and ineffective management of available time.

The process to develop the biodiversity law has evoked diverse opinions from NGOs, ranging from the optimistic to the skeptical. The government has been commended for holding a series of consultations and welcoming suggestions, which informed the substance of the law. However, the consultation process has also been criticised on the grounds that there was no systematic long-term planning behind it. As a result, the process can best be characterised as sporadic and ad-hoc.

While some concerns have been addressed in the law, others have not, such as the division of powers between the National and State authorities. A number of people interviewed (from NGOs as well as the state Government) feel that the powers of the National Biodiversity Authority are too wide-ranging, and that further decentralisation would be a desirable.

Industry representatives feel that dialogue and discussion with them has been rather limited. Their participation has been far less visible than that of NGOs. Some admit that their understanding of the biodiversity law and its implications was incomplete at the outset and took time to be refined. However, as the Bill has become more concrete, there have been some strong reactions from domestic industry. Industry positions have in general favoured less stringent control over access. There have also been some instances of serious difference of opinion between industry and NGOs. The Ayurvedic Drug Manufacturers' Association (ADMA), for example, submitted a strong set of objections to the Joint Parliamentary Committee which will review and finalise the Bill.

Officially, there has been very little attempt to elicit the participation of local/indigenous communities. However, NGOs working closely with communities have voiced community concerns, although the extent to which the Biodiversity Bill reflects these concerns is debatable. The Bill leaves a number of critical areas such as 'informed consent' and 'benefit-sharing' to be determined by the authorities established under it, through rules and regulations which are yet to be formulated. There has been criticism that the Bill does not ensure local community control over knowledge and resources, but reposes this power in certain authorities created by it, and that in essence, it pays only lip service to local community concerns.

The lack of direct involvement of local community representatives is partly due to the lack of participatory tradition in official processes in India, where the ones to be asked the last, if at all, are local/indigenous communities because they are not powerful enough to make their voice heard. A critical ingredient for overcoming this problem is the empowerment of the village community to the degree where their involvement is no longer a matter of choice for a government official. The Panchayati Raj laws on decentralisation have some progressive features; however, the extent to which these have practical effect on empowerment is a debatable issue. This is why the Peoples Campaign in Kerala makes an interesting study on how a law would require proactive action to translate it into practice. Another interesting process which seeks to actively engage local people, is the ongoing National Biodiversity Strategy and Action Plan project, whose execution is managed by an NGO.

One of the most remarkable contributions of NGOs has been in the area of formulation of biodiversity registers. NGOs actively involved in their formulation point to the enthusiasm and understanding generated among local communities as a measure of their success. However, concern has been expressed that documentation without legal control could facilitate the commercial exploitation of community resources.

The recommendations for India that have broadly emerged out of this study, mainly in the nature of the 'what next' steps, can be summarised as follows:

1. There is a need for more detailed rules to plug in the gaps in the draft law as it stands today. Such rules would have to broadly address:
 - Terms and conditions for access.

- Terms and conditions to define 'sustainable extraction and use'.
 - Rules for Prior Informed Consent (PIC), with particular emphasis on the criteria to be adopted by the National and State biodiversity authorities for informing their decisions in accordance with the views of the local communities affected.
 - Rules for benefit-sharing.
2. Transparency of functioning of the authorities under the law should be ensured by mandatory rules for publication of an access application and permission granted for access. Objections raised should be addressed in a time-bound manner.
 3. The law should prescribe basic and non-negotiable 'best practice' elements to be applied when agreements between a community and a person seeking access are formulated, e.g. PIC and equitable benefit-sharing.
 4. Clarification on the status of biodiversity registers and who would control access to the resources and knowledge documented is needed to prevent unapproved use of the registers by outside interests. The view of many NGOs and researchers involved in PBR projects, and of some State officials, is that control over the registers should be vested in the village Panchayats, and that the custodians of the resources in the registers, notably local or tribal communities and farmers, should be actively involved in decisions concerning use of the registers and benefit-sharing.
 5. State-level legislation in conformity with the national legislation should be put in place. Furthermore, any state legislation on biodiversity should have well thought out participatory consultation built into its formulation, with particular emphasis on local and tribal community participation. The process should include information dissemination in local languages and seminars at local and state levels.
 6. Participation of community representatives, chosen by communities, should be ensured in the decision-making fora and processes established under the Bill. Secondly, for all local matters and at landscape levels, local bodies should be required to give maximum opportunity to all people to participate.
 7. All States that have tribal populations should designate Scheduled Areas so that tribal institutions of self-governance are recognised under the Panchayats (Extension to Scheduled Areas) Act, 1996, to facilitate participation of tribal communities in policy decisions.

The recommendations for India may have some relevance for other countries. However, a number of more general recommendations have been identified which are broadly applicable to other developing countries formulating policies on access to genetic resources, traditional knowledge and benefit-sharing.

Developing legislation on access to genetic resources and traditional knowledge

1. Legal frameworks for access to genetic resources and traditional knowledge are important to provide legal certainty for the use of such resources, and ensure equitable benefit-sharing. Experience with the Kani-TBGRI agreement shows that it can be very difficult to establish a benefit-sharing agreement in a legal vacuum, and that long delays can occur when the roles and responsibilities of different actors are not clearly defined.
2. Lessons from practical experience with benefit-sharing agreements should be taken into account in the formulation of law or policy. The Kani-TBGRI case highlights:
 - the need to consult with medicinal practitioners of tribal communities, and with communities of the same tribe that may not be directly involved in providing the resources, but are nevertheless custodians of the knowledge pertaining to such resources;
 - the need for recognition of local community rights to collect biological resources; and
 - the need for effective mechanisms for dialogue and coordination between collecting institutions, government departments and tribal communities.
3. Large federal countries should introduce framework legislation at national level, and more detailed legislation at state level, with decentralized decision-making structures in line with the level of decentralization. Decentralised biodiversity authorities can facilitate participation of local communities in access decisions, and so ensure that benefit-sharing is equitable, and are better placed to monitor collection activities at local level.
4. Non-binding guidelines or codes of good practice for collection and transfer of biological resources and related knowledge can be useful as interim measures while legislation is developed, and as a complement to legislation once adopted.

The need for active participation of a range of stakeholders in policy making

5. When access and benefit sharing issues are addressed in biodiversity policy, the participation of affected communities and other interests in policy formulation becomes particularly important. Both national and state laws should be developed with the active participation of a range of actors, including different government departments, state/regional government officials, technical experts from NGOs or research institutes, domestic industry and representatives of local and indigenous/tribal communities.
6. Different ministries responsible for biological resources, decentralised governance and tribal or indigenous communities should be involved in the drafting process, and it may be useful to engage agencies responsible for export and customs.
7. State government representatives should be involved in drafting national law on biodiversity, and should hold consultations at state and local levels. A strong political mandate or incentive, and financial support, may be required to ensure state governments engage actively in undertaking consultations.
8. Politically active NGOs can play a key role in ensuring that the process to develop biodiversity legislation is consultative, in raising public awareness and in putting

forward community perspectives. NGOs and academics can also provide valuable information and ideas to assist the drafting process.

9. Although NGOs and researchers working with communities can broadly reflect the perspectives of local communities, they cannot speak on their behalf, and can only reflect the views of local communities in the areas where they work. Representatives of local and tribal communities should therefore be directly involved in policy drafting, as far as possible.
10. The extent to which NGOs promote community interests may vary. 'Activist' involved in lobbying and advocacy, are more likely to press for recognition of the contribution of farmers and local communities in protecting and improving genetic resources, and providing knowledge about their uses.
11. The involvement of domestic industry is important to ensure that access laws do not unreasonably restrict access, and can facilitate the development of benefit-sharing mechanisms such as biodiversity funds. However, particular efforts may be required to ensure that industry representatives are adequately informed and involved.

Achieving effective consultation and participation in practice

12. Multi-stakeholder drafting groups at national and state levels can provide useful mechanisms to engage stakeholders actively in the decision-making process.
13. Consultative events should also be held to capture a broader range of views and suggestions, and build support for policy proposals. These should be more than one day in duration if the issues are to be covered in any depth.
14. For stakeholders to be able to make a useful contribution to the debate they need to be well informed. It is important that information on policy proposals and the issues they seek to address is distributed in advance of consultation meetings.
15. NGOs and the media can play an important role in raising awareness and stimulating debate. In India there has been considerable media coverage by journalists and NGOs of cases of 'bio-piracy' involving foreign patents on products based on indigenous resources or knowledge, such as neem, basmati rice and turmeric.
16. If there is a break in a drafting process and a new committee comprising different experts and representatives is constituted to re-start the process, there is a danger that the work and views of the former committee will not be taken on board. This can result in duplication of effort, loss of important inputs and perspectives, and disillusionment of those originally involved.
17. Drafting and consultation processes should be continuous and not stop when difficulties are encountered. This may require clear political commitment to the policy, analysis of

how difficult issues have been addressed in other countries or sectors, and skills to mediate between conflicting positions and build consensus.

18. To facilitate a sustained and systematic approach, a plan for drafting and consultation should be established at the start of the process, in consultation with key stakeholder groups, and the necessary financial and human resources identified.

Engaging local and tribal/indigenous communities in policy decisions

19. The formulation of biodiversity policy at state/regional levels can facilitate the participation of local and indigenous communities, particularly where there are decentralised systems of governance, which legally recognise local and tribal institutions of self-governance. In India, the village assembly is the smallest unit of decentralization.
20. Local institutions of self-governance composed of representatives from one or a group of villages may not be effective in ensuring the perspectives of poor and marginalised groups are adequately reflected in policy or planning. The feasibility of establishing smaller units of people who have a direct say on matters affecting their interests, should therefore be explored (as is being done to some extent in the state of Kerala, India).
21. Multi-stakeholder advisory committees for biodiversity or planning at state/regional level offer a potential mechanism for the participation of non-governmental actors in policy decisions. In India, state planning advisory boards normally include a range of political, academic and social activists. Biodiversity advisory committees have been established in a few states, including representatives from research institutes, NGOs, and in some cases, local institutions of self-governance. However, the effectiveness of such bodies as tools for participation clearly depends on their influence over policy decisions.
22. To secure effective community participation, information should be disseminated in local and vernacular languages, and consultative workshops held at local and regional level. By using such an approach for developing biodiversity action plans in India, it is hoped that the *process* itself will serve as a catalyst for action, and enable specific activities to be identified.

PBRs as tools for community participation, benefit-sharing and conservation

23. The development of Peoples' Biodiversity Registers could facilitate community involvement in debates about policy on access to biological and intellectual resources by raising awareness and stimulating reflection on the issues amongst farmers and local communities. The close involvement of NGOs in the formulation of PBRs can help them to reflect community concerns in broader biodiversity policy debates.

24. PBRs could provide tools to help local and indigenous communities to control access to their biological resources and traditional knowledge and claim benefits for the use of resources that have already left the community, provided the necessary supportive legal framework is introduced.
25. The danger of PBRs is that they risk placing knowledge in the public domain and making unapproved access by commercial interests easier. Sensitive or secret knowledge should be withheld from registers, and the formulation of registers should be preceded by legal measures to recognise the resource custodians as owners of the information. In India, it has been proposed that control over the PBRs should be vested in local institutions of self-governance, with local and tribal communities setting the conditions governing their use. In some cases, local communities have passed resolutions asserting ownership over the PBRs, but their legal status is unclear.

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ANNEX I: LIST OF PERSONS INTERVIEWED

New Delhi

Dr. G.V. Sarat Babu, Joint Director, Ministry of Environment and Forests, New Delhi
Dr. Sujatha Arora, Deputy Director, Ministry of Environment and Forests, New Delhi
Mr. Atul Kaushik, Deputy Secretary, Ministry of Commerce, Government of India
Ms. Dolly Chakraborty, Ministry of Agriculture, New Delhi
Mr. R.Saha, Technology Assessment and Forecasting Council, Department of Science and Technology, New Delhi
Dr. S. Natesh, Secretary, National Bioresources Board, Department of Biotechnology,
Dr. Lakshmi Balasubramaniam, Council of Scientific and Industrial Research, Department of Science and Technology, New Delhi
Dr. Biswajit Dhar, Research and Information System for the Non-Aligned and Other Developing Countries, New Delhi
Dr. Suman Sahai, Convenor, Gene Campaign, New Delhi
Dr. T.N. Khoshoo, Distinguished Fellow, Tata Energy Research Institute
Mr. B.K.Keayla, Convenor, National Working Group on Patent Laws, New Delhi
Dr. Vandana Shiva, Research Foundation for Science, Technology and Environment
Ms. Shalini Bhutani, Research Foundation for Science, Technology and Environment
Mr. Ashok, Research Foundation for Science, Technology and Environment
Mr. Pranay Lal, Confederation of Indian Industry, New Delhi
Mr. Sandeep Srivastav, Confederation of Indian Industry, New Delhi
Dr. T. P. Bhat Assistant Secretary General, The Associated Chambers of Commerce and Industry of India, New Delhi
Dr. Raizada, Ranbaxy Industries, New Delhi
Dr. Katiyar, Dabur India Ltd., New Delhi
Ms. Pia Sethi, Forest and Biodiversity Cell, Tata Energy Research Institute
Dr. Vibha Davan, Tata Energy Research Institute
Mr. Ashwini Chhatre, Environmental Consultant.
Mr. Shekhar Singh, Lecturer in Environmental Studies, Indian Institute of Public Administration
Ms. Seema Bhatt, Environmental Consultant
Dr. D.N. Abrol, National Institute of Science Communication
Dr. Usha Menon National Institute of Science Communication
Ms. M. Kasturi, Centre for Environmental Law, World Wide Fund for Nature, India
Dr. R.S. Rana, Centre for Environmental Law, World Wide Fund for Nature, India.

Kerala

Dr.M.K.Prasad, Kerala Shastra Sahitya Parishad, Ernakulam, and Member, Kerala State Biodiversity Board
Prof. Krishna Prasad, Retired Professor of Botany, Maharaja's College, Ernakulam, and Principal Investigator, Peoples' Biodiversity Programme.
Dr. C. Chandrashekhara, Department of Biotechnology, Cochin University of Science and Technology, Ernakulam, and Advisor, Peoples' Biodiversity Programme

Dr. N. S. Gopalakrishnan, Reader, School of Legal Studies, Cochin University of Science and Technology, Cochin
 Mr. Abdul Latheef, Journalist, Indian Express, Kozhikode
 Dr. P. Pushpangadan, former director, Tropical Botanic Garden and Research Institute, Palode
 Dr. S. Rajashekheran, Tropical Botanic Garden and Research Institute, Palode
 Dr. Vinod, Tropical Botanic Garden and Research Institute, Palode, Thiruvananthapuram
 Dr. P. S. Easa, Kerala Forest Research Institute, Trichur
 Dr. J. K. Sharma, Kerala Forest Research Institute, Trichur
 Dr. Thomas Isaac, Co-ordinator, Peoples' Campaign for Decentralised Planning, Kerala Planning Board, Thiruvananthapuram
 Dr. T. N. Seema, Coordinator, Convention on Neighbouring Units, Thiruvananthapuram
 Dr. Jayakumar, Member- Science, Technology and Environment Committee, Thiruvananthapuram
 Dr. Shyamasundaran Nair, Vice Chancellor, Kerala Agricultural University, and Member, State Planning Board, Thiruvananthapuram
 Mr. Surendranath Asari, Kerala Forest Department, Thiruvananthapuram
 Mr. P. Unnikrishnan, Kerala Forest Department, Thiruvananthapuram
 Mr. S. Subiah, Special Secretary, Scheduled Caste and Scheduled Tribes, Thiruvananthapuram
 Dr. N. Viswanathan Nair, Director, Kerala Institute for Research, Training and Development Studies, Kozhikode
 Dr. G. G. Gangadharan, Arya Vaidya Pharmacy (Coimbatore) Limited, Coimbatore

Karnataka

Dr. Madhav Gadgil, Centre for Ecological Sciences, Indian Institute of Science, Bangalore
 Mr. Utkarsh Ghate, Centre for Ecological Sciences, Indian Institute of Science, Bangalore
 Dr. K. Prabhakar Achar, Head of Department of Zoology, Karkala, Karnataka
 Mr. Anantha Hegde, Vruksha Laksha Andolana, Sirsi, Karnataka
 Prof. B. K. Chandrashekharan, Minister of State for Information and Publicity, Government of Karnataka (former member of the Karnataka State Planning Board)
 Mr. S. K. Patnaik, Secretary, Environment and Ecology, Government of Karnataka
 Mr. P. R. Nayak, former SC-ST secretary, Government of Karnataka
 Prof. Dwarkinath, former Vice Chancellor and former member of the Karnataka State Planning Board, Bangalore
 Ms. Kiran Mazumdar Shaw, Chairman cum Managing Director, Biocon Industries, Bangalore (former member of the Karnataka State Planning Board)
 Dr. N. L. Mitra, Director, National Law School of India University, Bangalore

ANNEX II: LIST OF QUESTIONS USED

Questions on the proposed National Biological Diversity Act

1. How was the law developed? What steps did the process involve?
2. Who were the individuals and stakeholder groups that were consulted and how? (E.g. through information dissemination, circulating the law for comment, formation of advisory committees, briefings, workshops)
3. What role did NGOs and others play in facilitating participation?
4. Was it possible to consult members/representatives of 'local communities'? How can the participation or representation of local communities and marginalised groups be strengthened?
5. To what extent has the industry participated? To what extent does the draft law reflect their views?
6. At what stages were you/the organisation you represent a part of the consultation process?
7. To what extent did the consultation process inform the drafting of the bill?
8. To what extent have local policy initiatives (e.g. registers, codes of conduct) had an influence on the bill?
9. What, in your opinion, were the strengths of the consultation process:
 - a) How could the process be improved? (E.g. through better representation of certain sectors, improved information dissemination, more active participation)
 - b) What were the enabling factors and constraints to participation of different groups (particularly local communities)? E.g. political factors, degree of representation, information, communication links, funding, time, conflicts of interest.
10. To what extent was the industry- both domestic and foreign companies involved?
11. To what extent did scientists and others active in biological research participate?
12. What were the key points of concern, conflict or consensus? Did the process succeed in bringing together stakeholders with different interests, mediating conflict and building consensus? If so, how?
13. To what extent do you feel the law has benefited from the consultation process?
14. What were the responses of other departments of the Government to the bill?
15. To what extent were the different states consulted? What, if any, were the lessons that could be drawn by the national law from state-level initiatives? What have been the responses of the different state governments?
16. What are the drawbacks/limitations/costs of participation and consultation? What are the practical difficulties of the consultation process?
17. What is the level of known/suspected bioprospecting activity? Have there been any bilateral agreements between the industry and a research institute/community groups that you are aware of?
18. What are the priorities for future policy processes? What in your opinion are the measures that law and policy need to address keeping in view the objectives of conservation of biodiversity, access to biodiversity on fair and equitable terms, and ensuring sustainable use of biodiversity?

Questions relating to Kerala's experience

1. What is the history, and evolutionary process of the Peoples' Campaign for Decentralised Planning? What steps did it involve?
2. Who were the individuals and stakeholder groups that were consulted and how? (E.g. through information dissemination, circulating the plan for comment, meetings, briefings, workshops)
3. What role did NGOs and others play in facilitating participation?
4. Was it possible to consult members/representatives of 'local communities'? How can the participation or representation of local communities and marginalised groups be strengthened?

5. To what extent did the consultation process inform the planning process?
6. What are the strengths and pitfalls of the process of decentralisation?
7. What, in your opinion, were the strengths of the consultation process:
 - a) How could the process be improved? (E.g. through better representation of certain sectors, improved information dissemination, more active participation)
 - b) What were the enabling factors and constraints to participation of different groups (particularly local communities)? Eg. political factors, degree of representation, information, communication links, funding, time, conflicts of interest.
1. What were the key points of concern, conflict or consensus? Did the process of consultation and participation succeed in bringing together people/groups with different interests, mediating conflict and building consensus? If so, how?
2. What has been the involvement and reactions of different state agencies to the processes of decentralisation?
3. What has been the Campaign's focus with regard to access to and control over land and biological resources occurring on land?
4. In view of the nation-wide debate on access to and use of knowledge of local and tribal communities in relation to biological resources for the development of products for the wider market, what has been the response and the stand taken in the 9th Plan and the Peoples' Campaign?
5. To what extent do you think is there the problem of accessing knowledge of local and tribal communities for profits from the wider market? How can local and tribal peoples have a greater control over this process? What are the checks and balances that need to be there so that they are not exploited?
6. What was the impetus behind the idea of Community Biodiversity Registers that constitutes part of the Plan? In what manner is it being operationalised? What has been the response so far? Who would have control over the information in the Register? How is control over the information in the register sought to be established? Is any legal mechanism being envisaged to achieve 'ownership' over such information? Would the Panchayat/Gram Sabha/ or the individual or community whose knowledge has been recorded have a deciding voice in access to the information in the register?
7. Would greater decentralisation lead to greater participation in decision-making in relation to questions such as access to bio-resources and knowledge relating thereto? If the knowledge relates to that of an individual or a minority in a particular gram sabha or panchayat area, should the decision of the entire gram sabha or panchayat? Can the Gram Sabha or Panchayat over-ride the decision of the individual/or minority interest as the case may be?
8. If the resource occurs in land belonging to the state, but the knowledge pertaining to it is that of the people who through years of skill and effort have built that body of knowledge and learnt about the use of the plant, who should have a deciding voice- the people or the Government?
9. In view of the sudden realisation of the tremendous economic potential of bio-resources and knowledge pertaining to it, do you think there might be a temptation among communities to simply extract the resource and sell it off for commercial benefit? Such a step would then lead to depletion of the resource itself. What steps do you think would be necessary to ensure conservation and sustainable use of the resource? Does the 9th Plan, and the steps taken in its aftermath address this issue?
10. When the land belongs to the Govt., but the people have use rights over the resources therein (e.g., access to MFPs in a reserved forest area), who's responsibility is it to ensure conservation of the resource? Do you think conservation is better ensured when land belongs to the people, or when land belongs to the Government? Or should the responsibility be a joint one?
11. What is your assessment of the 'benefit-sharing' arrangement between the Kanis and the TBGRI?

12. Should bilateral arrangements be allowed between the person seeking access to the resource/knowledge relating to it, or should there be an authority to control and regulate this? Should such an authority be at the level of the community/the Gram Sabha/ the Panchayat/ the State/ the national level?
13. In your opinion, is there enough expertise/capacity at the local level to take such economic decisions?
14. What should be the role of the law? What should the law stipulate?
15. Are you aware of the proposed National Biodiversity law at the national level? (If not, briefly tell them about its main provisions, and ask for reactions).
16. What has been the approach of companies and research institutes engaged in biological research? Have attempts for a dialogue been initiated between companies and communities?
17. What is your perception and opinion on the issue of IPRs over products developed from biological resources? What should the law state in this regard?
18. What should be the priorities for future law and policy? What in your opinion are the measures that law and policy need to address keeping in view the objectives of conservation of biodiversity, access to biodiversity on fair and equitable terms, and ensuring sustainable use of biodiversity?

Questions relating to Karnataka's experience

1. How did the biodiversity register programme evolve? Who took the initiative for the same? How did the idea spread, and what were the responses?
2. At the NGO level, what were/are the responses received- both at the state and national levels?
3. Who are/have been the participants of the biodiversity register programme? What is its scope and extent of coverage?
4. What has been the response from the Government of Karnataka? Who are the 'actors' at the Government level?
5. Is the register process a NGO initiative, or has the Government taken it up as well?
6. Karnataka was one of the first states to come up with a biodiversity policy, and the manner for its operationalisation. What was its genesis? What is its present status?
7. In what manner was the policy developed? Who were the people consulted?
8. What are the strengths and weaknesses of the Karnataka Policy?
9. Why has it taken so long for implementing the policy? What are the perceptions of the Government in this regard? What is the future of the policy?
10. The register process initiated by CES, IISc, the literature it has produced, has had a significant role to play in the Kerala State Planning Board's programme. Have similar responses been received from other states as well?
11. What have been the practical implications of the biodiversity registers at the local level?
12. Who has control over the information in the registers at the local level?
13. What attempts are being made at the legislative level in respect of the registers? What legislative attempts should be made in order to ensure control over information in the registers?
14. What in your opinion are the strengths and limitations of the process of decentralisation?