Protection of Indigenous Knowledge of Biodiversity

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CHAPTER- I

INDIGENOUS KNOWLEDGE OF BIODIVERSITY AND ITS PROTECTION: AN INTRODUCTION

1.1. INDIGENOUS KNOWLEDGE: ITS MEANING AND DEFINITION

Indigenous knowledge (IK), variously referred to as 'traditional knowledge', 'local knowledge', 'folk knowledge' etc., broadly refers to that body of knowledge developed by local and indigenous communities over time in response to the needs of their specific local environment. According to one definition, it means "a stock of local knowledge prevailing in a certain area and derived from that specific milieu…A body of experience which could be culturally and regionally specific, adaptable to new and useful innovations, cumulative and supportive to sustaining survival."[1] Berkes, preferring to use the term 'traditional ecological knowledge' has sought to define it as "a cumulative body of knowledge, practice and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationships of living beings (including humans) with one another and with their environment."[2] IK embraces all aspects of human life and includes information of both functional and aesthetic, tangible as well as intangible character. While only a small portion of IK is codified or formalized in some way, a great part of it is non-codified or tacit, based on traditional beliefs, norms and practices accumulated during centuries old experiences of trial and error, successes and failures and passed to successive generations through the oral tradition. It has been rightly defined as "the aggregate of many generations, gathered in oral form."[3] Developed over centuries of use, IK is dynamic in nature and characterised by continuous evolution as a result of improvements or adaptation to changing circumstances. IK is often presented in contrast to Western 'scientific knowledge'; the main points of difference between the two being methodological and epistemological differences, with the two forms of knowledge employing different methods to investigate reality. Also, indigenous knowledge is believed to be more deeply rooted in its environment than western scientific knowledge.

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[1] Mammo, T., 1999, *The Paradox of Africa's Poverty, the Role of Indigenous Knowledge, Traditional Practices and Local Institutions – The Case of Ethiopia*, Asmara, Eritrea: The Red Sea Press, p. 15.

[2] Berkes, F., 1999, *Sacred Ecology*, Taylor and Francis cited in World Intellectual Property Organisation- Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, 2002, "Traditional Knowledge: Operational Terms and Definitions", WIPO/GRTKF/IC/3/9, Annexure III, p.2.

[3] U.S. Department of Interior: Minerals Management Services (MMS), Alaska OCS Region, "What is Traditional Knowledge?" cited in World Intellectual Property Organisation- Intergovernmental Committee on Intellectual Property and Genetic Resources, *op.cit.*, Annexure III, p.5..

A pertinent question which arises with respect to IK is whether only rural and tribal communities possess IK? In this context, one may adopt a restrictive view of IK or take a wider inclusive approach. A restrictive view of IK, adopted by a school that regards it as strongly distinct from western/ scientific knowledge, is that it is possessed only by the rural and tribal populations, whose material cultures are assumed to have changed relatively little over time. On the other hand, one may adhere to the view that IK may be found in all societies no matter how modern they might appear to be and that it is not restricted to certain types of society. It is the latter approach which we, at Gene Campaign have adopted in the context of this project "Protection of Indigenous Knowledge of Biodiversity"; also recognizing the fact that IK is the result of remarkable innovations and conservation skills and is an accurate and validated system of knowledge, at par with Western scientific knowledge.

While IK may be found in all kinds of human societies, it needs to be acknowledged that it is of crucial importance to the lives of rural and tribal communities. IK, developed around biodiversity, constitutes the mainstay of the food and livelihood security of rural and tribal communities the world over but especially in the context of developing countries like India, it holds the key to their self- reliance, sustainable growth and development. As repositories of the bulk of the world's biological resources, it is not surprising that local communities in the developing countries have been innovating, selecting, conserving, protecting and using local species for ages. Biodiversity and the IK associated with it, is a special strength of today's developing countries: a formidable body of such knowledge exists in connection with all fields of importance to humans, like agriculture, food and nutrition, clothing, dyes, medicinal and pesticidal properties of plants and animals, veterinary care and conservation and sustainable use[4]. It is this IK which transforms "biodiversity" to "bioresources", that is to say, it adds economic value to biodiversity. IK can acquire an enhanced commercial value when its application, and in particular the delivery of IK-based products, can be made through commercial channels. However, while some IK can be used and understood outside its local/traditional/communal context, this is not always the case. There are often spiritual components in the IK peculiar to each community, which causes such communities to oppose commercialization. This is especially true of countries in Latin America.

The IK of communities represents the collective wealth of their experience; acquired and developed as a community effort. It is usually held collectively, although specific individuals or families within the community may hold certain specific types of

[4] Sahai, S. *et al*, 2005, *Indigenous Knowledge: Issues for Developing Countries*, New Delhi: Gene Campaign

knowledge. Used for centuries by local communities under local laws, customs and traditions, its access and use is generally governed by a wide variety of unwritten customary laws, some of which continue to prevail in the modern context. Customary laws of local communities usually emphasize concepts like 'stewardship' and 'custodianship', which imply responsibilities as well as rights, rather than mere ownership of IK.

IK covers a broad range of subjects and policy fields. As stated earlier, several terms have been in general usage to define this body of knowledge depending on the scope and emphasis of the subject. The World Intellectual Property Organisation (WIPO)[5] has listed the use of the terms 'traditional knowledge, innovations and practices' in the context of conservation and equitable use of resources, 'heritage of indigenous peoples' and 'indigenous heritage rights', 'traditional medicinal knowledge' in the context of health policy, 'expressions of folklore' in the context of Intellectual Property (IP) protection, 'folklore' or 'traditional and popular culture' in the context of safeguarding traditional culture, 'intangible cultural heritage', 'indigenous intellectual property', and 'indigenous cultural and intellectual property', 'traditional ecological knowledge' and 'traditional and local technology, knowledge, know-how and practices'. WIPO[6] has stressed on the point that the choice of a term may be perceived as sending certain messages or value judgements. For example, the use of the word 'traditional' is objected to by some and 'customary' is preferred. There are concerns that this might limit protection to historical (old) material only rather than new or adapted material developed within living cultures and customs, or that legal rights will only pertain to those culturally transmitted aspects of indigenous culture which remain demonstrably faithful to ancient beliefs, practices and knowledge. Again, the word knowledge has also been questioned with the suggestion that 'innovations' rather than 'knowledge' would be more apt. Also, the use of the terms 'folklore' and 'expressions of folklore' have been criticized to have negative and Eurocentric connotations, suggesting "something dead to be collected and preserved, rather than as part of an evolving living tradition". Another area of uncertainty is the relationship between indigenous knowledge and traditional knowledge. Indigenous knowledge is either used to describe knowledge held and used by communities, peoples and nations that are indigenous or to denote knowledge which is itself indigenous, in the sense of specifically originating in a certain region or country. However, WIPO has pointed out that whichever sense of 'indigenous knowledge' is used, the general usage seems to suggest that all indigenous knowledge is traditional knowledge, although it is likely that some traditional knowledge may not have the

[5] World Intellectual Property Organisation- Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, 2002, "Traditional Knowledge: Operational Terms and Definitions", WIPO/GRTKF/IC/3/9.
[6] *ibid.*

specific characteristic of being ‘indigenous’. While acknowledging that there are many perspectives on which terms are appropriate, reflecting the diversity of stakeholders and policy interests, it stresses that the process of settling on a uniformly acceptable term is less important than considering the underlying subject matter the term is to cover and the protection it is to be afforded. Nevertheless, we, at Gene Campaign, prefer to use the term 'indigenous' in place of traditional for the knowledge system in question, recognizing that the term indigenous knowledge best reflects the amalgam of antiquity and dynamism inherent in this body of knowledge.

1.2. IMPERATIVES FOR PROTECTING INDIGENOUS KNOWLEDGE

It is imperative to protect IK because it is under serious threat today from the callous neglect visible in national and international policy. A central problem is that while knowledge created in laboratories is acknowledged as the property of the innovator, that created in fields and forests is not recognised as the property of its creators. Such a situation is inherently unjust and inequitable and calls for change; this research project aims at affecting such a change by helping to develop a system that would in effect protect the IK of bioresources in the interest of local communities.

The rationale for protection of IK stems from the different meanings given to the concept of protection. Some understand this concept in the context of Intellectual Property Rights (IPRs), where protection essentially means to exclude use by third parties. Others regard protection as a tool to preserve IK from uses that may erode it or negatively affect the life or culture of the communities that have developed and applied it. Protection in the latter context envisages a more positive role in supporting IK-based communities, their livelihoods and cultures. The main arguments for granting protection to IK include:

- equity considerations;
- conservation concerns;
- the preservation of traditional practices and culture;
- the prevention of appropriation by unauthorised parties of components of IK; and
- promotion of its use in development.

Generally speaking, contemporary developmental laws and policies at the international and national level have been curtailing the domain of customary laws and practices and the usage of the IK system. This has not only eroded the control that communities used to enjoy over bioresources, but has also adversely affected their decision-making capacity. This has multi-dimensional effects that may not always be quantified in economic terms. Though thinkers and visionaries have been highlighting the importance of biodiversity to human survival and well being, a wider appreciation of IK has

resurfaced only recently. This wider consciousness has contributed to laws and policies and other efforts at international and national levels to conserve biodiversity by, among other things, protecting and promoting the IK system.

Different approaches have been suggested in international fora regarding building systems to protect IK, one approach being to strengthen and further develop existing IK protection systems, based on documentation of IK, developing networks and strengthening the use of customary law. According to the Canadian Indigenous Peoples' Organization,[7] it is commonly assumed that " indigenous peoples possess their own locally-specific systems of jurisprudence with respect to the classification of different types of knowledge, proper procedures for acquiring and sharing knowledge and the rights and responsibilities which attach to possessing knowledge, all of which are embedded uniquely in each culture and its language". An assumption that there is a generic form of customary regulations governing IK use or dissemination ignores the intricacies and diversity of traditional systems.

There is another dimension of protecting IK, which is in the context of IPRs. The debate concerning the protection of IK through IPRs commenced when a number of cases involving 'biopiracy' compelled the attention of the international community. Biopiracy refers to a situation where a claim made for patent protection is either derived from the IK system or simply translated into modern scientific language. The cases of neem, turmeric and ayahuasca exemplified the problems that could arise when patent protection is granted to inventions relating to IK which is already in the public domain. India's own experiences in challenging the patents on neem and turmeric proved to be bitter with the country having to spend extensive amounts of time, money and effort in their revocation. The above cases illustrated how difficult and costly it is for developing countries to monitor and challenge patents granted on inventions consisting of, or developed from, acquired biological material and associated IK. Partly as a result of these well known cases, many developing countries, holders of IK and others are trying in a multitude of fora to ensure better protection to IK, mainly driven by two pressing concerns[8]:

- concern about the grant of patents or other IPRs covering IK to persons other than those indigenous peoples or communities who have originated and legitimately control the IK;

[7] Cited in Report of the AD Hoc Open Ended Working Group on Access and Benefit Sharing, UNEP/CBD/WG-ABS, 10th August 2001.
[8] TRIPS Secretariat, 2002, "The Protection of Traditional Knowledge and Folklore: Summary of Issues Raised and Points Made", IP/C/W/370.

- concern that IK is being used without the authorization of the indigenous peoples or communities who have developed and legitimately control it and without proper sharing of the benefits that accrue from such use.

When talking of the protection of IK, there is need for some clarity on what is exactly sought to be conveyed by the term 'protection'. In the context of biopiracy, protection is defensive in nature and primarily means protection from being pirated. Protection of IK in the IPR context essentially means to exclude the unauthorized use by third parties, which is defensive protection. However, developing countries have keenly felt the need for positive protection to IK, whereby exclusive ownership rights are granted over IK and the intellectual property of the community that holds this knowledge is acknowledged to be theirs.

Global IPR mechanisms for protecting IK could be broadly segregated into two types:

- Defensive measures against misappropriation of IK: Defensive mechanism includes measures adopted in the law or by the regulatory authorities to prevent IPR claims to IK being granted to unauthorized persons or organizations. Measures like disclosure requirements, as suggested under TRIPs, and prior informed consent, as proposed by the CBD, can be viewed as elements under defensive protection. Harmonization of national laws of different member countries to incorporate the above measures is in different stages of progress. In addition to these legal efforts, documentation of recorded knowledge to establish prior art constitute an important measure of defensive protection.
- Assertive protection: Assertive protection refers to the acquisition by the IK holder themselves of an IPR such as a patent or an alternative right provided in a *sui generis* system, implying granting exclusive/ownership rights over IK and protecting the intellectual property of the community that holds such knowledge. This would bring IK at par with the knowledge/technology created in scientific laboratories, which are protected through IPR tools like patents or plant breeders' rights. Registration of farmers' crop varieties under the Protection of Plant Varieties and Farmers' Rights Act of India is a good example of assertive protection. Providing IP protection under Geographical Indication is another example of assertive protection.

1.3. OBJECTIVES AND SCOPE OF THE PROJECT

In this backdrop, the current project aims to contribute to developing an effective regime for the protection of IK. The Project has specifically three objectives, which are:

- to review existing documentation of IK of biodiversity in South Asia and customary laws and practices in India, in order to assess what protection is offered to IK of biodiversity;
- to examine existing international instruments and legal mechanisms in India, for the protection of IK of biodiversity;
- to subsequently identify potential mechanisms for protection of IK of biodiversity at national and international levels, including IPR tools and *sui generis* legislation.

With the above objectives in mind, the research has focused on:

- Existing documentation in South Asia- Documented works on IK of biodiversity have been reviewed and analyzed to see what features they contain that could afford protection to IK. An attempt has been made to focus on structure and methodology as well as format and goals of the documentation, to evaluate the strengths and weaknesses of each approach and its effectiveness in protecting IK.
- Customary laws and practices in India- Here, we have tried to examine and review customary laws and practices of the local communities in various parts of India. On the one hand, we have tried to highlight the ways in which these laws and practices are protective of IK of biodiversity, and on the other, we have tried to analyze the treatment given to customary laws and practices under the modern legal system, including the Constitution of India. The theoretical research has been substantiated through case studies.
- International Instruments and Initiatives- Many developing countries have recognized the role of internationally agreed instruments in preventing misappropriation of IK and ensuring compliance with national level benefit sharing mechanisms and laws. This project has tried to examine and analyze international instruments and initiatives that have a bearing on IK protection, and assess their relevance and impact for India.
- National legislation in India- Domestic legislation, with direct or indirect relevance to protection of IK of biodiversity, have been examined to assess their strengths and weaknesses and identify those provisions that can be construed as protective of IK.

Finally, this project has sought to assess whether provisions of existing legislation are adequate to protect IK or whether provisions exist which need to be amended or strengthened to protect IK. If neither course is feasible, is a new *sui generis* regime necessary to protect this IK of biodiversity?

1.4. METHODOLOGY

The research and study approach adopted in this project has been participatory and inclusive of as many stakeholders as possible, with the overall approach being one of consultation and dialogue. Since multi- stakeholder dialogue is a significant part of the methodology, potential members of such Multi- Stakeholder Body (MSB) were identified early in the project. The selection of stakeholders was done through an informal consultative process. A Project Advisory Committee (PAC) and an Expert Panel (EP) were constituted. The implementation strategy of the project and technicalities of the research agenda were finalized at a Project Launch Meeting in which representatives of the PAC, Expert Panel and stakeholders participated. Subsequently, research findings of the project were sent to the members of the consultative bodies, stakeholder meetings were organized and comments incorporated in the research. Consultations with the key stakeholders, the rural and tribal communities were done frequently.

The following research methods were used:

(i) Survey, review and analysis of literature and documents
(ii) Stakeholder consultations
(iii) Expert consultations
(iv) Case studies in the field
(v) Networking with organizations.

The research findings have been organized in chapters as given:

Chapter I-***Protection of Indigenous Knowledge of Biodiversity: An Introduction*** is an introduction to the subject, discussing the meaning and definition of Indigenous Knowledge (IK), the imperatives for its protection as well as the various meanings of the term 'protection' in this context. It also elaborates on the objectives and scope of the project, methodology adopted and defines certain operational terms used in the report.

Chapter II- ***Informal Mechanisms for Protection of IK: The Role of Customary Practices and Laws*** seeks to explore the role of customary practices and norms in protection of indigenous knowledge and resource conservation and the factors that have led to their decline. It also seeks to examine the extent to which the Constitution, the state laws and the state machinery creates an enabling environment for customary norms and practices to flourish and contribute to conservation of the resources and the knowledge.

Chapter III- ***International Instruments and Initiatives for Protection of IK,*** this chapter speaks of the need for action at the international level to protect IK and critically

examines the various international instruments and initiatives that have played an important role in raising the concerns related to IK of biological diversity. It also looks into the politics operating in the field of international law making, which determines the outcome of international instruments and initiatives. Finally, it offers suggestions as to how a developing country like India could negotiate better and adequately utilize the flexibilities embedded within the international treaties to assert their domestic priorities.

Chapter IV- *The* ***National Legal Regime and Protection of IK***, this chapter analyses domestic legislation that has a bearing on bioresources and the IK associated with it. The laws examined are the Protection of Plant Varieties and Farmers' Rights Act, 2001, the Biological Diversity Act, 2002, the Patent (Amendment) Act, 2005, the Geographical Indications of Goods (Protection and Registration) Act, 1999; forest and wildlife legislation as well as draft legislation like the Seeds Bill and the Tribal Rights Bill have been analysed.

Chapter V- *Non- Legal Efforts to Protect IK: The State of Documentation in India and other South Asian Countries*- comprehensively reviews the main efforts at documentation undertaken in India, Bangladesh, Sri Lanka and Pakistan and assesses their effectiveness in protecting IK.

In Chapter VI, we finally come out with the recommendations for amendment in national legislation for protection of IK of biodiversity, which has been arrived at through the present research.

1.5. OPERATIONAL TERMS AND DEFINITIONS

For the safe of clarity and in order to avoid ambiguity, we have followed operational definitions for certain terms which have been used in the report. Some of these are as follows:

Biological diversity or *Biodiversity*

We accept the definition offered by the Convention on Biological Diversity:

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

Biological resources or ***Bioresources***

For the purpose of this project, we use the definition provided by the CBD for this term:

Biological resources include genetic resources, organisms or part thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity. Genetic resources have been further defined by the CBD as genetic material of actual or potential value with genetic material being defined as any material of plant, animal, microbial or other origin containing functional units of heredity.

Community

Community can be described as a group of people living in geographical proximity of one another, within a definable habitation unit like a village or a colony. However, apart from the geographical criterion, there are others that are equally relevant such as the sociological criterion that defines a community as a group of people sharing the same social characteristics, which could be caste, custom, tribe, religion or even a profession. In the context of biodiversity conservation, a community is perceived as a locus of knowledge, site of regulation and management, a source of identity and a repository of common practices, culture, beliefs, and modes of life.

Indigenous Knowledge(IK)

The term Indigenous Knowledge (IK) is used to refer to a knowledge system with the following attributes:

- it is a collection of cultural conformation with people which is of **********use
- IK is not limited to indigenous peoples only. Knowledge of occupational groups such as traditional farmers, fisherfolk, pastoralists and nomads irrespective of their indigeneity forms a part of the term IK;
- IK is the knowledge of people who are directly dependent on natural and biological resources for their sustenance;
- IK is specific to a social and spiritual environment and used in an institutional context;
- IK is transmitted from one generation to another pre-dominantly in an oral form;
- IK is dynamic in nature; being generated, updated and modified over time;
- some knowledge is in the community domain, while some is restricted to specific families within a community and some other knowledge is limited to specific individuals within a community.

Indigenous knowledge holder

WIPO has used the term 'traditional knowledge holder' to refer to all persons who create, originate, develop and practice traditional knowledge in a traditional setting and context.

However, in this study, we use the term 'indigenous knowledge holder' in an inclusive manner to include even those knowledge holders who may have moved out of the traditional setting.

Intellectual Property Rights (IPRs)

According to the Report of the WIPO Fact Finding Missions on Intellectual Property and Traditional Knowledge (1998-1999), intellectual property rights refer to property rights in creations of the mind such as inventions, industrial designs, literary and artistic works, symbols, and names and images. The notion "intellectual property rights" is defined in the Convention establishing the World Intellectual Property Organization (WIPO), 1967 to include rights relating to:

- literary, artistic, scientific works;
- performances of performing artists, sound recordings, and broadcast;
- inventions in all fields of human endeavour;
- scientific discoveries;
- industrial designs;
- trademarks, service marks, and commercial names and designations;
- protection against unfair competition; and,
- all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.

Local and indigenous communities

Indigenous peoples, according to ILO Convention 169, are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest, or colonization or the establishment of present state boundaries and who, irrespective of their legal status retained some or all of their own social, economic, cultural and political instruments.

We, however, have adopted a broader definition for the phrase 'local and indigenous communities. We believe that holders of indigenous knowledge may come from a diverse range of indigenous and non- indigenous populations and occupational groups,

such as traditional farmers, pastoralists, fishers, and nomads whose knowledge is derived from specific locations and is based on a long period of occupancy spanning several generations. Thus, for us, the phrase 'local and indigenous communities' refers to the human population in a distinct ecological area with the right to and dependence on its biodiversity and ecosystem goods and services irrespective of their indigeneity

Protection of IK

As stated earlier, we have used the phrase 'Protection of IK' or ' IK Protection' both in the sense of Intellectual Property Rights, the basic objective of which is to prevent unauthorized use by third parties as well as in the sense of protecting it from getting lost or eroded. In the context of IPR Protection, we have used the term to include both defensive as well as assertive protection, discussed earlier in the chapter.

Sui generis

As per Black's Law Dictionary[9], the term 'sui generis' is derived from Latin which means "of its own kind", thus also meaning of its own class, unique or peculiar. We use the term sui generis to describe a regime designed to protect rights that fall outside the traditional patent, trademark, copyright and trade secret doctrines. Thus, a sui generis system of protection is a special system adapted to a particular subject matter, as opposed to protection provided by one of the main systems of intellectual property protection. As we believe that indigenous knowledge cannot be adequately protected by the existing intellectual property regimes, therefore, creation of *sui generis* systems of protection assume importance.

[9] Black, H.C., 2004, 8th edition, *Black's Law Dictionary*, St. Paul, MN: West Publications.

CHAPTER-II

INFORMAL MECHANISMS FOR PROTECTION OF IK: THE ROLE OF CUSTOMARY PRACTICES AND LAWS

2.1. CUSTOMARY PRACTICES AND IK PROTECTION

Apart from the formal legal regime, informal customary practices and laws, emanating from within the community, have particular significance in the context of protection of IK of biodiversity. Local and indigenous communities have since time immemorial, shared a close and interdependent relationship with the elements of their environment. This relationship has helped them develop a sound understanding of their surroundings and the resources found therein. This proximity and the deep understanding has developed into a knowledge system which over the years, handed down from one generation to the next, has aided their survival.

The access and use of the biological resources and the associated knowledge in these communities have often been governed by a plethora of informal customary mechanisms, which have aided in the conservation of both the resource and the knowledge. For, a rich biological resource base leads to a prolific knowledge system, which in turn thrives and flourishes on the sustained availability or conservation of the former. Sustainable use of bioresources is reflected in most of the customs of local and indigenous communities. Wisdom of community elders regarding the status of a resource is translated into a practice which incorporates sustainable harvest or wise use of the resource. This practice over a period of time takes the shape of a custom, which passed over from generation to generation, gathers the force of law as it gets accepted as a norm.[1]

The existence of customary practices governing the use of biological and natural resources may be observed in the context of forest use practices, traditional water uses and management, landholding patterns, agricultural practices, fisheries, use of commons, etc.[2] Communities possess different forms of traditional operative frameworks of rights, powers, concessions and obligations relating to the use and

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[1] Here, it would be pertinent to discuss the finer points of difference between customary practices, custom and customary law. A customary practice refers to a habitual form of behaviour within a given social group, which over a period of time, becomes a custom. When custom by its common adoption and long varying habit has come to have a force of law, it may be termed as customary law.

[2] Vani, M.S., 2002, *Customary Laws and Modern Governance of Natural Resources in India: Conflicts, Prospects for Accord and Strategies*, paper submitted for the Commission on Folk Law and Legal Pluralism, XIII International Congress, Thailand.

management of the biological and natural resources. Conservation systems inherent in the beliefs and customary practices pertaining to biological and natural resources may take any of the following forms:

- belief systems, which guide people's relation with the entities around them. The concept of sacred species of flora and fauna in different cultures has high protection value, while sacred groves are considered as repositories of biodiversity protected through sacred beliefs such as the presence of a deity therein. For example, the sacred groves in the state of Meghalaya, comprising mainly of oaks and rhododendron trees, are considered to be village commons. Felling of timber from these areas is an offence. Only for cremation purposes are people allowed to take timber from these groves.[3] Again, lakes in the high altitude areas of Sikkim and Arunachal Pradesh are considered sacred and are considered to be abodes of deities and thus, performance of certain acts is restricted to maintain purity of the waters;
- social taboos and stigmas attached to the killing of certain species during certain periods. For example, among the Adis of Arunachal Pradesh, hunting of certain species of animals is prohibited during the pregnancy of the hunter's wife. Among the Nishis of Arunachal Pradesh, the hunting of a lone male hornbill is prohibited during the breeding season. Uprooting the *datura* plant or plucking its flowers is prohibited in many communities, because this plant grows near water springs and conserves water in its root;
- some communities regard certain species of animals as kin and refrain from killing them. For instance, the Santals have totemic clans; with each clan claiming kinship with a certain plant or animal species. So strong are their feelings towards these totemic species that they revere them as their own clan members. Eating or harming the totem is prohibited;
- some knowledge related to medicinal plants, which is used in the treatment of specific illnesses, is held by a few in the community. Usually these are the traditional healers and generally, they do not reveal this knowledge to others in the community or to outsiders. This is a tool to protect the resource used in the treatment from over-extraction and in the modern context, can be viewed as a deterrent mechanism against biopiracy.

In recent times, local and indigenous communities have differing degrees of dependence on the biological and natural resources in their vicinity. Over the years, in the Indian context, the direct dependence of several communities and families has decreased over these resources as they have found new occupations and other means of livelihoods in their own areas and sometimes as a result of migration to other places.

[3] Gourdon, P.R.T., 1914, *The Khasis*, London: Macmillan and Co.Ltd

Yet, there are numerous communities in all parts of the country, even today, that are directly and largely dependent for their sustenance and survival on these resources. Such peoples and communities have a stake in conserving and using the resources in a sustainable manner. For this purpose, these communities impose an array of legal and non-legal regulatory mechanisms for compliance within the community and which also command respect from neighbouring communities. The severity of the norms and the gravity of the penalties depend on competing interests and the availability of the resources. There is an abundance of documented evidence[4] and experience on successful models of customary and community based resource management practices, which vindicate the fact that customary practices and laws are of contemporary relevance in protecting biodiversity and the associated IK. It has been demonstrated that customary practices and laws have been best effective in areas where communities have the power to regulate use of biological and other natural resources as per their rules and are successful in inducing compliance to these rules from within the community.[5]

2.2. WHY CUSTOMS AND CUSTOMARY LAWS HAVE AN EDGE OVER STATUTORY LAW?

Customary law of communities, derived from customary practices, is not just an archaic set of norms, but is dynamic in nature. Customs and customary laws pertaining to biological resources have evolved over time for the management and utilization of these resources, depending on the degree of scarcity of the resource. This laws and have changed with the change in the demand over these resources. These are not merely rules laid down by the community but also emanate from the decisions of the village councils which lay precedents for future disputes. Village councils are authorized to settle disputes of various natures including conflicts related to these resources and over time, have exhibited remarkable sensitivity to changing needs, as reflected in the case studies conducted by Gene Campaign on Pumakuchi and Mendha Lekha.

Customary laws score over statutory law in many ways. Besides being dynamic in nature which gives them flexibility, they are better adapted to local situations which evoke better compliance from the community members. Customary laws are culturally sensitive, resource specific and respond to the ecosystem approach to management of the resources.[6] When enforced through traditional institutions, such as the village

[4] Kothari, A., N. Pathak and F. Vania, 2000, *Where Communities Care: Community Based Wildlife and Ecosystem Management in South Asia*, Evaluating Eden Series No. 3, Kalpavriksh and IIED, India.
[5] Pant, R., 2002, *Customs and Conservation: Cases of Traditional and Modern Law from India and Nepal*, Kalpavriksh and IIED, India.
[6] Tobin, B., 2004, "Challenges to Securing Respect for Customary Law in ABS and TK Regulation", presentation made in London, 4th -5th May, 2004, UNU/IAS, United Nations University.

councils, they bring about speedier justice and settlement of dispute; the traditional institutions have greater accessibility to local people both in the sense of costs involved and eliciting more trust/faith in the system.[7]

The dynamism and adaptiveness of customary law to local situations and the fact of their better compliance has been amply brought out in case studies undertaken by Gene Campaign, as part of this project. Researchers conducted field work in three regions of India to gain better insight into the realm of customary laws and social practices governing use and management of biological resources and to understand how these practices have helped in transmission and protection of IK over generations. The three case study sites identified on the basis of discussions with experts were:

1. Pumakuchi village in Karbi Anglong district, Assam,
2. Mendha Lekha village in Gadchiroli district, Maharashtra, and
3. Kachchabari, Palma and Kulli villages in Ranchi district and Garidih village in Hazaribag district of Jharkhand.

2.2.1. THE CASE OF PUMAKUCHI VILLAGE IN KARBI ANGLONG DISTRICT, ASSAM.

Village and the People

This case study relates to the Hill Tiwa community of Pumakuchi village in Karbi Anglong district of Assam. The Tiwas or the Lalungs constitute a Scheduled Tribe of the state of Assam with a section of them known as the Hill Tiwas. They reside in the foothills and hilly areas of Karbi Anglong district. The Lalungs or Tiwas are a part of the great Indo-Mongoloid tribes, who migrated from their original abode in Tibet and Western China to the north-eastern part of India.[8] The village of Pumakuchi is composed exclusively of people of the Hill Tiwa community. The total population of the village is 191 persons and the total number of households, 36. The primary occupation of the people is now settled agriculture though most of the households also practice some amount of *jhum* cultivation.

Objectives of the study

This case/ field study was conducted with the purpose of achieving two primary objectives. The first objective was to identify and study those mechanisms in the traditional culture of the people which can be deemed to play an important role in the

[7] Pant, R., 2002, *op.cit.*
[8] Gohain, B.K., 1993, *The Hill Lalungs,* Anundoram Borooah Institute of Language, Art and Culture, Assam, p 4.

protection of the indigenous knowledge of bioresources. The second objective was to look into those elements of their culture which ensure protection of bioresources, indirectly contributing to the protection of the associated knowledge.

With these objectives in mind, the study concentrated primarily on three aspects of the culture of this community:

- religious beliefs and practices, which have a direct or indirect association with conservation of bioresources;
- village institutions through which the customary laws and practices are administered;
- traditional healing, with special emphasis on the attitude of the traditional healers or indigenous knowledge holders towards protection of their knowledge

Religious Beliefs and Practices Associated with Nature

The Hill Tiwas are animists they do not have any temples or idols. Animism is defined as the tendency to attribute supernatural or spiritual characterstics to plants, geological features and climatic phenomena.[9] In recent times, Hinduism in its crude form has found its manifestation in their worship of gods, goddesses and deities. In order to propitiate these powers they observe many religious rites and rituals throughout the year where the sacrifice of pigs, goats, fowl and use of *ju* (locally brewed rice beer) are indispensable. There are numerous shrines called *thaans* in the village dedicated to the numerous deities the people worship. A *thaan* is a small clearly demarcated area having a small altar and surrounded by a patch of forest. The *thaan* and the adjoining forest may be regarded as constituting a sacred grove. Sacred groves have been acknowledged to be of great significance in the context of conservation of biodiversity, with the green patches constituting a unique example of *in situ* conservation of bioresources.

The *mathines* or spirits are believed to reside in the nearby hills and forests. For instance, the spirit named *Kharine* is believed to dwell in the *khari* (hill stream) and causes fever in a person if he or she displeases the spirit by making a noise near the stream or by polluting the stream. The *baghraja* is a benevolent spirit residing in the forest and offers protection against the attack of tigers. The people of Pumakuchi hold in great reverence ancestral spirits collectively refered to as *phitri* who are believed to reside near the dwellings of their surviving kin in the bamboo groves. Thus, people have given different locations to spirits for residence in their belief system. In order to avoid risking the wrath of the supernatural powers, the Hill Tiwas observe numerous

[9] Seymour-Smith, C., 1986, *Dictionary of Anthropology*, Delhi. Macmillan Press Ltd.

restrictions in the context of these places. This researcher was told of an incident when a person in an inebriated state, defecated in the hill stream where the spirit of the *Sajaboroi* is believed to reside and in a crude language, openly challenged the spirit to harm him. A few months later, he lost his wife in child birth and also his five-year old son fell sick. He then called the *ojha* or the religious healer who through divination came to know that this man had angered a deity or a spirit. On the advice of the council of village elders, before whom he had confessed his crime, he sought pardon from the spirit by sacrificing a pig and two fowls and giving a community feast. According to the anecdote, the son became well soon after.

The most sacred *thaan* in the village is considered to be the *Andhari thaan*, dedicated to the god *Andhari*. An anecdote relates that once a Bengali businessman from a neighbouring town tried to set up a stone quarry at this site but had to abandon the project mid-way as several misfortunes befell him. The community believes that he had incurred the wrath of the deity by violating the sanctity of its abode.

The Tiwas of Pumakuchi revere all life forms as sacred. They believe that there is a *jiu*[10] (soul) in all creatures like man, animals, birds, fish, insects and trees. *Jiu* is also believed to be present in water, rocks, hills and forests. They believe that the creator's soul resides in all its creatures, thus killing of animals and destruction of trees and forests is considered sinful by them. When a chicken or a pig or a goat is being killed for food or when a tree is being felled for domestic use, the people of Pumakuchi utter the following incantation to seek pardon from the deities: "Tuk chana khak chana sekam chana korlom chana" which when literally translated means "O Almighty, may no crime befall us for taking the life of this creature of yours". People also observe many rituals to atone for this sin. The *Maiha Choma Rowa* ritual is observed to seek forgiveness from the supreme powers for the sin they commit in killing many insects and pests while burning down the forest for *jhum* cultivation. It is obligatory for all families to perform this ritual; however, in the recent past, in order to reduce the expenditure involved, a number of families or families in a clan perform the ritual together.

Such instances indicate how closely the religion and the world view of the Tiwas is intertwined with nature. The deities and the spirits whom the people revere are believed to reside in the forests and streams in and near the village. Tiwas abstain from damaging or desecrating these sacred places, because respect for nature and its conservation is an inherent part of the cultural ethos of these people. While restrictions

[10] The concept of soul is found in almost every human society like the *atman* of the Hindu religion, the *neotsem* and *nazae*l of the Athapascan tribes, the *nekas, aruntam* and *nuisak* of the Jivaro head hunters of Southern Brazil, etc. Among the neighbouring Karbi tribe, the equivalent concept of *Karjong* is present.

and penalties pertaining to violating these sacred spaces are imposed by the village council, the most severe deterrent for this community is the fear of divine punishment.

During the harvest season, elephants cause a great deal of damage to standing crops. But hence ********* the local people consider these elephants to be God they feel that they cannot deny a share of their harvest to them. When the destination gets beyond tolerance, they chase them away by beating drums and lighting a fire.

In the light of such conservation friendly practices of local communities, it can be argued that 'attempts for conservation of bio-diversity need to be integrated with the cultural ethos of the local communities developed through centuries of experience. The most important argument for participatory conservation is that local or indigenous people have traditional concepts of oneness with the environment and kinship with the natural world'[11]. Administrators, planners and conservationists must take into account the very large reservoirs of traditional conservation knowledge and experience within local cultures that provide a significant basis for sound management policies and environmental planning.[12]

Village Institutions and Enforcement of Customary Laws

The *Gaon Sabha* with its multifarious activities of settling disputes, maintenance of rules and regulations, welfare and ritual functions, serves as the apex political body of Pumakuchi village. It is composed of seven members headed by the *Gaonburah* (village headman). The other members are the *Deori* (village priest), the *Hadari* (assistant to the *Deori), Barika* (*Deori*'s messenger) and the three *Randhani* or *Maisakar Sowa* (persons selected to cook ritual feasts). The punishment for different types of offences is imposed by the *Gaon Sabha,* depending on the seriousness of the offence committed.

The *Gaon Sabha* as well as religious customs forbid desecration of sacred spaces. Violations are believed to attract harm not only to the perpetrator but also to the entire village. The patch of forest surrounding the *thaans* is the most zealously protected. There is a complete prohibition on felling of trees; people are not even allowed to collect fallen twigs or fruits from these areas. Trees could be lopped but only for cooking community feasts and the fruits can be partaken of by small children after the *Deori* offers the first fruit of the season to the resident deity of the *thaan*. Fines are imposed by the village council depending on the financial ability of the guilty. For serious crimes committed by the well off, the punishment to atone for one's sin could be to host a

[11] Sarma, U.K. 2004, "Experiences in Protected Areas, National Parks and Participatory Conservation with Emphasis on Kaziranga National Park, Assam", *Journal of North East India Council for Social Science Research*. Vol. 28.
[12] *ibid*

community feast. First time offenders especially women and children are let off with a warning not to repeat the action. The villagers abide by these rules more due to fear of divine retribution than social sanctions. Mothers warn their children not to go near the *thaans* by scaring them with stories about the wrath of the deities.

No permission is required for felling a tree on one's own property or on a non-sacred space. But it is expected that the feller will plant a sapling in the place of the fallen tree. In clan lands, permission of the clan elder is required to fell a tree. In case of village lands, the *Gaon Sabha* may grant permission to cut the tree on payment of a certain fee which is levied considering the financial ability of the person. Cutting a tree without permission entails a fine and the offender is made to plant five saplings in lieu of the fallen tree and to tend to them as well. In this manner the *Gaon Sabha* shows sensible conservation ethos.

In the recent past, a new institution has emerged to take care of village protection functions. This is called the Village Defence Party composed of 13 members. The offenders caught by this party are handed over to the police and are not dealt with by the village council. This body receives some aid from the government in the form of blankets, torches, etc. The Village Defence Party has been successful to a great extent in protecting the forest from logging activities especially for bamboo.

Knowledge associated with traditional healers

The Tiwa inhabitants of Pumakuchi attribute ailments and disease to three causes which are as follows:

- Disease due to natural causes when there is a hindrance to the normal functioning of the body, mostly brought about by the individual's behaviour. For instance, the people attribute a cold to over exposure to the environment, a stomach ache to the over consumption of oil, chillies etc.
- Disease brought about by malevolent supernatural powers like *mathine* and *khetar*.
- Disease brought about through black magic and witchcraft.

When a person in Pumakuchi falls sick, the *ojha* or traditional healer is called for treatment and healing. An *ojha* is adept at performing *soma* (divination), possesses indepth knowledge of the properties of various herbs plus has expertise in the art of propitiation of the spirits and ghosts. He also knows the art of counter- magic in order to remove an evil spell cast on the sick person. In order to cure epilepsy, the *ojha* makes a paste out of *Brahmi*, a herb locally known as *manimuni* and seeds of a particular gourd along with *amla* which is to be had twice a day for ten days. The

bark of the *Arjun* tree along with some other herbs is used to set fractured bones. For minor ailments like headache, fever or stomach ache, the *ojha* usually prescribes the locally brewed rice beer after he has chanted some incantations. All the villagers testify to the medicinal properties of their traditional rice beer which they attribute to the fact that a number of herbs go into its preparation.

The traditional medicinal healers of Pumakuchi do not mind sharing their knowledge about various herbs. This knowledge according to the healers is known to all in the village. They have a firm belief that the potency and efficacy of the herb lies not merely in the plant but also in the various incantations that are chanted when the formulation is being prepared or administered to the patient. The knowledge of the incantations is, however, closely guarded. An aspiring *ojha* needs to learn the art from a teacher and has to undergo rigorous training after the completion of which he offers a *kuruman* (token remuneration to the teacher). While performing a spiritual healing, the *ojha* first invokes the name of his teacher.

There is a decline in the use of traditional medicine in the younger generation. More and more people taking to allopathic medication is the principal reason for the diminishing interest in traditional healing, resulting in the erosion of the indigenous knowledge system. Usually, only those who cannot afford allopathic treatment turn to indigenous healing. Moreover, with the influence of the markets, lives in even the remote villages of the country have been affected. Traditionally, the *ojha* received only a token or ceremonial remuneration. For instance, at a community feast, he would be offered the head of the fowl as a sign of his high position in the society. Traditional healers have started to feel that in today's world, economic status commands more respect than such ceremonial gestures in society. They find it difficult to understand why their knowledge is so much in demand by certain people and that people would be actually interested in stealing it. The threats of biopiracy are beyond their comprehension but they are confident that nobody could steal their knowledge from them as the herbs would have no value without the incantations.

Observations

The case study of the Tiwas of Assam reflects the world view of most communities living in close interaction with nature, having a deep sense of oneness with the environment and being in a kinship relation with the natural world. The Tiwas believe in the same soul pervading all life on earth. They strongly believe that their deities do not reside in a far away heaven as is the belief in most religions, but they reside on earth in different manifestations such as streams, forests, stones, hill tops, trees, lakes, etc. which is why they have strict rules and social sanctions and taboos to protect these manifestations.

These beliefs, taboos and social sanctions have obtained the status of law, more specifically customary law, as these practices and beliefs have the acceptance of the entire community, have existed for a considerable period of time and are enforced by village institutions. As against clear customary laws, the customary norms cannot strictly be construed as laws. These are beliefs which are strongly held to avoid the wrath of supernatural powers. For instance, in most local and indigenous communities it is a belief that knowledge related to medicinal plants is communicated to the healers by their deities. The efficacy of the medicinal plant lies in the invocations to the deities and not merely in the plant. The plant is only a medium. And it is these invocations which the healers protect. Such beliefs cannot be construed as law as there is no institution enforcing it. Healers comply with this understanding developed over years, fearing the consequences from supernatural forces if they violate this basic understanding.

It is clear from this case study that the local community does not guard its knowledge of biodiversity, except for the incantations and the spells. However, it is evident that conservation of biodiversity is ingrained in their culture and there is a need to make the people aware of the need to protect their IK and their bioresources.

2.2.2. THE CASE OF MENDHA LEKHA VILLAGE IN GADCHIROLI DISTRICT, MAHARASHTRA

The Village and the People

Mendha Lekha is a Gond village situated in Dhanora taluka of Gadchiroli district, in the state of Maharashtra, with a total population of 325 individuals. Interestingly, this region has witnessed a mass movement against the government's decision to set up a twin dam complex on the rivers Indravati and Godavari (which is expected to submerge a large part of their forests and displace thousands of forest dependent people). This area has also seen a heightened awareness among the local people to take their own decisions with respect to protection and management of their forests and all activities directly affecting their lives and livelihoods.

The Gond people of Mendha Lekha are primarily agriculturists, with considerable dependence on forests. Fish and rice constitute the staple diet of the people, which is substantiated with some forest products such as honey, tubers, *mahua* flowers and fruits, *tendu* leaves and fruits, *amla* (*Embilica officinalis*), mushrooms, bamboo shoots and fresh leaves. Hunting for wild meat is common. Villagers collect timber and bamboo from the nearby forests for their fuelwood, house-construction and other needs.

A deep understanding of the environment and an imbedded conservation ethos is discerned in the culture and way of life of Mendha Lekha. The Gond people of this

village fall into 4 sub-tribes, each claiming affinity to certain totems. For example, the four-god Gonds have the tortoise and crocodile as their totems; the five-god Gonds have the monitor lizard; six-god Gonds have the tiger and the seven-god Gonds have the porcupine as a totem. Members of a sub- tribe never hunt, kill or eat their totem animal, which is a cultural mechanism preventing endangering of a species. Again, among the Gonds of this village, annual community hunt is traditionally practiced; however, a balance is sought to be achieved between fulfilling human needs and conservation of the species, by regulating hunting through customary norms. Though many of these traditional norms are no longer followed, yet a few rules relating to sharing of the hunt still prevail. Two of the sharing systems of the hunt are as follows:

- *Tiksi*: An animal hunted by a single individual is divided into two equal halves. One half is taken by the hunter and the other half is distributed in the village;
- *Rim*: An injured animal or an unclaimed body of a fatally wounded animal found within the village boundary is taken to the village temple; cooked and eaten by the entire village.[13]

Such practices ensure that the traditional practice of hunting, while satisfying the requirements of all members of the village, do not lead to over- killing of animals. Sustainable use of resources is again reflected in the various indigenous methods of fishing adopted by the villagers. People use herbal poisons for fishing which merely numb the fish but do not contaminate the water body and the other creatures therein. For example, leaves of *kurkut* (Olax sp.) and *garadi* are used for this purpose, with the latter being also used as a pest repellent in paddy fields.

Apart from traditional norms, considerable sensitivity to the environment is noted in the present day collective decisions taken by the village as a whole. The people of Mendha Lekha decided to construct one community well instead of several private wells, taking their cue from the fact that there was considerable depletion of ground water level in the neighbouring villages due to the construction of a number of private wells to water the orchards. A large community well was constructed and community rules discussed for regulated and equitable water supply to the villagers.

Objectives of the Study

From the perspective of Gene Campaign's objective in this project, this case study has looked at the efforts of the community to protect and conserve its biological resources

[13] Pathak, N., V. Gaur Broome, 2001, *Tribal Self-Rule and Natural Resources Management: Community Based Conservation at Mendha Lekha, Maharashtra, India*, Kalpavriksh and IIED, India, p.28.

which automatically leads to the protection of the IK, related to these bio-resources. The case study specifically looks into the manner in which the communities have drafted their own rules and regulations for the management of their forestry resources in the recent past under the Joint Forest Management scheme.

Customary Rights of People in Mendha Lekha

Under the *Zamindari* rule, people had access to the forests to meet their daily subsistence requirements but in return they had to work on a *begari* basis which entailed working without any payment. After the abolition of the *Zamindari* system, the wastelands and common property land was taken over by the state. People had enjoyed customary rights of use or usufruct rights over common property, which were also known as *nistar* rights in the region. The taking over of commons by the state saw a tribal agitation in the Vidarbha region for reinstating their *nistar* rights on the forest lands which were eventually granted. The quantum of *nistar* was regulated by the Government order No. 1335/1606 dated 19th June 1953. Later, in 1966, with the promulgation of the Maharashtra Land Revenue Code, a *Nistar Patrak* was prepared for every village which dealt with the management and use of government land and covered matters specifically concerning free grazing of cattle and free removal of forest produce required for bona fide use and concessions were provided to the village craftspeople for use of NTFPs[14] as raw material for their crafts. The *nistar* passes were issued free of cost first by the village *patel* and then by the *panchayat* office. But after 1960, once the settlement took place and Forest departments took over the forest lands, the *nistar* passes were issued on the payment of a concessional rate. In 1992, a large part of the 1900 ha. forest of Mendha Lekha on which *nistar* rights were granted was converted to a reserved forest (RF), leaving only 350 ha to meet the *nistar* requirements of the villagers.

New Rules Evolved for Protection of the Forest in the New Era of Self-rule

Joint Forest Management (JFM) was introduced in the state in 1992 but mainly in villages which had degraded forests in their vicinity. Gadchiroli district was not covered under this scheme as it had good forest cover. Nevertheless, the villagers of Gadchiroli, including the people of Mendha Lekha persisted, with the result that the forest officials finally agreed to extend JFM programme to the district. Accordingly, in Mendha Lekha

[14] In the context of NTFPs, it may be mentioned that till 1996, in Maharashtra, as in the rest of India, the tribals did not have the right to directly extract and sell 31 of the nationalized NTFPs, which included *tendu patta*, *mahua*, bamboo. Following the recommendations of the Bhuria Committee and extension of the 73rd amendment to Fifth Schedule areas in 1996, ownership of NTFPs was conferred on the local people in these areas, enabling them to directly extract NTFP and sell it in the open market. However, this served no purpose in Maharashtra as *tendu* and bamboo, the two most important NTFPs for the tribals in this region, were excluded from this list.

village, a Van Suraksha Samiti (VSS) was constituted, comprising of the village members and a Forest official. It is interesting to note that in Mendha Lekha, the villagers have laid down their own stringent rules for the management of the forest under their responsibility, in addition to the usual JFM rules being enforced in other areas. Realizing the necessity of protecting the forests in their vicinity, the villagers in the *Gram Sabha* meetings, with the help of a local NGO, Vrikshamitra, drew up strategies for the protection of forests. Rules were formulated and have since been strictly adhered to. The village rules only allow collection of dry wood from the forest for bonafide personal use. Permission of the VSS is required for each bundle collected. There is a rule relating to mandatory patrolling by two villagers on a rotation basis, daily. It was decided that no green trees, fruit trees and trees providing NTFPs would be cut. Villagers have also enforced strict regulation on outsiders entering the forest and extracting precious resources like teak and bamboo.

In order to ensure compliance with these rules, a system of fines was introduced by the *Gram Sabha*. When it proved to be ineffective, a new strategy was evolved to announce the names of the defaulters during *Gram Sabha* meetings. The other strategy was to socially ostracize the repeated offenders. Both these strategies have worked and have led to a decline in the number of violations and ensured better compliance with the rules. A major success for the people of Mendha Lekha in the late 80s has been the closure of a paper industry as a result of their agitation. The government had leased out a large chunk of these forests to the industry for extraction of bamboo, which was being extracted in a destructive, unregulated and unmonitored manner. In the 1990s, a strong opposition from the villagers led to the stalling of the forest department's intentions of engaging into a major teak-extraction operation. At another time, the villagers stopped the Forest Department from clearing the commercially useless species to make space for raising teak - timber plantations.

The Role of Village Institutions

In Mendha Lekha, as already seen earlier, one finds the presence of a number of vibrant institutions at the village level, which play an important role in conservation and protection of biodiversity and IK. The main institutions are as follows:

- ***Gram Sabha-*** This village council is composed of at least two adult members, one male and one female, from each household. *The Gram Sabha* has also registered itself as an NGO. It is the most important decision-making body in the village and meets once in a month. Here, the villagers discuss matters affecting them and adhere to the system of consensus decision-making. Government and non- governmental organizations have to take the approval of the *Gram Sabha*, prior to the implementation of any programme or schemes in the village. It

scrutinizes each proposal and attempts to bring such schemes to the village that ensure employment to the villagers. It makes an effort to maintain gender equity in all plans and schemes. It also serves as the dispute-settlement body in the village.

- ***Mahila Mandals*** -All women irrespective of their age and class in the village are members of this body. The Mahila Mandals handle various saving schemes and carry out revenue generating activities, especially for women. In addition, they play an important role in the transmission of IK to the younger generation.
- ***Abhyas Gats (Study circles)*** **-**This is an informal group which meets whenever its services are required by the community. The responsibility of this smaller group is to delve deeper into matters of concern and advise the *Gram Sabha*. It has looked into some important issues. There are sometimes subject specific groups as well. For instance, the *Jungle Abhyas Gat* (Forest Study Circle) undertook to study the impact of Non- Timber Forest Produce collection on the productivity of species such as *mahua, charoli, tendu* and a*mla*. They found that the fruiting and regeneration of these species was on the decline because of constant lopping and felling for collections. This led to the prohibition on felling of fruit trees in the village.
- ***Van Suraksha Samiti*** The concept of Van Suraksha Samiti in Mendha Lekha has existed prior to the formation of the formal VSS under the JFM programme. The VSS needs to include at least one member from each family in the village, while the executive committee comprises of six village representatives, two NGO representatives, the *sarpanch* of the Panchayat, the local gram sewak and the forest guard. This committee meets several times in a year to discuss matters related to forest protection.

Observations

The people of Mendha Lekha are dependant on forest resources for fulfilling a major part of their food, livelihood and other requirements. Therefore, if the quality and diversity of forests deteriorates, the knowledge system based on this diversity erodes and the quality of life of the people dependent on it also deteriorates. Any denial of access to the resources would thus also affect their knowledge systems as these people have developed a vast knowledge system related to the regulated use and management of the resources available in the ecosystem, including forests, rivers, water ponds and the entire landscape.

It has been observed that the feeling of belonging the forests has led to successful forest protection efforts. The case of Mendha Lekha has illustrated that forest protection is best achieved when communities play a pro- active role and that rules made by the

community itself for the protection of the forests and the other forestry resources has better acceptance and compliance in the society. The role of non-state actors like Non-Governmental Organisations (NGOs) is noteworthy in assisting the community with information and boosting confidence. This has been the role of the NGO Vrikshamitra in Mendha Lekha. Also, a robust and empowered institutional structure is effective in governing and managing the community's biological and natural resource base and ensuring conservation. The Gram Sabha in the village, supported by the study circles and the NGO Vrikshamitra, is a suitable construct to deal with the matter of 'access and benefit sharing' as being promoted under the Convention on Biological Diversity.

2.2.3. COMMUNITY LEVEL CONSULTATIONS IN FOUR VILLAGES OF JHARKHAND

Objectives and Methodology

The researchers of Gene Campaign conducted community level consultations on customary law, practices and rights in the villages of Kachchabari, Palma and Kulli in Ranchi district and Garidih village in Hazaribag district of Jharkhand during 29th-31st May, 2005. Mostly, the consultations were carried out by the researchers during the meetings of the Gram Sabha, in which village men and women of all ages participated. Semi- structured group discussions with some villagers were also resorted to on many occasions.

The consultations were conducted with the objective of knowing from the people themselves, their understaing and perception of customary law and awareness regarding their customary rights. With the objective of understanding the actual working of customary laws and practices in the field and the factors which influence it, the researchers framed a set of questions, answers to which were sought through the consultations with the villagers. These questions are as follows:

- Do customary rights contribute to the access to bioresources necessary for livelihood?
- Are people aware of their rights under customary law?
- What are the factors influencing the exercise of customary laws?
- How are disputes resolved in the customary framework?
- How (if at all) customs and customary practices have been useful in conservation of biodiversity and the protection of IK?
- How much importance do the community members give to their customs?
- Are customary practices getting extinct? If yes, what are the major causes? What according to the community members is the solution to maintain such customary practices?

- Are members of the community able to exercise their *Nistar* (customary) rights under the Forest Act? Do they face hurdles in exercising such rights?
- Are the rights (or privileges) given under the Forest laws sufficient for them? Is there a conflict between powers of the forest officers and their customary practices/rights?

Observations

From the community level consultations, it could be learnt that customary laws exist in the *adivasi* system and there are traditional institutions such as the *Parha Panchayat* to administer such law. David Bakhla, a community representative from Kachchabari village said that even today, the villagers prefer to settle disputes related to marriage, religious offences etc. through the *bujurg* or old men of the village, constituting the *Parha Panchayat*. However, in respect of more serious matters, the villagers prefer to go to the modern law courts.

The declining importance of customary laws and traditional institutions could be attributed to changing social, political and administrative systems, which have accorded no importance to these laws. Also, ground level realities impede the execution of decisions taken by the traditional institutions. For instance, the Jharkhand Grampanchayat Act has provisions to empower the *Parha Panchayat*. However, a practical considerations whether the *Parha Panchayat* can expect the execution of its decision against a person with political clout? What would be the status of such a decision and how would it be executed?

Regarding restrictions imposed by the forest department on the use of forest products by the villagers, it was learnt that earlier, there were not many restrictions on the use of forest- produce. Till about 20 years back, each individual would be charged about Rs. 1.25 by the forest department and he or she would be allowed to cut and take as much as he or she wanted. The only stipulation was that the collection would have to be carried on foot and without using any vehicle. At present, villagers are allowed just self-use and are not allowed to sell the produce, which has adversely affected their livelihood. There are products like *Sakuaa, Datuuann,* and *Bamboo* etc that are strictly prohibited from being taken. Despite these restrictions, many villagers stealthily sell forest products or take in excess. As patrolling forests officials often fine them if caught with excess timber or other forest produce, many villagers prefer to do collections at night, using the cover of darkness to avoid them.

A pertinent observation was that the majority of the people in each of these villages was unaware of the customary rights recognized by the law. For instance, when Gene Campaign volunteers referred to the customary right of villagers to collect fruits, other

forest products and even timber in case of urgent needs like marriage from the village common forest, which is recognized by the Chota Nagpur Tenancy Act, the villagers expressed ignorance of this right. This ignorance of rights was evident even in the two-day workshop on Customary Laws, Practices and Rights conducted by Gene Campaign at Ranchi. Only ten out of the hundred participants expressed their awareness of the community's right to collect forest produce. We, at Gene campaign recommend that rights must be as enabling as possible and a proper environment needs to be created which is conducive to the enjoyment of these rights.

Gene campaign volunteers had gone to the field with the assumption that the local communities use resources in a sustainable manner, guided by their indigenous knowledge systems. However, the field study revealed that there is no such thing as an ideal "indigenous ecological ethos" and that as indigenous peoples respond to a changing economy, market forces or conversion to a new religion, the character of their green consciousness undergoes a change. It was found that most villagers, especially the youth, no longer have much reverence for nature or understanding of the biodiversity. We believe that this could be in large part due to the fact that there is no sense of ownership or belonging of the villagers towards the forests. Forests are regarded as the property of the government, use of which is restricted to them, but which they are compelled to do stealthily to satisfy their food and livelihood requirements.

It has been observed that the older generation exhibits more understanding and sensitivity to the environment. A very old woman of Kuli village, who gave her age as 120 years recounted that in the past, the villagers would collect forest produce as per their requirements and never in excess of their needs. Only mature trees would be cut. They were guided by the consideration that the forests need to be preserved for the sons and daughters of the village, who were yet to be born.

According to this old woman, the people of today have more wants than the earlier generation, which leads to over- exploitation. She exhibited considerable pragmatism and understanding, with her observation that the rise in population in recent times is the principal reason for the destruction of forests. She said that while earlier, Kulli village had just five hamlets, now, the number of hamlets has risen to thirteen. To feed this increasing population, more and more forests are being cut to give way to agricultural lands.

Nevertheless, hope lies in the fact that the people of these villages are gradually becoming aware of the need to protect forests. The constitution of the Village Forest Committee in Palma village is a case in point. The Committee, entrusted with the duty of protecting the forests surrounding the village is comprised mostly of old men. The

Committee exhorts the villagers not to cut the forests indiscriminately but as per their requirement. The offender is fined Rs.100 for indiscriminate felling. In case the offender does not have the money to pay the fine, he is given time for the payment. *Bhandari* is the main office- bearer of this Committee who is elected by the members of the Committee. He is responsible for bringing forest- related offences to light, collection of fine and for convening the meeting of the Village Committee. In return for his services, he is given some agricultural land as well as rice, vegetables etc. from every household.

Despite the fact that the people do not have the same attachment to the forests as of old, even today, they resort to rituals and religious practices which are related to nature. *Karam Ki Puja* is a ritual practice associated with the forests which is observed annually in the month of September with much fanfare in each village. Such practices reaffirm and reinforce people's relationship with nature.

2.3. CUSTOMS AND CUSTOMARY LAWS IN THE INDIAN LEGAL SYSTEM

In the preceding discussion, the overall picture which has emerged is that customary practices and laws of local and indigenous communities have played and continue to play a crucial role in the protection of biodiversity and IK. For customs and customary laws to be of continuing relevance, it is essential that they are given due weightage in the formal legal system and are recognized to be at par with statutory law. In this context, it is important to look into the constitutional and statutory provisions which give recognition to customary laws. Also, it is necessary to examine the jurisprudence or judicial precedents which deal with the judicial recognition of customs in India. According to this interpretation of Upadhyay[15], "customs and customary law constitute only a source of law and not law as such in the Indian legal system and they become such a source only when they are recorded in statutes or recognized by courts".

2.3.1. CUSTOMARY LAW IN STATUTORY AND CONSTITUTIONAL PROVISIONS

British rule in India led to the importation of English laws, and although the British felt that Indians should be governed by their own laws in matters relating to family, religion and inheritance, there was little fusing of English law with traditional laws. In fact, application of customary laws was curtailed by informal tribunals.

Fields like natural resource management and conservation, which facilitate development of knowledge, were taken care of by the communities in accordance with their customs. Although the British acknowledged the importance of indigenous and

[15]Upadhyay, V.,"Customary Rights over Tanks", *Economic and Political Weekly*, November 1, 2003, p.4644.

local laws in matters which are commonly known as personal laws, they ignored the role that communities had been playing in conservational activities. The plethora of legislation that came up, especially in relation to forests, did not incorporate customary practices and law at all. For instance, the Indian Forest Act of 1878 legally established a virtual monopoly of the state over the forests and attempted to establish that the customary use of the forests by the villagers was not a 'right' but a 'privilege' that could be withdrawn at will.[16] Baden Powell, a senior civil servant, made a clever distinction between 'rights' defined as strict legal rights which unquestionably exist, and in some instances have been expressly recorded in land settlement records and 'privileges' defined as 'concessions of the use of grazing, firewood, small wood etc. which though not claimable as of legal right, are always granted by the policy of the government for the convenience of the people'.[17] Thus, a look into the colonial forest legislation brings home the point that during this period, customs and customary laws were never considered important enough to uphold or integrate into formal law. Customary rights, as opposed to legal rights, were reduced to the level of concessions, which could be granted or withdrawn by the state at will.

Sadly, the trend of centralized legal and policy systems ignoring and displacing or dominating customary laws, prevalent during the colonial period, continued after independence. The Indian Forest Act of 1927, which continues to be in force in independent India, has curtailed customary rights of people over forestland and produce and have transformed them into concessions to be enjoyed at the will of the forest officials. Though this legislation has provisions under which management of a forest area can be assigned to village communities[18], experts feel that there are gaps in the legal regime as a result of which these provisions may not be enforceable.[19] (Details regarding forest legislation are dealt with in Chapter-IV). Despite this, customs and customary laws of communities have been accorded recognition by certain statutes in force in India, even during the British times.

The Indian Evidence Act, 1872, which is in force even today, is the earliest legislation to formally recognize customs. Section 57 of the Act says that the courts must take judicial notice of 'all laws in force in the territory of India'; the phrase 'all laws' may be construed as inclusive of customary laws as well. The Act explicitly recognizes the existence of custom (or a right conferred by custom) in Section 13, which reads as

[16] Saldhana, I.M., " Colonialism and Professionalism- A German Forester In India", *Economic and Political Weekly* cited in Upadhyay, S., V. Upadhyay, 2002, *Forest Laws, Wildlife Laws and the Environment*, Lexis Nexis Butterworths, New Delhi, p.227

[17] Gadgil. M., R. Guha, 1997, *This Fissured Land: An Ecological History of India*, Oxford UniversityPress, Delhi, pp 124-134.

[18] Section 28, Indian Forest Act, 1927

[19] Pant, R., 2002, *op.cit.*

follows: 'Where the question is as to the existence of any right or custom, the following facts are relevant: (a) Any transaction, by which the right or custom in question was created, claimed, modified, recognized, asserted, or denied, or which was inconsistent with its existence; (b) Particular instances in which the right or custom was claimed, recognized, or exercised, or in which its exercise was disputed, asserted or departed from.' The Act, however, demands high standards of proof or documentary evidence for proving or disproving customs[20] which considerably negates their recognition in the formal legal system, as customs for the most part are oral. The Indian Easements Act, 1882 which deal with customs states that "nothing herein contained shall be deemed to affect any law not hereby expressly repealed, or to derogate from any customary or other right (not being a licence)".[21]Under this Act an easement may be acquired in virtue of a local custom. Such easements are called customary easements.[22]

In Independent India, the Constitution accords the highest recognition to customs when it says that all laws in force before the commencement of this Constitution shall continue in force therein until altered or repealed or amended.[23] The effect of this provision is to continue the entire body of laws as prevailing in India before the constitution came into force, which includes not only statutory laws but also other laws like the law of torts, Hindu Laws, Mohammedan Laws, and custom having the force of law.[24] In Article 13 of the Constitution, it has been expressly stated that the term 'law' includes 'customs' and 'usages' having the force of law, provided that such a law does not infringe any of the fundamental rights conferred by Part III of the Constitution. Thus, it may be inferred that a reasonable and certain ancient custom is binding on the courts just like an Act of legislature.

There are also other provisions of the Constitution which deal with customs and customary laws or accord recognition to the right of self- governance by a community, or recognize institutions through which customary law is enforced (which may be inferred as enabling provisions in favour of customary law). Some of the most important in this regard are as follows:

Constitutional Provisions Pertaining to Panchayats

The 73rd Amendment to the Constitution of India has sought to pave the way for establishment of genuine self rule in India. Through this amendment, Part- IX dealing with Panchayats has been incorporated, of which Article 243 envisages establishment

[20] Section 13 (a) of the Indian Evidence Act, 1872.
[21] Section 2 (b) of the Indian Easements Act, 1882.
[22] Section 18 of the Indian Easements Act, 1882.
[23] Article 372 of the Constitution
[24] *Gopalan v. State of Madras* AIR 1958 Madras 539

of Panchayats for the rural areas at three levels - village, intermediate and district. The Constitution states that a Gram Sabha may exercise such powers and perform such functions as the legislature of state may by law provide.[25] These provisions may be construed to be of high protective value to customary law in the sense that these empower the village level institution (from which customary law emanates and is administered by) and place it at par with the law- making organ of the state in terms of powers and functions.

Constitutional Provisions dealing with Legal Pluralism and Schedules

Part X of the Constitution deals with Scheduled and Tribal Areas[26], the administration of which is dealt with in Article 244 read with the V and VI Schedules. The constitutional provisions pertaining to the Vth and VIth Schedules constitute the seminal provisions which envisage the setting up of a legal pluralist regime in India, through which tribal people living in the Scheduled Areas have been empowered to administer themselves, with respect to certain matters, in accordance with their age- old customary laws. The Vth Schedule deals with the administration and control of Scheduled Areas and Scheduled tribes in any state other than Assam, Meghalaya, Tripura and Mizoram. According to Sharma, the "Vth Schedule described, as a Constitution within the Constitution is the most comprehensive provision for the protection of the tribal people living in Scheduled Areas against the State and other exotic forces".[27] As per Para 2 and 3 of the Schedule and Articles 60 and 159, it is the duty of the President and the concerned Governors to preserve, protect and defend the Constitution including this special feature concerning the Schedule Areas and the laws including customs and usage of tribal people. Subject to only one condition that it does not affect the basic structure of the Constitution, the Governor is given immense power to apply or not to apply any Act to the Scheduled Area, make regulations for peace and good governance of any area of the state, which for the time being is a Scheduled Area.

The VIth Schedule deals with the administration of tribal areas in the states of Assam, Tripura, Meghalaya and Mizoram through the creation of Autonomous districts/ regions and Autonomous District Councils. This has led to a plurality of legal systems being followed in the Sixth Schedule Areas; on the one hand, there are the formal modern central laws that are extended to these states; besides, there are traditional customary laws emanating from within the community, which are being recognized by the modern

[25] Article 243 A of the Constitution.

[26] 'Scheduled tribes' means such tribes or tribal communities or parts of or groups within such tribes or communities as are illustrated in the Scheduled Tribes Order under Article 342. 'Scheduled Areas' have been defined as such areas as the President may by order declare to be Scheduled Areas in Para 6 of the Vth Schedule.

[27] As per discussion with Dr. B.D. Sharma.

institutions as well; and in addition, with the Sixth Schedule states creating the Autonomous District Councils, which have been empowered to enact laws for the region within their jurisdiction, there is a third set of laws enforced within the same region. The laws made by the Autonomous Councils are closer to customary laws and social practices of local communities and are applicable in cases where both the parties in a dispute are tribal.

Para 3 of the Sixth Schedule is especially important as it empowers the District Council to make laws with respect to the management of any forest that is not a reserved forest; the use of any canal or water-course for the purpose of agriculture; the regulation of the practice of *jhum* or other forms of shifting cultivation etc. The application of Acts of Parliament and State Legislature is barred in these areas, where Autonomous Council is authorized to make and extend laws.[28] The effect of this is that in respect of these subjects in which the District Council is empowered to legislate, laws made by it (which are closer to customary laws) prevail over central laws. This implies, for instance, that the Indian Forest Act, 1927, the Forest (Conservation) Act of 1980 and the Wild Life Protection Act 1972 would be extended to the Autonomous District Council Areas only to the extent of Reserve Forests therein, whereas in respect of the other forest areas, laws made by the Council which are influenced heavily by customary law would prevail. With the link between customary practices and laws of local and indigenous communities and protection of biodiversity and IK being clearly established, this is expected to ensure better protection of the latter in the Sixth Schedule areas. The Sixth Schedule has also put in place a three- tiered system for administration of justice, at the top of which are the Magistrates and Deputy Commissioners, followed by the courts set up by the Autonomous District Councils and finally, the village courts.

There are other provisions of the Constitution like the Fundamental Rights and Directive Principles of State Policy which though do not directly deal with customary law may be construed in favour of it. The Constitution of India nowhere confers specific rights to the local and indigenous communities. However, one can read this into the provision of Article 21, which confer, the fundamental right to life. It may be construed that the indigenous communities have a right not to be displaced and disabled by actions robbing them of their customary rights so that they can live with basic human dignity. Another very important aspect of the right to life envisaged in Article 21 is the right to livelihood, which can be used to check actions that dislocate poor people or disrupt their traditional life style or through which a customary right to a traditional livelihood could be protected. For, the state may not by affirmative action be under a compulsion to provide for means of livelihood but any person who is deprived of his right to livelihood, except

[28] Part 3 of VI Schedule.

according to a due process of law, can challenge the deprivation as offending the right to life conferred under Art. 21.[29]

The Directive Principles of State Policy, enshrined in Part IV of the Constitution, embody the principle of 'justice, social, economic and political'[30] and expect the State to take adequate steps to continue and promote social and welfare measures. Article 40 enjoins a duty on the State 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. Thus, a duty is cast on the state to empower the institutions, through which customary law is enforced. Again, Article 39(b) enjoins a duty upon the state to direct its policy towards ensuring that the ownership and control of the material resources of the community are to be distributed as best to subserve the common good. The term 'material resources of the community' as used in the article includes everything that is capable of generating wealth for the community, including natural or physical goods, movable or immovable property such as land or other such assets. Ownership and control of natural resources is for the most part the domain of customary law in local and indigenous communities, which ensures equitable distribution. Thus, one may read into Article 39 (b), an argument in favour of customary law, which the state should promote in order to subserve the common good. The above articles are to be read with Article 46, which directs the State to promote educational and economic interests of Scheduled Tribes and protect them from exploitation. The State is under an obligation to see that these sections of the society are not open to exploitation and deprived of their rights (which can be inferred to mean their customary rights) on account of their illiteracy and low status. In 1985, a law prohibiting transfer of land belonging to a member of the Scheduled Tribes to a non-tribal was held to be valid by the apex court under this article.[31] However, despite such exceptional judicial precedents, Directive Principles, for the most part, serve no purpose other than as mere exhortations, since they are not enforceable in a court of law.

We need to look into the provisions of certain new legislation like the Provisions of the Panchayat (Extension to Scheduled Areas) Act, 1996 (PESA), which builds up a strong case in favour of customary law. With this enactment, the Constitutional provisions pertaining to Panchayats have been extended to the Scheduled Areas with exceptions and modifications as specified in the Extension Act. The combined effect of PESA, 73rd Amendment and Article 40 is intended to facilitate the establishment of a decentralized

[29] *Olga Tellis v. Union of India*A.I.R.1986 SC 180
[30] Article 38 (1).
[31] *Lingappa v. State of Maharashtra* A.I.R. 1985 SC 389

structure of governance, which gives due recognition to the customary law of local communities.

One of the most important features of PESA is that it acknowledges the competence of the *Gram Sabha*, the formal manifestation of a village community, to 'safeguard and preserve the traditions and customs of the people, their cultural identity, community resources and the customary mode of dispute resolutions.'[32] While this provision confers a positive right on the *Gram Sabha*, section 4(a) gives a negative right in as much as it does not allow the Legislature of a State to make laws that are not in consonance with the customary law, social and religious practices and traditional management practices of community resources. By virtue of Sections 4 (e) and 4 (m), the *Gram Sabha* now is responsible for managing almost all affairs that have a direct or an indirect affect on the life of the people of the village. As per this Act, a State Legislature shall ensure that the Panchayats at the appropriate level and the *Gram Sabha* are endowed *specially* with powers like ownership of minor forest produce, power to prevent alienation of land in Scheduled Areas and to take action to restore any unlawfully alienated land of a Scheduled Tribe, power to manage village markets, control over local plans and resources among other things.[33] The most important outcome of PESA is expected to be removal of dissonance between tribal tradition of self-governance and modern legal institutions. However, many believe that the potential of PESA has not been exploited properly. Many rights enjoyed by the communities are in the nature of customary rights, which have their origin in customary laws and for the most part, are oral in nature and not documented. As mentioned earlier, it is this reason that makes it difficult to prove an alleged custom in a court of law. Experts feel that PESA could be exploited to the maximum if value of legal evidence can be given to statements made by these local bodies empowered by the Act, thereby protecting community rights, which are governed by customs.[34] Another suggestion is that since customs to be saved need to be codified, the Gram Sabha under this Act could be given the duty of recording or codifying the customs of their respective areas[35] (other aspects of PESA, having relevance for IK protection, have been analysed in Chapter IV).

2.3.2. JUDICIAL RECOGNITION OF CUSTOMS AND CUSTOMARY RIGHTS

Despite specific constitutional and several statutory provisions granting recognition to customary laws and practices, it has been observed that the judicial recognition of customs and customary rights is difficult in India. As already discussed, Article 13 of the Constitution of India has clearly laid down that the term 'law' includes 'customs' and

[32] Section 4(d) of PESA.
[33] Section 4 (m) of PESA.
[34] Opinion expressed by Videh Upadhyay during expert consulation at ELDF, Delhi.
[35] *ibid*.

'usage having the force of law'. However, essentials laid down by jurists on the matter of customs or customary practices to have the strength of law, have not been found tenable difficult. Even recent judicial pronouncements emanating from the apex judiciary underlie this. The strict tests which a custom, in order to be recognized as 'law', must fulfill are as follows:

- *Antiquity*- A custom to be recognized as law must be proved to be in existence from time immemorial. An ancient custom is regarded as providing a basis for many laws in most systems of jurisprudence. In Indian Jurisprudence, specifically in Hindu law, immemorial custom has the efficacy of law. It has been held that it is sufficient if the court is satisfied of its reasonableness and certainty and the user**** on which the custom is founded is not exercised by stealth or force and that the right had been enjoyed for such a length of time as to suggest that by agreement or otherwise the usage has become the customary law of the locality.[36] In a Madras case, the right to catch fish in a tidal river at a certain place by putting stakenets across the river was claimed as a custom. The court held that this is a customary right of the locals and there was proof of the custom being in practice for thirty years, which was considered sufficient in terms of antiquity.
- *Continuance*- If a custom has been interrupted for a considerable time then a presumption arises against it. It is due to discontinuance of the 'right' not 'possession' that the claim to a custom is abandoned.
- *Peaceful enjoyment*- The custom must have been enjoyed peacefully. If the custom has been in dispute or in the court for a long time it negates the presumption that it originated by consent as most customs normally originated.
- *Obligatory force*- The custom must have an obligatory force and must have been enjoyed as a matter of right without stealth or force.
- *Certainty*- A custom, which is vague or indefinite, cannot be recognized. The court must be satisfied by a clear proof that the custom exists as a matter of fact, or as a legal presumption of fact.
- *Reasonableness*- This feature gives a wide discretion to the courts in the matter of recognition of customs. It is for the courts to decide whether the alleged custom is reasonable or not. Relying on a 1951 judgement, the Supreme Court in 2003 held an unrestricted fishing right unreasonable, as a right being destructive of the subject matter itself would be unreasonable.[37] Similarly, in another case[38],

[36] *Pran nath Kundu v. Emperor* AIR 1930 Calcutta 286.

[37] *Tulsi Ram v. Mathura Sagar* (2003) I SCC 478 relied on AIR1952 SCR 431).

the Supreme Court held that a customary right in the exercise of which the residents of a locality were entitled to excavate stones for purpose of trade (and not for domestic or agricultural purposes) would *ex facie* be unreasonable as the exercise of this right leads to destruction of the subject matter. However, in another case of Bhiku v. Shooram, *inter alia*, the right of the *kumhaar* (potter) community in Nagpur to take earth for making pots was considered as reasonable and was upheld as a reasonable custom.

- *Conformity with Statutory Law*- State made laws are given precedence over customary laws. Therefore, even where the customs meet the requirement of being ancient, certain and reasonable, they being in derogation with general laws are to be construed strictly. Although the Constitution of India recognizes customary law, in effect this recognition is subject to being in consonance with the statute made laws. The Supreme Court has emphasized this requirement time and again.

The rules of evidence imported from the colonial legal system and imposed by statute and convention in court procedures are a major cause for the disappearance of customs, with strict criteria being imposed by courts to prove the legal validity of custom.[39] As discussed earlier, the Indian Evidence Act, 1872, demands high standards of proof for custom. According to Section 13 of the said Act, when any right or custom is in question, instances and transactions through which the custom is created, claimed, asserted, or denied are to be taken into account, e.g. any village administration paper or settlement records which show that a practice is being carried out as a matter of customary right, is of relevance to prove the alleged custom. In 1927, the Privy Council[40] laid down that a statement in the *wazib-ul-arz* (a village administration paper that became a settlement record) that there is such a custom, which is not in contravention of law, is a good prima-facie evidence of instances in which it has been exercised[41]. And upon the entry in the *wazib-ul-arz,* the custom was held to be proved. But since customs are by and large oral it becomes difficult to produce documents. Besides, sometimes documents could be inadequate due to other factors such as illiteracy and low status in society.

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[38] *State of Bihar v. Subodh Gopal* AIR 1968 SC 281

[39] Kane, P.V., 1950 "Hindu Customs and Modern Law", Sir Lallubhai A. Shah Lectures (1944), Bombay: University of Bombay.

[40] *Sheobaran Singh v. Mt. Kulsum un Nissa* AIR1927 Privy Council 113

[41] Statutory presumption and correctness was attached to the *wazib- ul- arz* u / s. 79 of the 1920 CP Land Revenue Code.

Unfortunately, the demand for high standards of evidence is reflected in the latest Supreme Court judgements . In a 2001 case[42], the Supreme Court has said that "a party relying on a custom is obliged to establish it by clear and unambiguous evidence…" In the absence of evidence and proof of alleged custom, the Apex Court in another 2001 case[43] conferred no right. Noteworthy in this context is the recent judgement in the Dhimar case (Box- 1), which carried the implication that to assert any right, the community has to do so in the context of the so called formal laws such as the system of lease or licence.

Box 1: The Dhimar Case

2003 (7) SCALE 7

Ramchandra Wahiwatdar v. Narayan and others

A suit was filed by the owners of a tank to restrain the fishermen of a community (*dhimar*) from interfering with the rights of the owner of the tank. The trial court observed that the *dhimars* had no right independently of the *theka* agreements. The court in referring to the *wajib ul arz* of certain years held that nothing in the documents show that the *theka* or lease used to be given exclusively to them. The act of catching fish in the tank was only in the nature of a permission given by the owners and not on account of some independent right of the fishermen. In the first appeal it was held that *dhimars* have got permissible fishing rights under the lease and the fishermen have a customary right to obtain lease or licence to catch fish from the tank by executing *theka patra*.

On appeal, the High Court observed that the custom of fishing by the *dhimars* was in existence prior to 1861 and continued thereafter which shows that it is acquired by long usage, which was recognized by the community and administrator. Subsequently, it has not been regularly recorded because of their low status and illiteracy. The Supreme Court ruled that there was no justifiable reason for the High Court to observe that the claim was not recorded due to their low status and illiteracy. Relying on an earlier case, the Apex Court held that from the documents, the court arrived at a conclusion that *dhimars* had a permissive right to catch fish and once there is a permissive right under lease or licence it is difficult to arrive at a conclusion that they have acquired a customary right. The court further based its decision on a 1951 judgement whereby it was held that village is not a corporate body.

[42] 2001 AIR (SC) 938.
[43] *Surajmani Stella Kunjur v. DurgaCharan Hansdah* AIR 2001 SC 938

When a customary right is upheld by the court, it becomes customary law. Thus customary laws are the creation of the courts – both formal and informal. Customary rights based on usage when upheld in the formal and informal judicial systems become customary laws. Customary rights have very rarely been found in written instruments. Nor were the principles of customary laws ever codified or customs listed out separately by legislation in India. This to a great extent over the years has been the main reason for the treatment that customary laws have received in the formal systems of administration of justice. As these are not codified in nature, the higher and formal judicial bodies have hardly taken cognizance of these rights and laws while deciding matters at their levels. The Godavarman judgment of the Supreme Court is a case in point where the court ruled on a matter relating to indiscriminate felling in the forests. The court in its interim order stayed all felling in the forests of India and any further felling was to be undertaken based on the work plans drawn up by the forest department and approved by the Central government. In this regard, neither the apex judiciary nor the various high powered expert committees formed thereby considered the uniqueness of states where forests are largely in the hands of the community and to date are governed by customary laws and practices which portray indigenous knowledge and traditional wisdom in the management of these biological resources. The court and the committees have completely ignored the traditional institutions present in these areas and their wisdom while deciding matters relating to the management of these forestry resources.[44] It is also important to note here the constitution of such expert committees by the Supreme Court. The role of forest dwelling communities and their immense knowledge related to these resources has been underscored and acknowledged on many occasions but when it comes to the constitution of expert committees for such states, the members are always elicited from the state governments or scientists from formal institutions. The state has so far failed to recognize the knowledge and wisdom of the forest-dwelling communities and to co-opt their representatives to such committees.

The system of tree-permits was introduced in the state of Arunachal Pradesh with the specific purpose of helping the economically deprived people of the state. It was argued that it would be unfair if with such valuable resources at their disposal, the people go without proper health care and education. Hence, felling of trees via the tree-permit system was introduced. By scrapping this system, the Supreme Court has only further deprived the resource-rich, economically poor people of development.

In the light of such judgements which undermine the development of local and indigenous communities, it is high time that the Supreme Court finds more creative and

[44] Pant, R. "Well intentioned but…..", Letter to the Editor, *Down to Earth*., July 15, 2002.

meaningful ways of assimilating people's knowledge, indigenous folk laws and strengths of traditional institutions into the formal structures.

2.3.4. DECLINE OF CUSTOMS AND CUSTOMARY PRACTICES IN RECENT TIMES

Despite the demonstrated ability of customs and customary norms in protecting the knowledge as well as the resource, customary practices and norms governing these practices are now clearly on a decline. This could, in large part, be attributed to the modern legal and judicial system. In spite of specific constitutional and several statutory provisions granting recognition to customary laws and customary practices (including indigenous knowledge), most sectoral statutory laws, policies and government schemes and programmes do not provide space to customary laws and practices. Non-recognition of customary laws and customary rights by the higher judicial bodies eventually leads to the undermining of the importance of these practices and norms at the village and local levels as well. Not only do the members of neighbouring villagers and other outsiders but gradually many erring community members also do not heed these.

There are several other factors also which have undermined the role of customary laws and indigenous practices in recent times. According to Pant[45], many of the social and religious value systems, of which the natural resource conservation formed a sequence, are getting eroded. This is taking its toll on the resource base and the social structure. The modern education system looks upon all taboos and traditional values as superstitions; this gives the local educated people in the younger generation a feeling of inferiority regarding their culture and social practices. A similar situation occurs with the entry of foreign religions. In a similar vein, Nari K. Rustomji[46] citing Elwin has remarked in the context of erstwhile North East Frontier Province (N.E.F.A.) or present Arunachal Pradesh that "…the attitude of some missionaries has been completely destructive of the tribal culture. To them everything which is not Christian is 'heathen' and some of the finest aspects of tribal life have been abandoned… The tribals have been taught to despise their past and as a result a strong inferiority complex has been created". In addition, the compulsions of a monetized economy have led to changes in perspectives among local communities. For example, their needs increase and their aspirations change, making them less respectful towards nature and incapable of maintaining a

[45] Pant, R., 2001*, op.cit.*
[46] Rustomji, N.K., 1988, *Verrier Elwin and India's North-eastern Borderlands*, Shillong: North- Eastern Hill University Publications.

sustainable lifestyle.[47] This in turn leads to a loss of reverence towards customary norms, which demand restraint in the exploitation of resources.

Another problem facing customary law is that it is region specific and thus, multiple laws might overlap. There may be a customary law of one community, which is different to that of another community in the same or neighbouring locality. In such a situation, it becomes difficult to decide which law shall prevail. Also, when there is a dispute between a tribal and a non-tribal, including a government department, the village council cannot often adjudicate. Where it does, the decision could go in appeal by any one of the parties in the formal judicial set up.

It must also be mentioned that not all customary laws are pro-people and society or even biodiversity friendly. Although they have an inbuilt system of checks and balances to preserve their rich surroundings, there may be laws that are not very practical and advisable in the modern context. For instance, in Arunachal Pradesh, the large- scale killing of hornbills by the Nishi tribe for their beaks, which are used to adorn the traditional headgear, have led to considerable decimation of the population. [48]Similar is the case of the Moon Bear, which is hunted in the Sujusha District of Arunachal for its skin and nails which are used in traditional healing systems.

2.3.5. NEED TO STRENGTHEN CUSTOMARY LAW

Despite many constraints of customary law and factors contributing to its decline in recent times, advocates of customary law point out several advantages, which make it best suited to the local context. These are:

The rural and tribal communities are unaware of the different statutory forums available for redressal of their problems. The little exposure that these communities have had to the modern judiciary has not usually been pleasant; hence these people prefer not to go to the formal sector.

Justice in the tribal society is based on the concept of restitution that brings relief to the aggrieved. In the formal courts, litigation between two parties is adversarial in nature and relief is not guaranteed to the aggrieved party. The outcome of the case depends on the resources of the litigant and the skills of the lawyer. It is not necessary that justice is meted out and the truly aggrieved party wins.

[47] Kothari, S., 1996, "Social Movements and the Redefinition of Democracy," *Lokayan Bulletin*, New Delhi.
[48] Excerpts from the *Report of the Project Launch Meeting* of the Project "Protection of Indigenous Knowledge of Biodiversity", August 2004, New Delhi: Gene Campaign.

Under the traditional system of justice, an accused remains an honourable member of society once he or she has been punished. There is no stigma attached. In the modern system, even after being punished the accused finds it difficult to get rehabilitated due to the stigma society attaches to his or her crime or violation.

Expenses in the formal court can turn out to be very expensive for the litigant. Village institutions that mete out justice are situated at an accessible distance and do not involve court or advocacy fee. In the village, parties in dispute often bring ceremonial gifts to the mediators and if it is a major dispute, the party offers a feast to the community.

In the traditional system, even when penalties are imposed on an offending party, these are reasonable and take into account the paying capacity of the offender. If the offending party is financially handicapped, the penalty can be deferred to a later date.

Since customary laws subscribe to a system of justice that is accessible, affordable and benign, it is far better suited to the needs of rural and tribal people. Instead of allowing such laws to get marginalized, the effort should be to revive and strengthen them. This would be best achieved if the judicial bodies in the country would recognize and internalize the components of customary law, which is the urgent need of the hour.

CHAPTER-III

INTERNATIONAL INSTRUMENTS AND INITIATIVES FOR PROTECTION OF IK

3.1 THE NEED TO PROTECT IK AT THE INTERNATIONAL LEVEL

The need to accord protection to the IK of local and indigenous communities at an international level, was acutely realized when a number of 'biopiracy' cases first occurred. Developing countries like India, which are rich in both biodiversity and its associated IK, have felt that it would be more cost- effective to establish an internationally accepted solution to prevent biopiracy than to divert national resources to expensive judicial processes for the revocation of patents.[1] Several developing countries have expressed support for the need to develop an internationally agreed instrument that recognizes protection of IK at the national level, as it would not only prevent misappropriation but also ensure that national level benefit sharing mechanisms and laws are respected worldwide[2]. Several reasons have been put forward to explain why international action is needed to address these problems[3]:

(i) *Common economic interest*- IK is a valuable global resource having the potential of being translated into commercial benefits and hence, international efforts to secure its protection should be actively encouraged.

(ii) *Equity*- Given that the TRIPS Agreement (which though not directly dealing with IK, has serious implication for its protection) requires countries with indigenous communities to provide intellectual property protection for a broad range of subjects including plant varieties, biological materials, lay-out designs and computer software, it is only just and equitable that IK is given legal protection.

(iii) *Food security*- International recognition and protection of IK would help maintain and promote the practices of saving, sharing and selling seeds to sustain local farming communities and ensure their food security.

(iv) *Culture*- The IK of local communities is put into practice in a way which is part of the day-to-day lives of these peoples and thus part of their culture.

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[1] Submission by Brazil, India, China and others at the TRIPS Council, 2002, "The Relationship between TRIPS Agreement and the CBD and the Protection of TK", IP/C/W/356

[2] The need to develop an international agreed instrument for IK protection was deliberated at the International Seminar on the Systems of Protection and Commercialization of Traditional Knowledge held at New Delhi on 3-5 April, 2002. It was convened by the Government of India and UNCTAD, with the participation of representatives from Brazil, Cambodia, Chile, China, Columbia, Cuba, Egypt, Kenya, Peru, Phillipines, Sri Lanka, Thailand, Venezuela and India.

[3] TRIPS Secretariat, 2002, "The Protection of Traditional Knowledge and Folklore: Summary of Issues Raised and Points Made", IP/C/W/370.

International action to protect IK would help sustain the richness and diversity of such cultures.

(v) *Environment*- Protection of IK is closely linked to the protection of the environment as the IK of local communities is central to their ability to operate in an environmentally sustainable way and to conserve genetic and other natural resources.

(vi) *Development*- Protection of IK and acknowledging the rights of the communities over it could contribute significantly to the fulfillment of development objectives.

Considering the relevance of international action for legal protection of IK, it is now imperative to examine the existing international instruments and initiatives, which have relevance for IK protection. Several international instruments deal with IK and its protection: the Convention on Biological Diversity (CBD) signed in 1992, long before legal protection of IK became an international issue, casts an obligation on Member States to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities (Article 8 (j)). Other international systems such as the International Treaty on Plant Genetic Resources for Food and Agriculture and the Model Law of the Organization of African Unity (OAU) also recognize and protect the IK of local communities, farmers and breeders. It has been realized that these systems need to be reconciled with the TRIPS Agreement, which considers intellectual property rights to be private rights. When the debate for protection of IK first started, there was no definite agenda in the TRIPS Council pertaining to IK. But what was being keenly debated was Article 27.3 (b), which for the first time obliged many countries of the world to grant patents or plant breeders' rights on life forms. During the Uruguay Round, when TRIPS was being negotiated, as last minute concessions to India, a review of Article 27. 3 (b) was provided for, with such review becoming due on 1st January, 1999. Developing Countries have since then tried to link the issue of protection of IK to the process of review of Article 27.3 (b) of the TRIPS Agreement, arguing that the Article should be amended to prohibit the patenting of inventions based on indigenous knowledge or those that violate Article 15 of the CBD), and to achieve a reconciliation between the provisions of the two multilateral treaties- the CBD and the TRIPS Agreement.

This chapter seeks to examine the provisions of the existing international instruments and initiatives, which have dealt with protection of IK, protection of community rights and conservation of biological resources. It would also examine the manner in which conflicts and differences between different instruments could be successfully reconciled, in the interest of IK protection and safeguarding the rights of the IK holders.

3.2. THE CONVENTION ON BIOLOGICAL DIVERSITY

The Convention on Biological Diversity (CBD) signed in June 1992 during the Rio Summit entered into force in December 1993 and has a membership of 188 countries. It is the only international agreement that has a mandate for conservation of biological resources (Article 1) and at the same time recognizes the contribution of the indigenous and local communities to biodiversity conservation and calls for respect and support of their knowledge, innovation and practices (Article 8(j)). This international agreement for the first time recognizes the sovereign right of nation states to exploit their own biological and genetic resources which have to be, however, in pursuance to the national environmental policies (Article 3). This principle reflects a paradigmatic shift in the notion of ownership and access to the biological resources. Where biological and genetic resources were earlier considered as 'common heritage of mankind', now nation states have sovereign rights over these resources and any access to them is to be sought from national governments (Article 15). Thus, under the CBD, every country would have the sovereign right to determine and implement access and usage regimes vis-à-vis biological resources.

The CBD subscribes to conservation theories which recognize the critical role played by communities in biodiversity conservation, incorporating specific provisions that explicitly recognize the role played by indigenous communities in conserving biodiversity and the associated knowledge system. The recognition of the role-played by indigenous communities and their rights to the knowledge and the associated resources is therefore an important policy directive provided to the member states.

However, although Article 8(j) reflects the genuine intent of the agreement to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities, it has subjected this to national legislation. The same provision goes on to suggest that promotion and wider application of the knowledge and the resources should be done with the approval and involvement of the holders of such knowledge, innovations and practices. This has again been subjected to national legislation, with the result that different countries have pursued different strategies. While some have opted to empower the holders of the knowledge with regard to access to their knowledge and resources, others have made it the prerogative of the state agencies.

Thus, some inferences that may be drawn from a study of the CBD provisions is that it provides for both assertive and defensive protection of IK. Assertive protection is given in the form of Articles 8(j) and Article 10(c). In the latter, directions are given to the contracting parties to "protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements". Defensive protection to IK against biopiracy has been

accorded in Article 15 which, in addition to recognizing the sovereign rights of States over the natural resources and recognizing the authority of the national governments to determine access to genetic resources, also states that access to genetic resources shall be subject to prior informed consent of the Contracting Party. This right is both to empower the community as also to check the menace of prospecting of biological resources by multi national pharmaceutical firms. This kind of regime was proposed to restrict the rights of access of foreign entities or make it contingent on the fulfillment of certain terms and conditions.

However, following the processes related to CBD and the various negotiations on-going at present, it appears that the defensive mechanism has become the more dominant. Also, the CBD secretariat has listed for consideration a whole range of alternative systems of protection, including contracts, traditional resource rights such as land tenure rights, incentive measures, and the recognition of customary laws. But these systems do not have the force of international law[4].

3.3. THE TRIPS AGREEMENT

While the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) does not directly deal with IK, it does have a bearing on it. The following provisions of TRIPS have implications for the protection of IK:

3.3.1. PATENT PROVISIONS WITH SPECIAL EMPHASIS ON PATENTING OF LIFE FORMS

Article 27.1 of the TRIPS Agreement obliges WTO Members to make patents available for any invention, whether product or process, in all fields of technology if the invention meets the criteria for patentability; the criteria being that the invention be new, involve an inventive step (be non- obvious), and be capable of industrial application (be useful). Article 27.2 provides that a patent may not be granted for an invention in a case where commercial exploitation of the invention would go against public order or morality, or which would jeopardize human, animal or plant life or health or cause serious prejudice to the environment. Article 27.3 (b) creates an exception to the broad mandate of Article 27.1 by authorizing WTO members to exclude from patentability plants and animals and essentially biological processes for the production of plants and animals. However, the authorized exclusion does not apply to micro- organisms or to non-biological and microbiological processes, which can be patented. In addition, if a WTO Member chooses to exclude plant varieties from patentable subject- matter, the Member

[4] Arup C., 2000, *The New World Trade Organisation Agreements*, Cambridge: Cambridge University Press).

must provide for an effective sui generis system for the protection of plant varieties. The subparagraph also establishes that WTO Members that do provide patents for plant varieties may also provide protection through a sui generis system. The TRIPS Council is in the process of reviewing the provisions of Article 27.3 (b), as mandated in the last sentence of the subparagraph.

As regard the impact of the above provisions on IK and bioresources, it is widely acknowledged that the TRIPS provisions will work against the interest of the developing countries and local communities as it was structured to serve the interest of the multinational corporations operating primarily in the agriculture biotechnology sector and the pharmaceutical industry. The TRIPS Agreement does not recognize that local communities have any rights over their IK. This deliberate neglect, it is believed, "is to enable the commercial exploitation of valuable knowledge and resources by the biotechnology and pharmaceutical industry, without paying for it".[5]

The above provisions of the TRIPS Agreement, according to Gene Campaign[6], have the following impact upon IK and bioresources:

(i) The non- recognition of IK indicates that the TRIPS Agreement is an arbitrary unilateral declaration by developed countries, whereby one form of knowledge, inventions in the formal laboratory based system, has been granted the status of property while the other form, indigenous knowledge, a string of innovations developed in the non- formal system of forests and fields, has none.

(ii) The basic requirements for granting a patent is that the invention should be new, involve an inventive step and be capable of industrial application. However, the provision of TRIPS with respect to patents is such that it allows 'inventions' based on IK to be patented. 'New' means that which has come to existence for the first time. That which belongs to the realm of IK cannot be said to be new since it has been in existence for several hundred years. In this case the knowledge behind the so- called 'inventions' already is part of IK. Thus, the TRIPS provision runs counter to the very basis of the requirements for patent. An 'invention' which is based on IK falls short of novelty which is one of the essential elements to be satisfied to qualify as an invention for patent.

(iii) The TRIPS Agreement has the tools by which rights and obligations with respect to knowledge are exercised and regulated, both at the national and

[5] Gene Campaign (undated), "Intellectual Property and Indigenous Knowledge- A Case of Unjust Discrimination".
[6] *ibid.*

international level. Therefore, it is imperative that rights and obligations with respect to IK and bioresource be explicitly provided in this agreement.

(iv) Non- recognition encourages biopiracy. Since the Agreement does not recognize any rights over IK, the laws of developed nations permit the patenting of inventions based on these, thus misappropriating the IK of local communities in developing countries and making it the property of the patent holder.

(v) TRIPS does not oblige its Members to protect IK nor does it prevent its Members from providing statutory protection to IK. It is in the interest of developing countries to lobby for the inclusion of IK in the TRIPS provision so that an IP protection regime is made mandatory for all WTO members.

The TRIPS Council has witnessed much debate regarding the patent provisions of the TRIPS Agreement and their impact, with developed and developing countries having contrasting stands on the issue of review of Article 27.3 (b). Developed countries like Japan, Switzerland, Australia, Canada, and U.S.A have provided strong arguments in favour of providing patent protection for plant and animal inventions. U.S.A., for instance, believes that an exception to patentability, authorized by Article 27.3 (b) is unnecessary and therefore, treats plants and animals and non- biological and microbiological processes as patentable subject matter under its patent law.[7] However, developing countries like India, Kenya, Mauritius and others have expressed the view that patent on life forms could give rise to a range of concerns in regard to development, food security, the environment, culture and morality.[8] In India, a Committee was constituted by the Parliament, headed by Dr R.A. Mashelkar to examine whether India is legally bound to implement and give effect through national legislation to Artilce 27. 3 (b) when it itself is under review and whether not granting patents to microorganisms at this stage would violate TRIPS? Developing countries[9] have pointed out in the TRIPS Council that in the light of the mandated review of Article 27.3 (b), it is necessary to amend or clarify Article 27.3 (b) to prevent the patenting of all life forms. It has been suggested that the Article should be amended to prohibit the patenting of inventions based on indigenous knowledge or those that violate Article 15 of the CBD. It has also been argued that the obligation of developing countries to implement Article 27.3 (b) should take effect five years after the completion of the review of this provision. Suggestions have also been made regarding disclosure requirements in regard to genetic material and IK used in inventions.

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[7] Submission of U.S.A. at the TRIPS Council, 1999, " Review of the Provisions of Article 27.3 (b)", IP/C/W/162

[8] TRIPS Secretariat, 2002, "Review of the Provisions of Article 27.3 (b): Summary of Issues Raised and Points Made", IP/C/W/369.

[9] *ibid*

3.3.2. PLANT VARIETY PROTECTION

While developed countries' have sought to justify plant variety protection as facilitating the development of new technological solutions in the field of agriculture,[10] developing countries have expressed concern that it can have an adverse impact upon food security, health, rural development and equity for local communities, whose indigenous knowledge systems have produced many varieties[11]. In the context of developing countries, it has been pointed out that "if the breeding of a crop variety entailed 100 steps, then indigenous knowledge contributed atleast the first 70 or 80 steps and laboratory science contributed the next 20 to 30 steps". [12] Thus, it stands to reason that credit, reward and recognition for a new variety should be similarly shared by breeders as well as farmers. However, it has been apprehended that plant variety protection could lead to excessive dependence on foreign commercial breeders and traditional farmers would have difficulty in using the system to protect their interests.

In debates in the TRIPS Council regarding review of Article 27.3 (b), particularly in the context of the protection conferred to plant varieties, different views have been expressed on whether it has been able to strike the right balance between the right holders and other interests that are involved. One view as expressed by countries like Brazil, Egypt, Malaysia, Mexico, Peru, Venezuela is that Article 27.3 (b) provides a certain degree of flexibility to Members in deciding on the most effective means of sui generis protection and that the status quo should be maintained. Others like Brazil, India, Kenya, Thailand, and European Community have insisted on clarification of the term "effective sui generis system".

In the context of a sui generis system as envisaged by Article 27.3 (b), it has been suggested by the European Community that reference could be made to the UPOV Convention in Article 27.3 (b). Developing Countries have, however, offered strong opposition to this, stressing that incorporation of a reference to UPOV in Article 27.3 (b) could damage the already delicate balance established in that provision , that members, apart from the UPOV model, should be free to choose other models like those based on FAO's International Treaty on Plant Genetic Resources or the CBD and that there is no authoritative interpretation as to whether UPOV satisfies the requirements contained in Article 27.3 (b). India[13] had expressed the view that UPOV is premised on the protection of plant breeders in industrialised countries rather than the needs of users in developing

[10] *ibid.*
[11] *ibid.*
[12] Sahai, S., 2004, "The Importance of Indigenous Knowledge" [online] http://www.genecampaign.org/ikfolio/IK-SciReporter.doc.
[13] Submission by India at the TRIPS Council, 1999, "Review of the Provisions of Article 27.3 (b)", IP/C/W/169.

countries. Gene Campaign had insisted that "the interests of developing countries are not served by UPOV, which is completely insensitive to their needs. In all fairness, UPOV was not created for developing countries and therefore does not address itself to their concerns. In understanding the UPOV system, it is crucial to understand that right from 1961, even when it was more flexible than it is today, UPOV granted only one right, the right to the Plant Breeder. There was never any concept of Farmers Rights. What was granted at best was an exemption to farmers and researchers, from the otherwise exclusive rights granted to the breeder".[14] It has been further pointed out that amendments to the UPOV convention, brought in 1972, 1978 and 1991, all had one goal, to further strengthen the hold of the breeder and reduce any exemptions that were granted in early versions of the convention. The valid UPOV treaty of today is the 1991 treaty which has almost exclusive rights for breeders, no exemptions for farmers or researchers. In fact UPOV has moved to accept the patents system now so that it is not only a platform for breeders' rights but also for patents on plant varieties. It is for these reasons that the decision to join UPOV by India is being seen as "a thoroughly retrograde step which will deal a severe blow to both farmers and researchers in this country. What is more, UPOV is not even mentioned in the WTO/TRIPS, joining it is not required and India has made no commitment to join it".

As regards the question of what constitutes an "effective" system of sui generis protection for plant varieties for the purpose of Article 27.3 (b), India[15] has expressed the view that the TRIPS Agreement does not specify criteria by which to judge whether a sui generis system is effective and therefore, this should be left to Members to decide.

3.3.3. GEOGRAPHICAL INDICATION

Many countries[16] hold the view that the existing legal framework, particularly the intellectual property system could be used for improved protection to IK and that under certain circumstances, geographical indications (GIs) could be a particularly important way of protecting traditional products.[17] The ability to extend the life of GIs indefinitely and the possibility of collective ownership of such rights suggest that they may be especially suitable for protecting IK. GIs may especially facilitate protection of the collective rights of the rural and indigenous communities in their IK, ensuring that the entire community which has preserved the knowledge and has passed it on with

[14] Sahai, S., 2003, "India's Protection of Plant Varieties and Farmers' Rights Act" in Sahai, S., U. Kumar (ed.), *Status of the Rights of Farmers and Plant Breeders in Asia*, New Delhi: Gene Campaign, pp. 59-66.
[15] India, IP/C/M, 25 in TRIPS Secretariat, 2002, "Review of the Provisions of Article 27.3 (b): Summary of Issues Raised and Points Made", IP/C/W/369.
[16] TRIPS Secretariat, 2002, "The Protection of Traditional Knowledge and Folklore: Summary of Issues Raised and Points Made", IP/C/W/370
[17] Submission of European Communities and their Member States at the TRIPS Council, 2001, "Review of the Provisions of Article 27.3 (b) of the TRIPS Agreement", IP/C/W/254.

incremental refinement over generations, stands to benefit from the knowledge and that this is not locked up as the private property of one individual. Other advantages of GIs are that knowledge remains in the public domain, the scope of protection is limited to controlling the class and/ or location of people who may use the protected indication and the rights can potentially be held in perpetuity as long as the product-place link is maintained. Holders of a GI do not have the right to assign the indication, thus, preventing its transfer to non-locale producers.[18] The latter provision is important for protection of IK and to ensure that it does not pass on to the hands of those who are not holders of the knowledge.

The European Communities and their Member States have pointed out that it may also be useful to examine the possible role of GIs in achieving the goals of the CBD[19]. It has been further said that the CBD recognizes the existence of geographically defined areas that are regulated to achieve conservation objectives. Products originating from such areas may perhaps also be identified with geographical indications, if producers decided to link their collective production standards and related IK to conservation goals[20]. Thus, GIs, apart from protecting IK may also be seen as a means to achieve TRIPS- CBD reconciliation.

The TRIPS Agreement is said to be the first multi- lateral agreement dealing with geographical indications[21]. TRIPS provides for two levels of protection for geographical indications. The first is the basic level or a basic standard of protection where all geographical indications must be protected against use which would mislead the public or constitute an act of unfair competition. This obligation is met with in most countries. Had this been the only obligation under TRIPS, most developing countries would have been in compliance. However, in addition, Article 23 of TRIPS provides for a higher standard of protection specifically for wines and spirits. This article obliges the protection of geographical indications on wines and spirits per se or in absolute terms, without requiring any test of confusion or likelihood of deception to be met. In the special case of wines and spirits, Article 23.1 of TRIPS prohibits the use of translations of geographical indications or attachment of expressions such as 'kind', 'type', 'style', 'imitation' to products not originating from the place indicated, even where the true origin is clearly indicated. Thus, 'Champagne style sparkling wine, Made in the USA' would be prohibited even though this is clearly not deceptive.

[18] Commission on Intellectual Property Rights, 2004, *Integrating IPRs and Development Policy.*
[19] Submission of European Communities and their Member States at the TRIPS Council, 2001, "Review of the Provisions *of Article 27.3 (b) of the TRIPS Agreement", IP/C/W/254*
[20] *ibid*.
[21] Nair, L., R. Kumar, 2005, Geographical Indications: A Search for Identity, New Delhi: LexisNexis, p. 91.

This type of higher protection for wines and spirits was only available in the European Union prior to TRIPS. The inclusion of this higher standard does not refer to the unique characteristics of wines and spirits, but was rather a compromise reached in negotiations. This imbalance in protection has led to demands from a number of countries including India, Pakistan, Kenya, Mauritius and Sri Lanka for additional protection to other sectors of importance to them. Other countries such as Argentina, Chile and Guatemala argue that extending the additional protection to other products would impose extra financial and administrative burden on all WTO Members and that would outweigh any trade benefit. They believe that such burdens would fall most heavily on developing countries. A few countries like Egypt and Paraguay have already indicated that the additional protection for geographical indications for wines and spirits will be made available under their national laws for other products.

The importance of GIs as tools for protection of IK of communities has been emphasized. However, the inequities existing in the hierarchical protection of GIs as provided for in TRIPS seriously undermine the interests of developing and least developed countries. The major beneficiaries of this protection are developed countries alone while developing and least developed countries, which do not have wines and spirits to protect, but are endowed with vast and rich bio- resources and IK are at a disadvantage. Many developing countries are now attempting in the TRIPS Council to broaden the scope of protection of geographical indications to other sectors of importance to them. Owing to pressure from developing countries, the Doha Ministerial Conference had suggested extending the scope of GI protection to other traditional high quality products by the Fifth Ministerial Conference, in Cancun in September 2003. However, the deadline could not be met and the matter is still pending, as is the Doha Declaration.

While evaluating the extension of the scope of protection, developing countries must carefully consider the potential costs and benefits.[22] The main economic benefit of geographical indications would be to act as a quality mark which will be an advantage in enhancing export markets and revenues. But increased protection, particularly when applied internationally, may adversely affect local enterprises which currently exploit geographical indications to their advantage. It is clear that geographical indications will be of particular interest to those developing countries which will be able to achieve, a comparative advantage in agricultural products and processed foods. For these countries, seeking and enforcing protection for geographical indications abroad will result in economic gains. It must be kept in mind that the economic consequences of

[22] Commission on Intellectual Property Rights, 2004, *op.cit.*

seeking and enforcing protection for geographical indications might be prohibitively high. Before international enforcement of GIs, it will be necessary to develop and protect the geographical indication in the country of origin. This will require investments and resources to ensure that the quality, reputation and other characteristics of the product covered by the geographical indication are standardized and maintained.

3.4. CBD- TRIPS Relationship

The relationship between the Convention on Biological Diversity (CBD) and the TRIPS Agreement has been a major focus of discussion in the TRIPS Council within the context of the review of Article 27.3 (b) and protection of IK. Whereas the US and its allies hold the view that there is no conflict between the CBD and TRIPS, others, particularly developing countries argue that the instruments are incompatible and that the TRIPS Agreement should be amended so as to bring it in line with the CBD. Discussions have continued in the Council for TRIPS following the mandate given to it by the Doha Ministerial Declaration, to make efforts to harmonize the different approaches between the provisions of the two multilateral treaties[23], but there has been little progress.

Part of the technical problem of harmonizing the two lies in the fact that neither treaty specifies that it is subject to the other. The TRIPS Agreement and the CBD do not expressly refer to each other. Article 16 (5) of the CBD, however, recognises that intellectual property rights, the subject matter of the TRIPS Agreement, “may have an influence on the implementation” of the CBD. It obliges states to cooperate in order to ensure that intellectual property rights are “supportive of and do not run counter to” the objectives of the CBD. At the same time, Article 16(2) states that the technology transfer process is to be consistent with “the adequate and effective protection of intellectual property rights”. Thus, Article 16 of the CBD preserves the entitlements of intellectual property owners as they are defined in, inter alia the TRIPS Agreement. This is seen to be the weakness of the CBD in protecting the rights of local communities over their IK.

The TRIPS Agreement does not directly refer to the subject matter of the CBD. However, the Preamble and Article 8 refer to principles such as development objectives, and Article 66.2 refers to transfer of technology; both have bearing to the rights of local communities.

Despite their difference in coverage, there is considerable interaction between the rights referred to in the TRIPS Agreement and the subject matter of the CBD. There is a range

[23] Status of Work Programme in the TRIPS Council on the Relationship between the TRIPS Agreement and the Convention on Biological diversity and the Protection of Traditional Knowledge.

of issues upon which both Agreements do have implications, such as biotechnology, plant varieties, environmental technology relating to conservation and sustainable use, information relating to conservation and sustainable use, indigenous knowledge and benefit sharing. The main area of interconnection between intellectual property rights and biodiversity- related matters is to be found in Section 5 of the TRIPS Agreement which deals with patents[24]. Implementation of patent legislation may impact on the implementation of the CBD in the interest of communities. Properly implemented, the rights in any patent granted on an invention based on a biological resource should lead to benefit sharing. This is the reason why Article 16 (5) of the CBD requires Parties to ensure that intellectual property rights are supportive of and do not run counter to the objectives of the CBD. At the practical level, benefit sharing remains a concept whenever intellectual property rights are being enforced with vigour.

In the context of the relationship between TRIPS and CBD, different positions have been adopted by different countries. These fall into three broad categories[25]:

(i) There is no conflict between the two Agreements and governments can implement the two in a mutually supportive way through national measures;
(ii) There is no inherent conflict but there could be a potential for conflict depending on the way that the Agreements are implemented, and there is a need for international action to ensure that the two Agreements are implemented in a mutually supportive manner;
(iii) There is inherent conflict between the two instruments, and the TRIPS Agreement needs to be amended to remove such conflict.

Proponents of the first view, namely the United States, Japan, Norway etc. have taken the stand that there is no conflict between the TRIPS Agreement and the CBD and that there is little or no likelihood of a conflict in practical implementation owing to the fact that the two agreements have different objects and purposes and deal with different subject matter and that no specific examples of conflict have been cited. Proponents of the second view feel that while there may be no inherent conflict between the two Agreements, there is considerable interaction and overlap between the subject- matter of the two. Thus, the European Community[26] acknowledges the need for enhanced

[24] Submission of European Communities and their Member States at the TRIPS Council, 2001, "Review of the Provisions of Article 27.3 (b) of the TRIPS Agreement", IP/C/W/254.

[25] TRIPS Secretariat, 2002, "The Relationship between the TRIPS Agreement and the Convention on Biological Diversity: Summary of Issues Raised and Points Made", JOB (02)/58.
[26] Submission of European Communities and their Member States at the TRIPS Council, 2001, "Review of the Provisions of Article 27.3 (b) of the TRIPS Agreement", IP/C/W/254.

international action to ensure that the two Agreements are implemented in a mutually supportive manner. It has been suggested that work on these ideas should be pursued in WIPO, CBD and FAO and when relevant, in the TRIPS. Of the developed countries, the submission of the European Communities has attempted to be neutral and sensitive to the concerns of developing countries, suggesting that technical assistance needs to be provided to developing countries to implement the CBD through sound and effective internal legislation. It has stressed the need for possible negotiation of measures within the intellectual property system (particularly, in the context of WIPO and where and when relevant, the TRIPS Agreement) aimed at facilitating benefit sharing and protecting sovereign access rights.

Developing Countries like India, Brazil, China, Kenya, Mauritius, on behalf of the African Group and Zambia have strongly advocated the third position, stressing the need to amend the TRIPS Agreement to address the imperatives of developing countries. Stating that "the TRIPS Agreement and the CBD should be mutually supportive and promote the sustainable use of resources" [27], the submission of India, Brazil, China and others before the TRIPS Council say that at the implementation level, conflicts between the two Agreements could arise, for instance, in the case of patents claimed over genetic resources, which are protected by the CBD. It further says that unauthorised patents on a member's genetic resources, granted outside its territory raises the issue of potential conflicts with the principle of the sovereignty of the Contracting Parties of the CBD over their genetic resources. Currently, the TRIPS Agreement allows Members to provide for patents over genetic resources like plants, animals and micro- organisms. The TRIPS Agreement contains no provisions preventing a person from claiming patent rights in one country over genetic resources that are under the sovereignty of another country. In particular, TRIPS contains no provisions allowing a Member's claims to enforce fair and equitable sharing of benefits from the patenting of its own genetic resources abroad. In the absence of clear provisions in TRIPS to provide for a mutually supportive relationship with Members' obligations under the CBD, it is feared that implementation of the TRIPS Agreement may allow for acts of biopiracy and thus, open the door to systemic conflicts with the Convention. Similar points have been made about the relationship between the TRIPS Agreement and the provisions of the CBD relating to indigenous knowledge.

The proponents of the third position believe that in order to provide a mutually supportive relationship between the TRIPS Agreement and the CBD, it is essential to amend the TRIPS Agreement to accommodate the principle elements of the CBD and

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[27] Submission by Brazil, India, China and others at the TRIPS Council, 2002, "The Relationship between TRIPS Agreement and the CBD and the Protection of TK", IP/C/W/356.

that a failure to do so will be detrimental to the objectives of both instruments. It has been suggested that Article 27.3 (b) of the TRIPS Agreement should be amended so as to oblige all Members to exclude life forms and parts thereof from the purview of patents. At the very least, patents for those inventions based on indigenous knowledge and essentially derived products and processes should be excluded specifically. It has been proposed that the TRIPS Agreement should be amended in order to incorporate a disclosure requirement on the patent applicant. Such provisions could be incorporated into the TRIPS Agreement by amending Article 27.3 (b) or Article 29.

Brazil[28] has recommended that Article 27.3 (b) should be amended in order to include the possibility of Members requiring, whenever appropriate, as a condition to patentability: (a) the identification of the source of the genetic material; (b) the related IK used to obtain that material; (c) evidence of fair and equitable benefit sharing; and (d) evidence of prior informed consent from the Government or the traditional community for the exploitation of the subject matter of the patent. It has also been said that an interpretative note to Article 27.3 (b) be made in order to clarify that discoveries or naturally occurring material be excluded from patentability.

India's[29] position has been that harmonisation between the TRIPS and CBD is possible only if commercial exploitation of innovations based on IK is encouraged on the condition that the innovators share the benefits through material transfer agreements/ transfer of information agreements. A material transfer agreement would be necessary where the inventor wishes to use the biological material and a transfer of information agreement would be necessary where the inventor wishes to use IK for the invention. Such an obligation, according to India, could be incorporated through inclusion of provisions in Article 29 of the TRIPS Agreement which should require a clear mention of the biological source material and the country of origin in a patent application. Article 29 deals with conditions on patent applicants. Upon filing, this part of the patent application should be open to full public scrutiny. This would permit countries who wish to challenge the application to state their claims in time. At the same time, India has pointed out that domestic laws on biodiversity could ensure that the prior informed consent of the country of origin and the knowledge holder in the case of a patentable invention would facilitate the signing of material transfer agreements or transfer of information agreements, as the case may be.

Developed countries have long opposed the need for such proposed disclosure by amendment of the TRIPS Agreement. In recent times, the U.S. particularly has sought to do so by blocking the Doha agenda. However, most countries recognize that such a

[28] Submission of Brazil before the TRIPS Council, 2000, "Review of Article 27.3 (b)", IP/C/W/228.
[29] Communication from India to the TRIPS Council, 2000, IP/C/W/195.

requirement would be in keeping with the "principle of equity". The Commission on Intellectual Property Rights[30] has said that "the principle of equity dictates that a person should not be able to benefit from an IP right based on genetic resources or associated knowledge acquired in contravention of any legislation governing access to that material. In such cases the burden should generally lie with the complainant to prove that the IP holder has acted improperly. However, a precursor for any action is knowledge of the wrong. It is to assist in this respect that we believe that a disclosure requirement of the type discussed is necessary".

Venero Aguirre[31] has pointed out that efforts are required to reach a consensus on disclosure requirements in TRIPS and that the following ideas may contribute to such efforts:

(i) These requirements may be considered formal or substantive, but they should be mandatory and there should be a sanction for non-compliance of these requirements before and after the grant of a patent. Dutfield[32] has said that possibilities may vary from return of the patent application to rejection or revocation of the patent to fines and criminal sanctions.

(ii) It would be wise to allow agreements to be reached between the patent applicant or patent holder and the holders of rights on the genetic resources or IK before applying the sanction. This could contribute to a win-win situation.

(iii) Simplicity should be sought when defining how these requirements should be discharged.

(iv) Remaining realistic about what a patent office may really be capable of doing in order to verify the compliance of these requirements would be advisable.

(v) Clear rules about when these requirements apply (the relationship between the invention and the resource or knowledge) and about what is required (disclosure of the country of origin or of the source or both? and so on) is of the utmost importance.

(vi) A careful analysis of how far to go when establishing the disclosure requirements is needed. It will be necessary to draw a line at some point if we want to reach a consensus.

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[30] *op.cit.*

[31] Aguirre, Begoña Venero, "Addressing the Disclosure Requirement at the International Level- The Role of the TRIPS Agreement" in *Dialogue on Disclosure Requirements: Incorporating the CBD Principles in the TRIPS Agreement on the Road to Hong Kong*, WTO Public Symposium, Geneva, April 21, 2005

[32] Dutfield, Graham, "Disclosure of Origin: Time for a Reality Check?" in *Dialogue on Disclosure Requirements: Incorporating the CBD Principles in the TRIPS Agreement on the Road to Hong Kong*, *op.cit.*

As regards the next steps towards introducing disclosure requirements and a misappropriation regime in the TRIPS agreement, it has been pointed out that more practical examples of misappropriation would be useful to understand why the disclosure requirements should be introduced in the TRIPS Agreement and how. However, according to Dutfield[33], caution needs to be exercised to ensure that economic activities are not hindered by overzealous policies to prevent biopiracy, it is essential to investigate some past "biopiracy" cases and to see whether disclosure of origin would have made any difference. Another is to find out objectively how much genuine biopiracy actually takes place.

Many arguments have been provided to justify the inclusion of disclosure requirements in the TRIPS agreement, one being that it would benefit the IP system itself[34]. It is clear that the IP system was not created with the aim of regulating access to genetic resources or protecting IK. However, the IP system should not violate the rights of knowledge holders; instead it should collaborate with the access to genetic resources and IK protection regimes.

A consensus should be achieved as to where will be the best place to introduce disclosure requirements. One of the options would be to include a new paragraph in article 27 (27.4) and a third paragraph in article 29 (29.3). According to Venero, "these steps are essential if the international patent regime is to be reformed in a sustainable and fair manner. The current system recognizes only the contribution made by those developing inventions on the basis of biological materials or traditional know-how. However, it is also necessary to recognize the contribution made by countries that supply the biological materials and by the indigenous peoples who supply their indigenous knowledge. To fail to recognize the latter contribution makes the recognition of the former unfair and inequitable"[35].

3.5. THE ITPGR AND PROTECTION OF IK

Another key treaty bearing relevance to the IK- IPR debate is the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR), signed in November 2001. The ITPGR seeks to "bridge food security, biodiversity and intellectual property rights" as the "first legally binding multilateral agreement on sustainable agriculture"[36]. It creates "a limited commons over plant genetic resources through its multilateral system

[33] *ibid.*
[34] Aguirre, Begoña Venero, *op.cit.*
[35] *ibid.*
[36] H. David Cooper, The International Treaty on Plant Genetic Resources for Food and Agriculture, 11 REV. EUROPEAN COMMUNITY & INT'L ENVTL. L. 1, 15 (2002).

of access and recognition of farmer's rights"[37]. It tries to reconcile the notion of national sovereignty over plant genetic resources, as proclaimed by the CBD, and industrialized nations' UPOV view of plant genetic resources as the heritage of mankind, property to be held in common and freely accessible to all. While UPOV encourages the means of free access, the CBD promotes the view that plant genetic resources are at par with other natural resources and rooted in indigenous knowledge for which developing countries demand fair and equitable benefits and over which they claim national sovereignty. The change in position from 'common heritage of mankind' to biological resources being the property of nations and then communities is a direct outcome of the enforcement of the IPR regime on biological resources, through the TRIPS negotiations in the GATT Uruguay Round. It became untenable to treat biological resources as common property accessible to all for free and then allow private property rights in this common property through the instrument of patents and other forms of IPR. Either biological resources remained common property, with no provisions for IPR or they became private property with owners regulating access to it.

The ITPGR does not go far enough to recognize the right of owners of biological resources and the rights of farmers by facilitating access to plant genetic resources (PGR), but also tries to introduce benefit sharing through the Multilateral System (MS). It applies the principle of a limited commons by limiting the scope of the MS to the major food crops as determined by previous international negotiations. The remaining items of food and agriculture remain under national sovereignty while treaty provisions with respect to conservation apply to all PGR.

Through the Multilateral System (MS), access is provided under certain conditions; via a Material transfer Agreement (MTA), to be signed by the recipient of the PGR and the provider. Contracting Parties are then required to ensure resolution of disputes over the MTAs within their own legal systems. . Out of all of the listed conditions, the ITPGR specifically requires that the MTA include the following:

(i) Use and conservation solely for research, breeding and training for food and agriculture.

(ii) Recipients shall not claim Intellectual Property Rights or other rights over PGR, in the form received from the MS. This leaves the door open to impose IPR on mostly altered forms of the PGR.

[37] Gheorghiu, V.A., 2005, "Sailing the Seas of Treaties: Biopiracy in the Wake of the ITPGR", Briefing Paper written for Gene Campaign as part of the project *Protection of Indigenous Knowledge of Biodiversity.*

(iii) PGR accessed shall continue to be made available to the MS by the recipients.

(iv) A commercial benefit sharing to a Trust fund for ITPGR activities, unless the PGR created is freely available for research and breeding, in which case this is encouraged.

Benefit sharing may take the form of information exchange, capacity building, technology transfer and monetary shares of commercialization through partnership with developing countries' private and public sectors of research and technology development. However, these remain suggestions and are not specifically identified for inclusion in the MTA.

The ITPGR has provisions pertaining to farmers' rights, but these have been left to the discretion of national governments, hence falling far short of universal enforcement. Article 9 on Farmers' Rights acknowledges the role of farmers world-wide for their contributions to the development and maintenance of PGR for food and agriculture. The responsibility for implementing Farmer's Rights lies with national governments, with the ITPGR suggesting three measures to include:

(i) Protection of relevant indigenous knowledge.
(ii) Right to equitably participate in benefit sharing.
(iii) Right to participate in national decisions on conservation and sustainable use of PGR.

The ITPGR also prohibits any interpretation of the article that would limit farmer's rights to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

In addition to this, Article 13.3 of the ITPGR dealing with benefit sharing also mentions farmers. It states that benefits arising from the Multilateral System should flow to farmers in developing nations who conserve and sustainably use PGR.

The ITPGR entered into force on June 29, 2004. As a legally binding instrument relevant to farmers, local communities and indigenous knowledge, the ITPGR attempts to recognize farmers' rights in a number of ways. The incorporation of equitable benefit sharing into the Multilateral System of access and a greater recognition of national sovereignty over PGR allows nations to negotiate over the inclusion of PGRs in the MS and recognition of farmers' rights.

With respect to recognizing the intellectual property aspect of indigenous knowledge,

the ITPGR recognizes farmer's knowledge; but no other forms of indigenous knowledge. For example, the ITPGR states explicitly that crop genetic improvement may be conducted "by means of farmers' selection, classical plant breeding or modern biotechnologies."

The ITPGR by providing for state sovereignty over natural resources (which is in line with the CBD) opens the door to the strategic use of sui generis models of intellectual property rights to protect indigenous knowledge. Article 12.3(f) envisions a role for national governments with respect to intellectual property rights. It states that access to PGR protected by IPR and other rights shall be in accordance with international and national laws. Again, this provides the opportunity for a strong sui generis system under TRIPS Art. 27.3 b to protect indigenous knowledge. The ITPGR also leaves room for States to protect indigenous knowledge by using national laws to regulate access to plant genetic resources, an area where governance is necessary to defend against biopiracy. Article 5.1 states "Subject to national legislation and in cooperation with other contracting parties where appropriate promote an integrated approach to the exploration, conservation and sustainable use of plant genetic resources…" It then goes on to list areas related to farmer's rights and intellectual property rights where national legislation may play a stronger role. These areas include survey and inventorisation of PGR, promoting their collection, promoting community led efforts to manage and conserve on-farm genetic resources, cooperating to develop ex situ conservation and monitor maintenance of collections. Article 5.2 calls for national governments to take steps to minimize or eliminate threats to PGR.

Securing economic returns directly to communities who are making efforts to manage and conserve their resources will motivate them to preserve their knowledge. If the financial gains from commercialization go directly to those communities who are actively preserving their biodiversity, this can serve as a positive financial reinforcement visible to the community at large. Furthermore, the act of making an inventory of the resources and knowledge can help nations keep track of what they have and bring this knowledge to the public domain, which becomes technically non-patentable".[38]

The ITPGR provides for national laws to play a significant role in protecting indigenous knowledge by regulating in situ access. Article 12.3h states that:

> Access to in situ PGRs shall be in accordance with national legislation, or where none exists, in accordance with standards created by the Governing Body.

[38] Gheorghiu, V.A., *op.cit.*

Here, nation states have the opportunity to create laws regulating access to their PGRs. Hence, nations wishing to protect access to their resources in situ should speedily create their own protective legal regimes.

Another area where the ITPGR may be used to protect indigenous knowledge is seen in Article 11.4, which addresses individuals who do not reciprocate the access of their Annex 1 PGRs to the Multilateral System. Within 2 years of entry into the system, the Governing Body shall assess progress of including all PGRs and shall decide whether to continue to allow access to people who have not included their Annex 1 PGRs in the Multilateral System, or take other measures as appropriate. This has the potential to serve as a compliance mechanism, in the sense that should states or individuals who refuse to allow access to their PGRs may likewise be barred from accessing all PGRs in the multilateral system, hence encouraging deposit of their resources. So in the case of individuals from the US, which has not ratified the ITPGR, they may be thereby encouraged to subject their resources to the Multilateral System, and all its benefit-sharing aspects. Once the Governing Body comes into effect with regard to this review, the providing countries should advocate for withdrawing access from individuals who do not participate reciprocally in the Multilateral System with their PGR. This way, individual seed companies may choose to submit to the jurisdiction of the ITPGR and the Multilateral System in spite of their state's lack of cooperation.

Article 12.3(e) also recognizes the farmer's role in developing PGR. It states that access to PGR under development shall be at discretion of the developer, including farmers. This essentially recognizes farmers' as developers of PGRs, not just breeders, as traditionally has been the case under UPOV.

Despite all this, the sober reality is that the US, one of the main actors in biopiracy and unauthorised use of biological resources and indigenous knowledge, has elected to remain outside the ambit of the ITPGR, by not ratifying it. The ITPGR also suffers from certain weaknesses with respect to intellectual property rights for indigenous knowledge. Firstly, farmers' rights do not include explicit intellectual property over their plants, although the ITPGR recognizes farmers' rights "to participate in decision-making regarding…use of plant genetic resources for food and agriculture". Perhaps on a national level, farmers can cite this to be heard, otherwise it is simply a nice statement.

Article 12.3(d) states that recipients shall not claim intellectual property rights or other rights over PGR or their parts in the form received from the Multilateral System that limits their facilitated access. This means that farmers are still susceptible to others who patent on their developments. One may argue that commercialization benefits are ultimately returned under the Multilateral System, however, the granting of funds

depends on the discretion of the Governing Body, and even then, the funds are only to be used for the purposes of sustainable use and conservation of PGR.

Another point of weakness is evident in Article 13.2.d.ii's voluntary language with respect to equitable benefit sharing. Although it mandates that language in the Material Transfer Agreement shall require equitable benefit sharing to the Multilateral System, benefit sharing is merely encouraged if the recipient who developed the PGR for commercialization provides that PGR for research and breeding without restriction. This reflects a bias towards the purpose of the ITPGR as securing free access to PGR for breeders, as opposed to the CBD's emphasis on equitable benefit sharing as a matter of fair compensation to the indigenous. All a breeder has to do is provide free access to their resource to avoid having to pay any benefits to the original communities. Essentially, biopiracy may continue unperturbed, so long as one subjects one's self to the biopirates of one's own country. No benefit sharing is mandated in this case, and this is not in keeping with the goals of the CBD. It allows an insidious loophole.

A final flaw in the ITPGR with respect to IPR is that the responsibility to realize Farmers' Rights still rests with the national government. While measures explicitly include the protection of relevant indigenous knowledge, it is conspicuously silent on using Intellectual Property Rights as method of protection.

Nevertheless, though some weaknesses exist, there are points for positive use to protect indigenous knowledge in the ITPGR. However, this inherently necessitates monitoring of the Interim Committee deliberations that have strayed from the true spirit of the ITPGR, that of harmonizing the UPOV and CBD. Monitoring the development of the implementation of the ITPGR has revealed that its twins aims of facilitated access and equitable benefits sharing have been have been partially treated. The twin of facilitated access has developed well, whilst the twin of benefit sharing has remained stunted in its growth.[39]

The root of this bias lies at the foundation upon which the ITPGR is being built. While the Governing Body has been charged with adopting procedures for compliance, financial rules, the Standard Material Transfer Agreement, and procedural rules, it is the Interim Committee that is actually doing the work and compiling influential research prior to the first session of the Governing Body. The ITPGR has been in force for over a year, since June 29th, 2004, and the Governing Body has still not been scheduled to meet for its first meeting. Instead, the Commission on Genetic Resources for Food and Agriculture (CGRFA) now composes the Interim Committee. The CGRFA is a division of the FAO, and thus represents primarily their interests which are more heavily

[39] *ibid.*

influenced by the International Undertaking/UPOV line of thinking. Since they are not equipped with direct experience with the CBD, they will inevitably favor their own paradigm in formulating the preliminary procedures and standardized Material Transfer Agreements, measures the ITPGR charges the Governing Body of adopting at the first meeting.

Comparing the composition of the Interim Committee to that of the Governing Body reveals the political drivers behind the developments in implementation. According to the Treaty, the Governing Body shall be composed of one delegate per country or institution of the contracting parties. Contracting parties are those that have ratified the ITPGR. In contrast, the Interim Committee is composed of anyone and everyone with an interest in the outcome of the ITPGR, whether they agreed with the original benefits sharing provisions and other elements CBD harmonization or not. Paragraph 7 of Resolution 3/2001 of the FAO Conference invites any member of the FAO to participate in the Interim Committee, (or if not a member of the FAO, than any State that is a member of the UN, and any of its specialized agencies, or the International Atomic Energy Agency). In essence, by this provision, the FAO permits those parties who have not ratified the ITPGR in its pure form (like the United States), to be actively involved in the construction of the operational mechanisms that will provide the basis of implementing the ITPGR. Thus, those shaping the polices of the ITPGR need not have ratified the original treaty and may influence the outcome of the Interim Committee to meet their own agenda, and not that of the original Contracting Party's intentions with the ITPGR. The US in particular reveals such motives when it stated at the recent MTA deliberations in Tunisia that "[a]doption of an effective Standard Material Transfer Agreement would facilitate widespread ratification of the International Treaty."[40] This was stated by Mr. David Hegwood, Agricultural Minister Counsellor at the United States Mission to the FAO after announcing that "his government was pleased to be able to [financially] support the meeting."41 The sequence of his sentences underscores US motives behind funding such meetings. The US intent to fund and accordingly influence the deliberations could not be more transparent.

It has been seen that the Interim Committee has co-opted the term "benefits sharing" and used its good name to justify a mere funding mechanism for facilitating access. It has also defied the ITPGR in only encouraging benefits sharing in the MTAs. The manifestation of the ITPGR is thus, not true to its original intent[42]. If this continues, it is apprehended that parties outside the original good faith signatories will continue to influence the course of the implementation of the ITPGR away from its original intent,

[40] Paragraph 4, p.1, Report of the Contact Group for the Drafting of the Standard Material Transfer Agreement, July 18 – 22, 2005, CGRFA/IC/CG-SMTA-1/05/1 Rep.
[41] *ibid.*
[42] Gheorghiu, V.A., *op.cit.*

become signatories, and then run the show as part of the Governing Body. Before this occurs, in the interest of protecting the interests of farmers and indigenous people of the developing countries, it is necessary to challenge the Interim Committee's watering down the ITPGR and return to its true spirit.

3.6. PROCEEDINGS AT WIPO'S IGRTKF

The WIPO's Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGRTKF) is a specialized forum for negotiations for evolving an international framework for the protection of IK. There have been a total of eight sessions in the IGRTKF wherein countries have deliberated on the definition; the modes and framework for the protection of IK and other associated knowledge like traditional cultural expressions and folklore. Though each of these eight sessions have produced a wealth of material – they have mostly been incremental in nature – i.e. the later sessions have amalgamated much of what has been produced in the earlier sessions.

With regard to indigenous knowledge, the WIPO had clearly stated that in order to make systems and standards for the protection of indigenous knowledge clear, practical and accessible to the knowledge holders, there should be agreement on the principles and objectives of indigenous knowledge protection[43]. With regard to the application of existing standards to protect IK subject matter, WIPO has indicated that the intellectual property tools of trademarks, geographical indications, patents, copyright and related rights and unfair competition could be used to protect IK. Together with the above means of protecting IK, the IGC in its 3rd session, deliberated in meticulous detail on what a sui generis system for the protection of IK should be. The WIPO[44] has pointed out that there are already elements available in existing mechanisms of intellectual property protection, both in IK context, and outside it, that could be transported into a sui generis system for the protection of IK and any reference to a sui generis system does not mean that a legal mechanism must be entirely construed from scratch. Given its holistic nature and the need to respond to the cultural context, the sui generis system should not require the separation and isolation of the different elements of IK but rather take a comprehensive approach. It has suggested that to identify those elements which a sui generis system must contain in order to be effective, a country has to provide responses to the following essential questions[45]:

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43 "Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore- An Overview" (WIPO/GRTKF/IC/1/3).
44 "Elements of a Sui Generis System for the Protection of Traditional Knowledge" (WIPO/GRTKF/IC/3/8).
45 *ibid.*

(i) *What is the policy objective of the protection?*

Is it essentially defensive, in that it seeks to prevent misappropriation or culturally offensive misuse of IK, or is it analogous to laws for the protection of cultural heritage? Does it have a broader policy goal, such as a system established in response to Article 8(j) of the CBD? Is it focussed on appropriate commercialisation of IK or preserving it within a specific cultural context?

(ii) *What is the subject matter?*

As regards the subject matter, two options need to be considered. One option would be to include all IK, without any restriction or limitation of the subject matter thus including cultural expressions such as artistic, musical, scientific works, performances, technical creations, inventions, designs etc. The other option is to confine protection to technical biodiversity- associated IK, leaving handicrafts and expressions of folklore to be covered by separate provisions.

(iii) *What additional criteria for protection?*

It may be necessary to clarify that even if some IK fits into a broader definition, it may need to meet distinct criteria to be protected under a sui generis system. This may apply, for instance, to IK which has already entered the public domain. IK holders should be aware that IK that is in the public domain cannot be recaptured without affecting legitimate expectations and vested rights of third parties. If information that has been disclosed is deemed to be automatically in the public domain, a vast area of IK has been effectively lost, for the purpose of IP protection. The preparation of databases or inventory to document IK to prevent its misappropriation by third parties could contribute to aggravating this problem. Member States can, however, resort to the concept of commercial novelty and establish that all elements of IK which have not been commercially exploited prior to the date of the filing of the database are protected.

(iv) *Who owns the rights?*

As IK is the result of creation and innovation by the community, the rights in IK should be vested in the community, rather than individuals. It may then become necessary to establish a system of geographical and administrative definition of communities. Although IK protection is generally perceived as a matter of collective rights, it may nonetheless be vested in individuals. The solution for that must be found in customary law. There is, thus, need to integrate the customary laws of communities into a sui generis system of IK protection. Again, IK can be held by two or more neighbouring communities that share the same environment, the same genetic resources and the

same traditions. In such an instance, lawmakers have a choice: they can establish co-ownership of rights or they can leave for the communities to separately, apply for and obtain rights in jointly held IK. An alternative to the attribution of rights to communities is the designation of the State as the custodian of the interests and rights of IK holders.

(v) *What are the rights?*

The various elements that comprise IK belong both to the artistic/ cultural and the technical/ commercial/ industrial fields. A sui generis system for IK protection should therefore combine both features of copyright and related rights with features of industrial property. So IK rights should comprise both moral and material rights. Strong moral rights may be crucial for the protection and preservation of the cultural identities of the communities, including those elements of IK that are not to be commercially exploited. The rights in IK could also comprise the right to assign, transfer and license those contents of IK databases with a commercial or industrial nature.

(vi) *How are the rights acquired?*

One option could be total lack of legal formalities, that is, protection is available as of the date the element of IK in question was created, irrespective of any formality. The second option could be to establish the right upon the filing of the compilation of IK data with a government agency.

(vii) *How can the rights be administered and enforced?*

The possibility of administration of rights through a distinct mechanism, possibly a collective or reciprocal system of administration was considered or a specific role for government agencies in monitoring and pursuing infringement of rights.

(viii) *How are the rights lost or how do they expire?*

One approach would be to establish protection for an indefinite period. This approach recognizes the intergenerational and incremental nature of IK and that its commercial application, once the protection is secured, may take an extremely long time. But if the protection of IK is to be established upon an initial act of commercial exploitation (for example, a period of fifty years counted from the first commercial act involving the protected element of IK, which could be renewable for a certain number of successive periods), then it might make sense to establish a predefined expiration, provided it would apply exclusively to those elements of IK with a commercial/ industrial application and which could be isolated from the whole of the contents of the database without prejudice to its integrity.

3.7. LEARNINGS FROM THE REPORTS OF THE CRUCIBLE GROUP

With respect to national laws for protection of indigenous knowledge regarding biological resources, the 2nd report of the Crucible Group came out with certain recommendations which are worth taking into consideration when we talk of a sui generis legislation for protection of IK. It says that no single policy option is sufficiently comprehensive to protect, promote and conserve knowledge. Thus, it is essential for the Government to develop integrated policy options – principles of coordination, consultation and representation. It further suggests that there should be stocktaking of existing policies and regulatory bodies that affect indigenous and local knowledge holders, review of existing customs and practices of indigenous communities that affect their knowledge and networking of existing relevant regulatory bodies to create indigenous and local knowledge. Regarding the purpose and scope of a sui generis legislation to protect knowledge of communities, it should be characterized by the following:

(i) Vest property rights in indigenous and local knowledge holders.
(ii) Provide means to the indigenous and local knowledge holders to prevent unwarranted reproduction
(iii) Ensure equitable distribution of the benefits
(iv) Prevent loss of indigenous and local knowledge
(v) Self determination and
(vi) Conserve biological diversity

3.8. MODEL PROVISIONS ON FOLKLORE

Introduction

The need for intellectual property protection of folklore or its expressions emerged primarily in developing countries. Folklore is of particular importance for developing countries, which recognize it as a means of self-expression and social identity. In these countries, folklore is a living and still developing tradition, rather than just a memory of the past.[46]

The improper exploitation of folklore has reached new heights in recent times. The spectacular development of technology, the newer ways of using both literary and artistic works and expressions of folklore (audiovisual productions, phonograms, their mass reproduction, broadcasting, cable distribution and so on) have multiplied abuses.

[46] WIPO, *Intellectual Property in Asia and the Pacific*, January- June 1998, No. 56/57 [ISSN 1014-336X, WIPO Publication No. 435 (E)].

Folklore is commercialized without due respect for the cultural and economic interest of the communities in which it originates. And in order to better adapt it to the needs of the market, it is often distorted or mutilated. At the same time, no share of the returns from its exploitation is conceded to the communities who have developed and maintained it.

The legal protection of folklore has been an important issue in the international copyright debate since the late 1960s. It was on the initiative of the countries of Africa that a first international meeting was organized under the auspices of WIPO and UNESCO on the legal problems associated with folklore. This meeting was held in Brazzaville in 1963. The first country that fell into line with the conclusions of the Brazzaville meeting and introduced national protection for folklore and works inspired by folklore was Tunisia. Article 6 of the Tunisian Literary and Artistic Property Act 1966 provided that folklore constituted a part of the national heritage, and that its exploitation with gainful intent by persons other than those representing public national organizations required authorization from the Department of Cultural Affairs. The 1967 Stockholm Diplomatic Conference for revision of the Berne Convention also made an attempt to include copyright protection for folklore at the international level. As a result, Article 15(4) of the Stockholm (1967) and Paris (1971) Acts of the Berne Convention contains the following provision:

(a) In the case of unpublished works where the identity of the author is unknown, but where there is every ground to presume that he is a national of a country of the Union, it shall be a matter of legislation in that country to designate the competent authority which shall represent the author and shall be entitled to protect and enforce his rights in the countries of the Union.
(b) Countries of the Union which make such designation under the terms of this provision shall notify the Director General [of WIPO] by means of written declaration giving full information concerning the authority thus designated. The Director General shall at once communicate this declaration to all other countries of the Union.

This article of the Berne Convention implies the prospect of granting protection for expressions of folklore.

At the meeting of WIPO's Governing Bodies in 1978, it was felt that few concrete steps were being taken to devise legal standards to protect folklore. Following this meeting, the International Bureau of WIPO prepared the first draft of a sui generis model provisions for intellectual property type protection of folklore. WIPO and UNESCO convened a Working Group in Geneva in 1980, then a second one in Paris in 1981, to study the draft Model Provisions intended for national legislation prepared by WIPO, as well as possible international measures for protection of works of folklore. The outcome

of these meetings was the adoption by WIPO-UNESCO in 1982 of the "Model Provisions for National Laws on the Protection of Expressions of Folklore against Illicit Exploitation and other Prejudicial Actions" (hereinafter referred to as the Model provisions).

The WIPO-UNESCO Model Provisions

The Model Provisions may be regarded as a first step in establishing a sui generis system of intellectual property type protection for expressions of folklore. They try to strike a balance between protection against abuses of expressions of folklore, on the one hand, and of freedom and encouragement of further development and dissemination of folklore, on the other. The Model provisions were not intended to necessarily form a separate law; they might constitute, for example, a chapter of an intellectual property code or of law dealing with all aspects of the preservation and promotion of national folklore. They were designed with the intention of leaving enough room for national laws to adopt a system of protection best corresponding to the conditions existing in the countries concerned.

The Model Provisions for the protection of expressions of folklore may be best analyzed under the following heads:

Expressions of folklore to be protected

For the purpose of the Model provisions, Section 2 defines the term "expressions of folklore" as productions consisting of characteristic elements of the traditional artistic heritage, developed and maintained by a community in the country or by individuals reflecting the traditional artistic expectations of such a community. Thus, only "artistic" heritage is covered which means that traditional beliefs, scientific views or merely practical traditions as such, separated from possible traditional artistic forms of their expression, do not fall within the scope of "expressions of folklore". On the other hand, "artistic" heritage is understood in the widest sense of the term and covers any traditional heritage appealing to our aesthetic sense.

The following have been included within the umbrella of artistic heritage amounting to "expressions of folklore":

1) "Verbal expressions" which include "folk tales, folk poetry and riddles;"
2) "Musical expressions", including "folk songs and instrumental music;"
3) "Expressions by action", which include "folk dances, plays and artistic forms of rituals;" and
4) "tangible expressions" including "drawings, paintings, carvings,

sculptures, pottery, terracotta, mosaic, woodwork, metalware, jewelry, basket weaving, needlework, textiles, carpets, costumes; musical instruments; [architectural forms]."

While the first three need not be "reduced to material form", that is to say, the words need not be written down, the music need not exist in musical notation and the dance need not exist in choreographic notation, tangible expressions are by definition incorporated in a permanent material such as stone, wood, textile, gold etc.

Acts against which expressions of folklore should be protected

The Model Provisions seek to protect expressions of folklore against illicit exploitation and other prejudicial actions.

The Model provisions define illicit exploitation in Section 3 as any utilization made both with gainful intent and outside the traditional or customary context, without authorization by a competent authority or the community concerned. From the provisions of section 3, it follows that utilization- even with gainful intent- within the traditional or customary context need not be subject to authorization. On the other hand, utilization, even by members of the community where the expression has been developed and maintained, requires authorization if it is made outside such a context and with gainful intent.

Other prejudicial actions include four cases of offenses and the offender in each case may be subject to penal sanctions (Section 6). Section 5 requires that, in any printed publication or communication to the public of an identifiable expression of folklore, its source be indicated in an appropriate manner by mentioning the community and/or geographic place from where the expression has been derived. Not doing so constitutes an offence under this category. Secondly; any unauthorized utilization of an expression of folklore where authorization is required constitutes an offense. Thirdly, misleading the public by creating the impression that an expression of folklore is derived from a given community when, in fact, it is not, is also punishable. This is essentially a form of "passing off." Fourthly, it is an offense if, in the case of public uses, expressions of folklore are distorted in any direct or indirect manner "prejudicial to the cultural interests of the community concerned." All four acts mentioned above qualify as offenses only if they are committed willfully.

Authorization of utilizations of expressions of folklore

The Model Provisions seek to regulate two aspects of the authorization of utilization of expressions of folklore which are - (i) the entity entitled to authorize, and (ii) the process of authorization.

The Model Provisions avoid the term “owner” and in its place use the words “competent authority” and “community concerned,” to refer to the “entity entitled to authorize the utilization”. The Model provisions do not deal with the question of the ownership of expressions of folklore giving due recognition to the fact that this may be regulated in different ways in different countries. In some countries, expressions of folklore may be regarded as the property of the nation, while in other countries, a sense of ownership of the traditional artistic heritage may have developed in the communities concerned. In countries where communities are recognized as owners of their folklore and where such communities are sufficiently organized to administer the utilization of the expressions of their folklore, authorization may be granted by the community itself. In other countries, where the traditional artistic heritage of a community is regarded as part of the cultural heritage of the nation or where the communities are not in a position to administer the use of their folklore, “competent authorities” may be designated to give the necessary authorization.

Section 9 of the Model Provisions provides for the designation of a competent authority, where that alternative is preferred by the legislator. The same section also provides for designation of a “supervisory authority” if this becomes necessary owing to the adoption of certain alternative provisions regarding activities carried out by such authority. “Competent authority” is understood as any person or body entitled to carry out functions specified in the Model Provisions. Authorities may be already existing institutions or newly established ones. The tasks of the competent authority are to grant authorizations for certain kinds of utilizations of expressions of folklore[47], to receive applications for authorization of such utilizations, to decide on such applications and where authorization is granted, to fix and collect a fee- if required by law.[48]

Where the community as such is entitled to permit or prevent utilizations of its expressions of folklore, the community would act in its capacity as owner of the expressions concerned. The community would be free to decide how to proceed and there would be no supervisory authority to control how the community exercises its rights in this regard.

As regards the “process of authorization”, the Model Provisions stipulate that an authorization must be preceded by an application submitted to the competent authority.[49]

[47] Section 3.
[48] Section 10 (1) and (2).
[49] Section 10(1).

The Model Provisions allow, but do not make mandatory, collecting fees for authorizations.[50]. They also determine that the collected fees must be used to promote national folklore or national culture in general.

Thus, in conclusion, it may be said that the Model Provisions by using words like "expressions" and "productions" rather than "works" underline the fact that the provisions are sui generic, rather than part of copyright. Artistic heritage, which is the subject matter of protection has been sought to be given a very wide meaning.

Again, from the provisions related to "acts against which expressions of folklore are protected", it appears that the Model provisions try to ensure that indigenous communities are not prevented from using their traditional cultural heritage in traditional and customary ways and in developing it by continuous imitation. Keeping alive traditional popular art is closely linked with the reproduction, recitation or performance of traditional expressions in the originating community. An unrestricted requirement for authorization to adapt, arrange, reproduce, recite or perform such creations could create a barrier in the way of natural evolution of folklore and could not be reasonably enforced in communities in which folklore is a part of everyday life.[51] Thus, the Model Provisions allow any member of a community of the country to freely reproduce or perform expressions of folklore of his own community in their traditional or customary context, irrespective of whether he does it with or without gainful intent. The Model Provisions do not hinder the use of expressions of folklore without gainful intent for legitimate purposes outside their traditional or customary context. Thus, the making of copies for the purpose of conservation, research etc. is not hampered by the Model provisions.

There are many distinguishing features and principles of the Model Provisions which are worth replicating in legislation and policy pertaining to protection of IK on a general plane. First one is the acceptance that typical intellectual property tools like copyright (in the instance of folklore) or for that matter, patent (in the context of a biotechnological product derived from indigenous knowledge) is inadequate or do not fit the context when it comes to the protection of folklore or indigenous knowledge respectively and thus, needs sui generis protection. The next principle which deserves mention is that the Model provisions try to create an atmosphere where folklore can flourish by not imposing too severe restrictions on the community. It has been expressed in many circles of the urgent need to protect IK which is fast eroding; thus, it falls on any law to protect IK to create conditions where it can thrive with the adequate involvement of the

[50] Section 10(2).
[51] WIPO, *Intellectual Property in Asia and the Pacific*, January- June 1998, No. 56/57 [ISSN 1014-336X, WIPO Publication No. 435 (E)

community. Another remarkable aspect of the Model provisions is the impetus they give to individual creativity and innovation and the way in which the Provisions have strived to strike a balance between these and the rights of the community. The Model Provisions do not hinder in any way the creation of original works based on expressions of folklore.

Again, the Model Provisions give ample scope for regional and national variations and the unique requirements of each situation to prevail and influence the protection of expressions of folklore. This is evident in the provisions pertaining to 'authority entitled to authorize', recognizing the fact that the question of ownership of folklore varies from country to country and that legislation should respect this fact. Also, the Model Provisions leave the matter of sanctions for offences to be decided in accordance with the penal law of the country concerned.

3.9. OAU MODEL LAW

The African Model Law for Protection of Rights of Local Communities, Farmers, Breeders and Regulation of Access to Biological Resources is an effort to create a sui generis system to regulate access to biological resources and protect the related rights of local communities, farmers and breeders. The principal objective of the law was to 'ensure the conservation, evaluation and sustainable use of biological resources including agricultural genetic resources as well as indigenous knowledge, in order to improve their diversity as a means of sustaining the life support systems.'

The Model law serves as a framework instrument to provide AU Member States with guidance in formulating domestic legislation. It has a wide scope encompassing biological resources, ex situ and in situ, and its derivatives; community knowledge, innovations, technologies and practices related to biodiversity; and local and indigenous farming communities, farmers and plant breeders. However, traditional systems of access, use or exchange of biological resources, knowledge and technology by and between communities are excluded. The salient points of the Model Law are as follows:

(i) *Sovereign and inalienable rights of the state*: CBD recognizes that the state has sovereign rights to access and use its biological resources. This concept of sovereign rights of the State is reiterated in the Model Law. The preambular statement opens with giving recognition to sovereign and inalienable rights of the state and 'its people'. The Model Law is based on the principle that knowledge, technologies and biological resources of the local communities are a result of age-old practices over generations held in trust by the present generation. The state has a responsibility to protect such resources as well as rights therein.

(ii) *Community Rights*: The chapter of the Model Law on community rights is consistent with Article 8(j) the CBD, which recognizes that national law can be used to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities.

With respect to community rights, the main provisions of the Model Law are Article 16 which recognizes the collective rights of local communities; and Article 17 and 23.2, which place the responsibility of determining what constitutes those rights upon the local communities themselves.

Local and indigenous knowledge practices and use of resources not only ensure food security but also the conservation of biodiversity. This fact receives due recognition from CBD which mandates for recognition and protection of such resources. The Model law ensures that the rights of communities over their IK and biological resources are not affected on account of the IPR regime envisaged under TRIPs.

(iii) *Access to biological resources*: The Model Law provides for a detailed framework for access to, and benefit sharing from biological resources in a manner that ensures their conservation and sustainable use. This framework is based on the CBD provisions.

The Chapter on Access to biological resources provides for a systematic regulation of access, subject to prior informed consent of the State as well as the local community concerned.An application for access has to be made giving details of the applicant, resources and the purpose of access, proposed mechanism arranging for sharing of benefits and a socio economic cum environmental impact assessment.Any access is subject to prior informed consent of National competent Authority and the concerned local community any access without PIC shall be invalid and subject to penalties. The National Competent Authority (NCA) shall consult with the community before granting PIC. Any access permit has to be signed by a NCA and the concerned local community and the person/body seeking access.

The Model Law lists the contents of such an access license or permit. The NCA will set a limit on quantity and quality specification of the resource sought. An undertaking to adhere to these limits is to be given before gaining access. The NCA and the local community have to be informed of any research finding. An undertaking to share benefits arising out of use of biological resource or its derivative is to be provided. An Intellectual Property Right cannot be applied on any community, innovation, technology or knowledge.

Such an access permit can even be revoked when there is evidence of non-compliance of agreed terms, or for reasons of environment protection and public interest.

Thus, the Model Law lays down a foundation to assist African countries in having a sui generis system to regulate access to biological resources and protect the related rights of local communities, farmers and breeders. Its provisions are worth emulating considering the fact that while ensuring the conservation, evaluation and sustainable use of biological resources it aims at protecting the rights of communities over their biodiversity and the knowledge therein. Its salient features relating to food security community rights, state sovereignty, community knowledge and technology, participation in decision making, regulation of access to bio resources, prior informed consent and fair and equitable sharing of benefits could be probable elements of an ideal sui generis legislation designed to protect IK.

3.10. CoFab

Gene Campaign and the Centre for Environment and Development have drafted an alternative treaty to UPOV to provide a forum for developing countries to implement both Farmers and Breeders Rights. This draft treaty is called the Convention of Farmers and Breeders, CoFaB for short. CoFaB has an agenda that is appropriate for developing countries. It reflects their strengths and their vulnerabilities. It seeks to secure their interests in agriculture and fulfil the food and nutritional security goals of their people. This treaty between developing countries seeks to fulfil the following goals:

(i) Provide reliable, good quality seeds to the small and large farmer
(ii) Maintain genetic diversity in the field
(iii) Provide for breeders of new varieties to have protection for their varieties in the market, without prejudice to public interest.
(iv) Acknowledge the enormous contribution of farmers to the identification, maintenance and refinement of germplasm
(v) Acknowledge the role of farmers as creators of land races and traditional varieties which form the foundation of agriculture and modern plant breeding,
(vi) Emphasise that the countries of the tropics are germplasm owning countries and the primary source of agricultural varieties
(vii) Develop a system wherein farmers and breeders have recognition and rights accruing from their respective contribution to the creation of new varieties

The salient features of CoFaB which are worth mentioning when we talk of a sui generis legislation to protect IK, are as follows:

(i) *Farmers rights*: Each contracting state will recognise the rights of farmers by arranging for the collection of a Farmers Rights fee from the breeders of new varieties. The Farmers Rights fee will be levied for the privilege of using land races or traditional varieties either directly or through the use of other varieties that have used land races and traditional varieties, in their breeding program. Farmers Rights will be granted to farming communities and where applicable, to individual farmers. Revenue collected from Farmers Rights fees will flow into a National Gene Fund (NGF) the use of which will be decided by a multi-stakeholder body set up for the purpose. The Rights granted to the farming community under Farmers Rights entitles them to charge a fee from breeders every time a land race or traditional variety is used for the purpose of breeding or improving a new variety. Rights granted to the farmer and farming community under Farmers Rights are granted for an unlimited period.

(ii) *Breeders rights*: Each member state will recognise the right of the breeder of a new variety by the grant of a special title called the Plant Breeders Right. The Plant Breeders Right granted to the breeder of a new plant variety is that prior authorisation shall be required for the production, for purposes of commercial and branded marketing of the reproductive or vegetative propagating material, as such, of the new variety, and for the offering for sale or marketing of such material. Vegetative propagating material shall be deemed to include whole plants. The breeder's right shall extend to ornamental plants or parts of these normally marketed for purposes other than propagation when they are used commercially as propagating material in the production of ornamental plants or cut flowers.

Authorisation by the breeder shall not be required either for the utilisation of the new variety as an initial source of variation for the purpose of creating other new varieties or for the marketing of such varieties. Such authorisation shall be required, however, when the repeated use of the new variety is necessary for the commercial production of another variety. At the time of application for a Plant Breeders Rights, the breeder of the new variety must declare the name and source of all varieties used in the breeding of the new variety. Where a land race or farmer variety has been used, this must be specially mentioned.

In order to promote a more sustainable kind of agriculture and without any prejudice to the quality and reliability of the new variety, CoFaB enjoins breeders of new varieties to try to base the new variety on a broader rather than a narrower genetic base, in order to maintain greater genetic variability in the field. Further, a variety for which rights are claimed must have been entered in field trials for at least two cropping seasons and

evaluated by an independent institutional arrangement. The breeder at the time of getting rights will have to provide the genealogy of the variety along with DNA finger printing and other molecular, morphological and physiological characteristics. The right conferred on the breeder of a new plant variety shall he granted for a limited period, depending on the variety.

In the event of a variety becoming susceptible to pest attack, the normal period of protection may be curtailed to prevent the spread of disease. In order to monitor this, periodic evaluations will be undertaken. The breeder or his successor shall forfeit his right when he is no longer in a position to provide the competent authority with reproductive or propagating material capable of producing the new variety with its morphological and physiological characteristics as defined when the right was granted. The breeder will also forfeit his right if the “Productivity Potential” as claimed in the application is no longer valid.

To give primacy to the goals of food security, it has been provided in CoFaB that the right of the breeder will be forfeited if he is not able to meet the demand of farmers, leading to scarcity of planting material, increased market price and monopolies. If the breeder fails to disclose information about the new variety or does not provide the competent authority with the reproductive or propagating material, his right will be declared null and void.

CHAPTER- IV

THE NATIONAL LEGAL REGIME AND PROTECTION OF IK

As highlighted in Chapter-I, one of the main objectives of the research agenda of this project is to identify and critically examine the legal mechanisms for the protection of IK of biodiversity in India. In this chapter, an attempt has been made to assess the strengths and weaknesses of the provisions of various national legislation, which directly or indirectly deal with protection of biological resources and the indigenous knowledge associated with it. The provisions of the Constitution of India, which have direct or indirect relevance for customary laws and practices of local communities and subsequently, protection of IK have already been dealt with in chapter-II. For the sake of convenience, this chapter is divided into two parts- Part 1 deals with the intellectual property legislation in India, with bearing on biological resources and indigenous knowledge, and Part 2 covers other laws and policies, with significance for protection of IK of biodiversity.

PART-I

4.1. THE INDIAN IPR REGIME AND PROTECTION OF IK OF BIODIVERSITY

At the international level, particularly in forums like the WIPO and TRIPS Council, the importance of the intellectual property rights regime in protecting indigenous knowledge and biological resources has been acknowledged. Countries like Australia[1] have expressed the view that, while there is a need to examine ways of improving protection for IK, the starting point should be to explore possibilities for making more effective use of the existing legal framework, particularly the intellectual property system. It was further stated that dismissing the applicability of the current system ignores not only potential benefits to be gained and identify the legitimate "gaps" in protection, but could lead to the creation of additional regulatory burdens and procedures.[2] In surveys conducted by the WIPO [3] to assess the use of existing standards of intellectual property for the protection of IK, countries like Australia, Canada, Columbia, Kazakhstan, New Zealand, the Russian Federation, Venezuela and Viet Nam have provided actual examples of how IPRs can be utilized to promote and protect IK. These include the use of copyright protection in Canada to protect tradition- based creations including masks, totem poles and sound recordings of Aboriginal artists, the use of industrial designs to

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[1] Australia's Submission at the TRIPS Council, 2001, "Communication from Australia: Review of Article 27.3(b), IP/C/W/310.

[2] *ibid.*

[3] WIPO Secretariat, 2002, "Review of existing Intellectual Property Protection of Traditional Knowledge", GRTKF/IC/3/7.

protect the external appearance of articles such as head dresses and carpets in Kazakhstan and the use of geographical indications to protect traditional products such as liquors, sauces and teas in Venezuela and Viet Nam. India too has realized the importance which the IPR regime could have for protection of its IK and products based on it.

India, as a member of the WTO, was under obligation to implement the TRIPS Agreement in totality, thus requiring the Indian Intellectual Property laws to meet the minimum standards laid down in the TRIPS Agreement. This led to the amendment of the Patents Act of 1970 and new enactments- the Biological Diversity Act, 2002, the Protection of Plant Varieties and Farmers' Rights Act, 2001 and the Geographical Indication of Goods (Registration and Protection) Act, 1999. To fulfill the obligations under the CBD[4], India like other countries such as Brazil, Costa Rica, Philippines, Sweden and the Andean Community have tried to regulate access to genetic resources and the associated IK, by incorporating certain provisions in these legislation[5]. An attempt has been made to include requirements to disclose the origin of the source of the genetic material used in biotechnological inventions and the related IK used in the invention, as well as requirements of evidence of benefit sharing and prior informed consent from the relevant national authorities, through an interface between the Patents Act 1970 (amended upto 2005) and the Biological Diversity Act, 2002.

Here, an attempt has been made to critically analyse the provisions of each of these enactments, with a view to examining their relevance for protection of indigenous knowledge and biodiversity.

4.1.1. THE PATENTS (AMENDMENT) ACT, 2005

The Patents (Amendment) Act, 2005 constitutes the third of a series of amendments that was undertaken to make the Patents Act of 1970 conform to India's obligation under TRIPS by 2005. The changes that have been made through the latest amendment, needs to be viewed in the context of the overt recognition given by the state to the importance of protecting indigenous knowledge, and its attempt to achieve a balance between TRIPS-CBD.

Prohibition of Patents Derived from Indigenous Knowledge

Section 3 of the Patents (Amendment) Act, 2005 lists what do not amount to patentable inventions within the meaning of the Act; section 3 (p) states that an invention which in

[4] Article 16 of the CBD.
[5] Submission by Brazil, India, China and others at the TRIPS Council, 2002, "The Relationship between TRIPS Agreement and the CBD and the Protection of TK", IP/C/W/356.

effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components is not an invention. In the context of this provision, it has been felt that it is just not enough to provide for the protection of IK by introducing a single clause prohibiting patents derived from IK[6]. It has been pointed out that only by way of a holistic integration of the two objectives of protection of IK and granting patent rights, could there be a realization of the primary objective of IK protection in real terms[7].

Micro- organism not defined

The import of not considering the definition of or loosely defining any resource or rights attached to that resource could have an impact on the access or usage of that resource, especially when granting monopoly rights like patents. It is in this context that one needs to study Section 2 of the Act. This section does not include the definition of micro-organism, but only makes a reference to the 'Budapest Treaty' (the Budapest Treaty on the International Recognition of the Deposit of Micro-organism for the Purpose of the Patent Procedure, 1977) which does not define micro-organism either. Since the Diamond vs Chakraborty[8] judgment passed by the US Supreme Court, various commentators like Drahos[9] have suggested that the micro-organism, though patentable, should be defined in extremely narrow terms. This is because granting monopoly rights like patents on micro-organism always carries with it the risk of restricting accessibility to the resource base, due to the expansionary tendencies of the patent holder claiming ownership rights over all the usage of that resource and consequently the risk of a rights spill over. This would result in difficulties for potential innovators, both in formal institutions and within indigenous communities. This is especially so in the case of the latter, as it is they whose livelihoods and subsistence is to a large extent contingent on the availability of and accessibility to the resource, which would be constrained if the definition of the term micro-organism was left undefined and therefore prone to expansion by the patentee and allegations of exclusive claims.

We, at Gene Campaign, have suggested in a submission before the Joint Parliamentary Committee, which had reviewed the bill, leading to the Patent (Amendment) Act, 2005 that the definition of the term micro-organism should be arrived at by way of a multi-stakeholder dialogue process. The aim would be to limit the exercise of monopoly

[6] Choudhury, N., "Patents Bill: Protecting Indigenous Knowledge", *Economic and Political Weekly*, November 20, 2004.
[7] *ibid.*
[8] 447 US 303 (1980).
[9] Drahos, P., 1999, "Biotechnology, Patents and Morality"', *European Intellectual Property Review*, September.

control over biological resources that are liable to be used by multiple stakeholder groups, including indigenous communities.

Opposition to Patent Application

The Act seeks to provide defensive protection to IK by providing for a disclosure requirement through section 25 dealing with grounds for opposition and revocation of a patent. Section 25 allows third parties to represent to the controller for non-granting of a patent on the grounds of patentability and on non-disclosure or wrong confirmation mentioning in the specification source and the geographical origin of the biological material used in the 'invention'. India had stressed that leaving the consequences of disclosure of source of origin, and evidence of prior informed consent and fair and equitable benefit sharing outside the realm of patent law would render these requirements ineffective and that there should, therefore, be provisions in the patent law to ensure that these requirements are not reduced to just a formality[10]. However, this disclosure requirement, incorporated as a means to reconcile TRIPS- CBD is watered down to a large extent by the fact the patentee is not similarly obliged to disclose the related IK used in the invention. However, this weakness is redeemed to a small extent by the provision that an invention may be opposed and/ or revoked if it was anticipated having regard to the knowledge, oral or otherwise, available within any local or indigenous community in India or elsewhere. This provision is significant in the sense that it recognizes oral evidence of IK, considering the fact that most IK is transmitted from one generation to the next through the oral tradition and in many cases, it would be difficult to provide written evidence of the knowledge.

This clause also has other implications: the right to representation has been given to 'any person'. This widens the *locus standi* considerably from that of 'any person interested' (as has been mandated in case of opposition proceedings). 'Person interested' has been interpreted by the Delhi High Court[11] in a narrow context to mean "a person who has a direct, present and tangible commercial interest", which is injured or affected by the continuance of patent on register.

However, by the addition of the proviso that the person making such a representation shall not become a party to any proceeding under the Act, the clause prevents the active participation of the person making the representation. The Act seems to suggest that once the initial information has been garnered, it is the Controller who would be in charge of initiating any further action. We, at Gene Campaign feel that the participation

[10] Submission by Bolivia, Brazil, Cuba, Dominican Republic, Ecuador, India, Peru, Thailand and Venezuela at the TRIPS Council, 2003, "The Relationship between the TRIPS Agreement and the Convention on Biological Diversity and the Protection of Traditional Knowledge", IP/C/W/403.
[11] Ajay Industrial Corporation vs Shiro Kanaoof Ibaraki City (AIR 1983 Del 496).

of the person representing is vital not only for the establishment of the initial facts, but also to gauge the nature and scale of misappropriation, for the affected parties, as well as the circumstances involving the misappropriation and modes of redress. Thus, this provision of the Act, which necessarily translates into a disincentive for any person making the effort, needs amendment.

We also believe that it should be made mandatory for the National Biodiversity Authority, constituted under the Biological Diversity Act, to represent to the Patent Controller in cases where the invention claimed was anticipated, having regard to the knowledge available within any local or indigenous community in India, where NBA has such information. This is imperative since NBA being the specialised body meant for the express purpose of protection of biodiversity and indigenous knowledge, has both the constitutional mandate and the expertise to play an active role.

Section 26 states that any person interested after the grant of a patent (within one year) may give notice of opposition to the Controller. Herein the *locus standi* for filing of opposition is limited to 'any person interested'; the implication is to restrict the filing of opposition only to those persons who have been commercially affected by the grant of the patent. This would unduly limit the *locus standi* and would *de facto* nullify the effect of the stated grounds of opposition (especially of (j) and (k)), which would logically entail the involvement of actors who may not be interested in the commercial aspect of the patent. Thus 'interested persons' should also include any persons acting *pro bono*.

Although the Act provides for both pre- and post-grant opposition, it does not specify the time period between the 'publication of application' and 'grant of patent'. Also, it provides a limit of one year for post-grant opposition. This time period is insufficient, because the existing IK may not be noticed within a year of the grant of the patent. The time period should be extended to at least three years, with the added flexibility that any notice of opposition after the expiry of three years would be acceptable on the condition that the applicant satisfies the authority that he had sufficient cause for not making the application within the prescribed time period.

Section 26(4) states that on receipt of such application of opposition, the Controller would constitute an opposition board, the membership of which is to be determined by the Controller. The Act does not mention any qualifications, or technical or other capabilities that would be crucial in determining the capacity of the board to examine the validity of the opposition especially with the requirements of subsections of (j) and (k).

Sections 29, 30, 31, 33 and 34 of the Patent Act are with regard to claimed invention that has been anticipated and the grounds constituting such anticipation. These sections do not recognise that an 'invention' can be alleged to be claimed on the basis

of available indigenous knowledge, oral or otherwise. This section is, thus, not in accord with Section 25, which does provide for representation for anticipation of the patent application on the "basis of knowledge oral or otherwise available within any local or indigenous community".

Thus, there exists ambiguity over the scope of provisions relating to anticipation, which needs to be done away with. The existence of indigenous knowledge, oral or otherwise, should be made a firm basis for anticipation of inventions.

Section 54 deals with any 'invention' that has been modified or improved. It is important to realise that this may become a mechanism by way of which indigenous knowledge may be used to undertake improvements or changes to the initial 'invention'. It is therefore, necessary, to include an express exclusion of the usage of indigenous knowledge to contribute to the improvement or modification of the 'invention'.

Powers of Controller

Section 19 specifies the powers of the Controller in cases of potential infringement. In this case, the basis of a potential infringement is "that the patent applied for cannot be performed without substantial risk for infringement of a claim of any other patent". Herein the risk of potential infringement should be expanded to also include substantial risk of infringement of any indigenous knowledge.

Section 27 of the earlier Patent Act, which conferred on the Controller *suo motu* powers of refusal of patent without opposition on certain grounds, has been omitted under the Patent Amendment Act of 2005. This further constrains the role of the Controller as regulator acting in public interest.

Section 68 relates to the procedures for the assignment of the title of the patent. Under the Patent Act of 2005, this section has been amended to omit the requirement of registration of the deed of assignment, which was probably done to hasten and simplify the process. The requirement of registration of assignment deeds should, however, be seen in the context of enabling the patent authority to source reliable information on both the quantitative and qualitative nature of the patent assignments. This kind of information is a necessary ingredient to policy-making and which enables the patent authority to play a responsible regulatory role in maintaining a balance between public interest and private monopoly rights.

Section 83 states the general principles applicable to the working of patent inventions. This section lists certain social aims and objectives, namely, "patents are granted to encourage inventions and to secure that the inventions are worked in India on a

commercial scale…", "they are not granted merely to enable patentees to enjoy a monopoly for the importation of the patented article", "the patents granted do not impede protection of public health and nutrition and should act as an instrument to promote public interest…"

The mere inclusion of such a general clause is not sufficient to protect larger social objectives and goals, especially that of protection of indigenous knowledge. This could be done in two steps. Firstly, it should be expressly stated that the violation of any listed principles should be a ground for revocation or compulsory licensing. This would make the provision enforceable and thus, inherently enabling. Secondly, the phrase 'public health' should be extended to include the right to access biological resources and health remedies sourced from therein. And, therefore, if the grant of a patent right over certain resources (micro-organisms being patentable) circumscribes this right of local or indigenous communities, it should be interpreted to mean violation of public health needs.

A critical analysis of the provisions of the Patents (Amendment) Act, 2005 supports the hypothesis that it makes only a half-hearted attempt to provide for the protection of indigenous knowledge. Though by exempting inventions derived from indigenous knowledge as non-patentable it has taken steps in the right direction, it still stops short of developing a holistic framework for indigenous knowledge protection. This is especially alarming in the case of patent legislations, since patenting, as a mechanism is liable to be used for the express purpose of usurpation of indigenous knowledge[12].

A possible way out would include a more synergistic relationship that needs to be worked out between the two administrative bodies, namely, the Patent Authority and the National Biodiversity Authority. Also, it is crucial to make the decision-making process (relating to the granting, opposition, anticipation, etc) within the Patent Authority more transparent (this is also a requirement under TRIPS) [13]and inclusive.

4.1.2. THE BIOLOGICAL DIVERSITY ACT, 2002

The Biological Diversity Act, 2002 was enacted with the objectives of conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising from the utilization of genetic resources. The Act and the Rules made thereunder in 2004 constitute part of the Indian attempt to operationalize the two most

[12] Choudhury, N., *op.cit*.

[13]Article 63 of the TRIPS (relates to the requirement of transparency).

important stipulations of the Convention on Biological Diversity. The first is the sovereign right of countries of origin over their genetic and biological resources. The other is the acceptance of the need to share benefits flowing from commercial utilization of biological resources with holders of indigenous knowledge. As yet, there is no proper resolution at the international level as to how these will be implemented in view of the fact that the normal Intellectual Property Rights and TRIPS provisions do not stipulate any sharing of benefits with holders of knowledge nor is the sovereign right of countries of origin over their genetic and biological resources acknowledged.

In the context of IK protection, the provisions of the Biological Diversity Act, 2002 and the Rules (2004) made under it may be broadly viewed from two perspectives. The first is whether the provisions promote local and indigenous communities' access to and ownership of the biological resources. It is the basic premise here that without ensuring access to or ownership over the biological resources, indigenous knowledge will erode over time. It is hence essential to analyse this law keeping in mind this symbiotic link between access to the biological resource, its usage and knowledge generation. Hence, when we look at protection of IK from the point of its existence and creation of circumstances for IK to flourish, we have to assess whether the Act provides local and indigenous communities access to the biological resource.

Secondly, it needs to be seen what kind of defensive protection does the law provide for protection of IK, that is., protection of IK against biopiracy. Hence, this would require looking at the provisions related to access to outside parties to the biological resources. Do these provisions in the Act and the Rules provide sufficient safeguards? The Act on this aspect mainly relies on the access and prior informed consent provisions. Who grants prior informed consent, on what basis, what will form the basis for deciding any benefit-sharing agreements, how will profits be evaluated, what forms of benefits would the community prefer, how will contracts be drawn up, are some of the concerns that need to be addressed.

Ownership and access to the resources for local and indigenous communities

The Act is silent on this very important matter of ownership of resource. We may, however, draw broad conclusions from the contours of the suggested access regime described in the Act and Rules.

The Preamble to the Act clearly states that the Act was legislated to fulfill the objectives of conservation, sustainable use and fair and equitable sharing of benefits. It, however, does not allude to indigenous communities as conservers, protectors, developers of the biological resources and the associated knowledge, and in that sense it makes a strategic departure from the rubric of the CBD. The departure is strategic as it

unilaterally precludes the grant of rights to indigenous and local communities over the biological resources, which would have been a logical corollary to the recognition of their role as is also suggested in the CBD.

Section 2 (f) defines the phrase 'fair and equitable benefit sharing' as something that will be determined by the National Biodiversity Authority. It has been pointed out that the determination of fair and equitable benefit sharing is a matter in which local persons and beneficiaries must have a strong say[14]. Again, it has been held that this actually amounts to a transgression of the rights of the local and indigenous communities, who being the actual beneficiaries of the benefits arising out of the use of their knowledge, would have no role in this process of determining equitable benefit sharing[15]. Commenting on the Act's provision for 'fair and equitable benefit sharing', Ramdas and Ghotge[16] have pointed out that by allowing patents and accepting the IPR regime, the legislation immediately contradicts any claims to promoting 'fair and equitable benefit sharing'. And that patents by their very nature, give enhanced /exclusive control and power over resources and or knowledge to an individual company, group or community[17].

Section 7 of the Act which relates to the requirement of prior intimation to State Biodiversity Boards for obtaining biological resources for bio-surveys or commercial utilization, is applicable to all citizens of India but exempts the application of this section to the local people and communities of the area, including growers and cultivars of the biodiversity, and *vaids* and *hakims* (the practitioners of indigenous medicine). This provision indirectly validates the claim of local and indigenous communities to access the biological resources of the area. Yet it doesn't support a claim to ownership of the biological resources.

Rule 14(3) lays down a duty on the part of the National Biodiversity Authority to consult the local bodies while granting any approval to any person for accessing biological resources. This Rule reflects the custodianship of local bodies over these resources.

Rule 20(8) transfers benefits directly to an individual or group of individuals as determined under the ABS agreement if the knowledge or the resource is accessed directly from a specific individual or a group of individuals. This clause implicitly

[14] M.K.Ranjitsinh, INTACH.
[15] Submission made by former Additional Secretary, Ministry of Environment and Forest, Government of India, to the Parliamentary Standing Committee on Science and Technology, Environment and Forests on the Biological Diversity Bill, 2000 on 19th June 2001.
[16] Ramdas, S., N.S. Ghotge, (undated), "The Biological Diversity Act of India and Peoples' Biodiversity Registers: Some Questions and Concerns".
[17] *ibid.*

recognizes the claim of primary ownership of the local communities over specific biological resources and knowledge.

It can be reiterated here that the Act does not include any direct and clear provisions on the question of ownership and access to biological resources. In this context it would be crucial to identify the benchmarks to provide a basis for establishing ownership. The scale of proof and admissibility of oral evidence are some issues that would need to be clarified before any real claims may be supported.

Protection of Biodiversity in Protected Areas

Section 36(2) of the said Act levies a duty upon the Central government, where it has reason to believe that any area rich in biological diversity, biological resources and their habitats is being threatened by overuse, abuse or neglect, to issue directives to the State Government to take immediate ameliorative measures and in addition offering such State Governments any technical and other assistance that is possible to be provided or needed. Again, section 37 of the Act declares that the power of declaring a Biodiversity Heritage Sites lies with the state government. It has been felt that the latter provision threatens the local and indigenous communities who live in forest areas where we find the maximum bio-diversity[18]. The Act fails to recognize communities as a critical component of this diversity, and thus specifies that when the state so wishes it may declare an area as "heritage site" and remove all communities from there. This is a completely anti-people clause. It fails to recognize that the intimate and intricate interaction of communities with their local genetic resources to sustain their livelihood plays a key role in furthering and enhancing bio-diversity.[19]

Suggestions have been advanced that the heritage sites should be designated only after consultation and moreover, consent of the affected communities[20]. Further, these should be in the control/management of local communities, and the provision for compensation made in the State Biodiversity Fund (provided under Section 32 of the Act) be applied only where there is a mutually agreed to dislocation/curbing of rights. Else, we will have the people-parks conflict recurring in another form, as decisions for which areas need to be conserved would be top-down [21].

Section 41(1) of the Biological Diversity Act directs every local body to constitute a Biodiversity Management Committee (BMC) within its area of jurisdiction for the purposes of promoting conservation, sustainable use and documentation of biological

[18] Ramdas and Ghotge, *op.cit.*
[19] *ibid.*
[20] Kalpavriksh, (undated), "The Biological Act 2002 and Rules 2004: Concerns and Issues".
[21] *ibid.*

diversity. Rule 22 of the Biodiversity Rules 2004 states the composition of this Committee, which includes a third reservation for women and 18% reservation for Scheduled Castes/ Scheduled Tribes. Although under this Act, the functions of this Committee have been broadly cited to promote conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and micro-organisms, Rule 22(6) of the Biodiversity Rules 2004 clearly states that the main function of the BMC is to prepare Peoples' Biodiversity Registers in consultation with the local people. The Register is expected to contain comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use or any other indigenous knowledge associated with them. The Rule also directs the Authority to specify the form of the Peoples' Biodiversity Registers, the particulars it shall contain and the format for an electronic database. The Authority and State Biodiversity Boards are also expected to provide guidance and technical support to the BMCs for preparing People's Biodiversity Registers. The mandate for preparing People's Biodiversity Registers could be hailed as a progressive step which could lead to both assertive and defensive protection. Maintaining a register for all their knowledge is a form of documentation of the knowledge which will keep it from being lost. Again, such documents could be a part of the minimum documentation for prior patent search as required by the TRIPs council, thus serving as an effective means of defensive protection. Once an electronic database is created at the level of BMCs, it could be used as such a document.

Despite its benefits, several apprehensions have been expressed regarding this ongoing process of creating Peoples' Biodiversity Registers. According to Ramdas and Ghotge[22] "the PBR appears to be a one-way extractive flow out of information, which will then be neatly controlled, in a centralized database where it then becomes easy for the State to negotiate/enter into agreements with private parties. There is no clarity on how this documented material could genuinely help people and communities. There are no mechanisms envisioned or planned for taking this documented knowledge back to communities. The flow of information seems to be completely one way with the other lane of the highway blocked permanently". It has been further felt that PBRs would serve no purpose unless the Act confers strong local community rights, recognition of the collective nature of this knowledge, provisions which facilitate genuine sharing and participation, those which prevent and protect local knowledge and biodiversity from misappropriation and those which allow the communities to say no to patenting of all life forms.[23]

[22] *op.cit.*
[23] *ibid.*

Again, mere documentation of IK is not sufficient for its promotion and growth in future. Several policies will have to be reviewed and revised so that IK could be validated and is perceived on par with other scientific modern knowledge. Only this will encourage usage of IK by the younger and future generations. It cannot be expected that mere documentation will actually keep the knowledge alive; knowledge will have to be used for it to flourish and develop further.

Access to Biological Resources by People who need to take Prior Approval

Section 3 of the Biological Diversity Act specifies that certain persons such as non-Indian citizens, NRIs, body corporate associations or organizations not incorporated/ registered in India or registered in India but have non-Indian citizen participation in its share capital or management, cannot undertake biodiversity related activities without the approval of the National Biodiversity Authority.

Further, section 7 of the said Act requires certain people and bodies such as Indian citizens, body corporate, association or organization registered in India, to give prior intimation to the State Biodiversity Boards about obtaining biological resources for commercial utilization.

These provisions, which differentiate between Indian and non- Indian citizens and companies, have been questioned by many. This has been felt to be unjustified, given that Indians (especially industrial corporations) are not necessarily any more responsible towards the environment or towards local communities and that some Indian Companies could just be local fronts for foreign enterprises. [24]

Rule 14(4) of the Biological Diversity Rules 2004 provides for the NBA to grant approval for access to biological resources and associated knowledge subject to such terms and conditions as it may deem fit to impose. This raises the question whether these terms and conditions incorporate the needs and ethos of the community associated with the particular knowledge. From a review of the various provisions in the Biological Diversity Act and the Rules made thereunder, it is quite apparent that there is no scope for community participation in determining the terms and conditions for access. This is further undermined by the fact that there is very weak or no representation of local community members on the State Biodiversity Boards or National Biodiversity Authority, which are the main players in this regard.

The issue of recognition of local people's rights over the resource and knowledge can also be gauged from the degree of their participation sought in the procedure

[24] Kalpavriksh, *op.cit.*

determining access to biological resources and associated indigenous knowledge for outsiders.

Rule 14(6) lays down some clauses, which have to be included into the agreement of access. This list of clauses ignores the livelihood concerns of the community. Though it does state that the applicant has to adhere to the limit set by the authority regarding the quantity and quality of the biological resources, this limit clearly excludes the livelihood requirements of the local communities. There is also a restriction imposed on the applicant to transfer biological resources and indigenous knowledge to any third party without the approval of the Authority. Herein the Authority completely usurps the right of the local community holding the indigenous knowledge to determine on the question of transfer of that IK. Considering the fact that communities the world over have played an important role in sustainable use of biological resources, we believe that they too should have the right to determine the appropriate mechanisms for conservation and sustainable use of the resource.

Another example of the State failing to recognize the crucial role of local communities in developing the biodiversity related knowledge is evident from Rule 15, where the State has relegated their position to being passive implementing bodies within the top down decision making structures of the NBA. Rule 15 lays down grounds for revocation of the grant of access or approval. On failure to comply with the terms of the agreement which would also include failure to adequately comply with the benefit sharing conditions of the agreement, the Authority shall put into effect the order of revocation by issuing directions to the concerned State Biodiversity Boards and the Biodiversity Management Committees.

Section 41(2) directs the National Biodiversity Authority and the State Biodiversity Boards to consult the Biodiversity Management Committees while taking any decision relating to the use of biological resources and knowledge associated with such resources. This should seemingly include a decision relating to access to the biological resource or to the associated knowledge. But this intent is not very clearly reflected in chapter IV which relates to Approval by the National Biodiversity Authority (NBA). It is only Rule 14(3) that enjoins a duty upon the NBA to consult the local bodies while granting any approval to a person for accessing biological resources.

According to Rule 16, the NBA is empowered *inter alia* to prohibit any request for access to biological resources if the activity is likely to have an adverse impact on the livelihoods of the local people. The underlying rationale in this rule alludes to the vital link of the local people with the biological resources in their vicinity. This interest taken along with other factors like customary rights of access and usage may provide the basis for a rights' claim.

What emerges from the reading of the Biological Diversity Act 2004 and the Rules thereto is that the Act has not been specifically enacted with the purposes of conservation of biodiversity but has an undoubted mandate to regulate access to biological diversity for which a number of state institutions – one at the national level and one for each state - have been created. Had the main intent of the law been conservation, there is a gamut of existing national and state laws such as the Wildlife (Protection) Act, 1972, the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986, Indian Fisheries Act, 1897, Coast Guard Act 1950, Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976, The Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981 and numerous notifications thereunder which could have been strengthened to plug the gaps and to deal with the new threats.

Multiple government agencies

It may be pointed out that presence of various governmental agencies is likely to create a conflict of interest unless some clear and common mandate and understanding is developed. This is well reflected in the Kani case from Kerala where a scientist from a government research institute initiated a new model for accessing the knowledge of the community and devised a benefit sharing mechanism with the community, the research institution and the private party involved. This innovative model, in spite of being a success and a lone example of its kind, died a premature death and failed largely due to the presence of a plethora of government institutions with differing degrees of interest in the matter (See Box below).

A team of TBGRI scientists working under the All India Coordinated Research Project on Ethnobiology, was part of a botanical expedition into the forests of the Western Ghats of Southern Kerala, in December 1987. This team was accompanied by a few men of the Kani tribe as guides. While the scientists would get exhausted by the end of the day, the tribal guides would show hardly any signs of tiredness despite eating very little during the day. They would just pick up some wild fruits from the forest and pop them into their mouths. The scientists collected some specimens of the plant (*Trichopus zeylanicus*) to study its properties. A detailed scientific investigation and pharmacological screening of the plant revealed the presence of certain glycolipids and non-steroidal compounds which had anti-stress, anti-hepatotoxic and immunorestorative properties. Eventually, the drug Jeevani was formulated with this and a licence was given to Arya Vaidya Phama (Coimbatore) Ltd. (a private company) for a period of seven years for a fee of Rs. One million (approximately $25,000). The Kani tribals were to receive 50% of the licence fee, as well as 50% of the royalty obtains ed by the TBGRI on the sale of the drug.

Despite TBGRI's well intentioned initiative, it attracted a great deal of criticism from within and outside government circles. Objections were raised by the Kerala Institute for Research, Training and Development of Scheduled Castes and Scheduled Tribes (KIRTADS), a Government of Kerala undertaking. It felt that the only way tribal medicine could survive was by preserving its original form and premises; otherwise it is liable to be misused as a convenient resource base for other systems of medicine. A further issue of concern was raised by the Forest Department of the state regarding the rights of the Kani's to access the plant. Most of the forests in the area have been declared as Reserved Forests under the Indian Forest Act, 1927, thereby curtailing peoples' access to the resources therein. A list of minor forest produce issued by the Forest Department giving access to the Kanis to some of the plants does not include the plant Trichopus zeylanicus. The Department did not give the Kanis the permission to grow and harvest the leaves of the plant.

Hence, different priorities and mandates of the different government institutes led to the complexity of the situation and failure of a well – intentioned initiative which could have benefited the community, aided in knowledge protection and also helped in conservation of the plant.

Besides, within the same department under different divisions, views pertaining to these matters may differ. For example, section 41 of the Biological Diversity Act, talks of the constitution of the BMCs which shall be consulted while taking any decisions relating to the use of biological resources and knowledge associated with such resources, occurring within the territorial jurisdiction of the BMC. This section further empowers the BMC to levy charges by way of collection fees from any person for accessing biological resources for commercial purposes from such areas. It may be apprehended that these clauses will come in conflict with the other laws on the related subjects which are also implemented by the same department. It is yet to be figured out how one will cope with the divergent views being offered by the different laws applicable to the same territories, e.g., the exploitation of the forest has so far been as per the Working Plans and Working Schemes now which have to be approved by the Centre[25]. It is not clear enough henceforth how the exploitation and the sustainable use will be determined and will the BMCs be competent enough to decide upon these matters. This conflicting situation can also be inferred from the fact that the Forest Department has often had reservations about the community groups being effective in forest management, whereas the Act suggests that the National Biodiversity Authority and the State Biodiversity Boards should consult the BMCs on several issues related to conservation of biological resources.

Multiple institutions at the local level

Conflicts in functioning are likely to arise with the presence of the elected local body – Panchayats and the other institutions such as Forest Management Committees, Eco-development Committees, Water Users Associations and the Biodiversity Management Committees. Implementation of some of the programmes falling under some subjects has been given to the elected Panchayats but these Panchayats have little financial resources to manage the programmes. Whereas the various other sectoral institutions at the same local levels such as the FPCs, WUAs etc created under international support are well – endowed with resources and hence are more powerful in implementing programmes within their sector.

[25] After the Godavarman decision, the Supreme Court had made it mandatory for all Working Plans to be approved by the Centre

Conflict likely between Various Legislation

Initially, the Biological Diversity Act was designed as an umbrella Act, and as a herald of a new age, it would have overridden many of the earlier acts such as the Forest Act designed in the colonial era. As passed, however, it only has the status of a complementary Act and will have to be operated side by side with a whole range of other Acts, including, in particular, those pertaining to forest, wild life, panchayati raj (village governance) institutions, plant varieties and farmers' rights, and patents. Thus, there are a number of potential conflicts in the working of these various laws that need to be resolved carefully to ensure that the Biological Diversity Act, 2002 can be effective.

IPRs and the Biological Diversity Act

Under section 6 of the Act, a person must obtain the prior approval of the NBA before he applies for Intellectual Property Right in or outside India for any invention based on any research or information on a biological resource obtained from India. In case of a patent, the permission from the NBA can be obtained after the acceptance of the patent but before sealing of the patent by the concerned Patent Authority. However, this provision does not apply to an application made securing any right under any law relating to protection of plant varieties.

It may be pointed out that the required approval from the NBA might create situations where the jurisdiction of the Patent Authority will come in conflict with that of the NBA. Though, a strict interpretation of the language in the Act would reveal that the purpose of the approval does not come in conflict with the Patent Authority's jurisdiction. However, there is need to bring in co-ordination between these two authorities while deciding on a patent application. It will help not only in deciding whether the subject matter of a particular application is based on IK, but also to check any attempt to evade the requirements under the BDA.

The above provision, providing for an approval procedure for a patent or any other intellectual property right based on any Indian biological material and knowledge, is seen by several groups campaigning against "patents on life" as a significant departure from the earlier stance of the Government of India.[26] The Act does not prohibit IPRs and, therefore, the criticism is that it facilitates the privatization of India's indigenous knowledge. The Act only forbids an application for any IPR in or outside India without prior approval of the NBA. Neither the procedure in the relevant Rule 18 nor the Form III for seeking such approval requires consultation with or consent of communities.

[26] Kalpavriksh, *op.cit.*

On the occurrence of an instance of biopiracy, the NBA is empowered by the Act to take any necessary action to oppose the grant of IPR in any country outside India on behalf of the Government of India [Section 18(4)]. In the absence of a globally agreed single forum wherein such cases can be challenged, the NBA may have to only engage in fire-fighting at different patent and or trade mark offices overseas.

Also, it has been realized that to check biopiracy, national action alone is not sufficient. The onus must also be shared by the users of this knowledge all over the world so as to ensure compliance of the consent requirement for using the knowledge and equitable sharing of benefits as visualized in the CBD.[27]

4.1.3. THE PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

The Protection of Plant Varieties and Farmers' Rights Act, 2001 was enacted to fulfill India's TRIPS obligations under Art. 27.3(b), as per which India had to provide protection to plant varieties through patents or a *sui generis* system or a combination of both, with India finally opting for the *sui generis* option. The Act does not directly address the issue of IK protection as such and, therefore, it is essential to analyse the implicit import of the Act in terms of protection of IK, relying on the rules of statutory interpretation.

Some Pertinent Definitions

Amongst the definitions that are of importance in the context of IK protection, is that of "breeder". A "breeder" has been defined as "a person or a group of persons or a farmer or group of farmers or any institution which had bred, evolved or developed any variety". It, therefore, includes a wide range of persons including a forest dwelling tribe or other local communities or individuals. Moreover the definition of "farmer" means any person who

(i) cultivates crops by cultivating the land himself; or
(ii) cultivates crops by directly supervising the cultivation of land through any other person; or
(iii) conserves and preserves, severally or jointly, with any person, any wild species or traditional varieties through the selection and identification of their useful properties.

[27] Submission by India at the TRIPS Council, 2000, "Protection of Biodiversity and Traditional Knowledge-The Indian Experience", IP/C/W/198.

The Act, thus, provides for an expansive definition which recognizes the farmer as a cultivator, conserver and breeder. It embraces all farmers, landed or landless, male and female. Most importantly, local communities that may not be practicising agriculture in the strict sense of the term but have been involved in the conservation and preservation of wild species or traditional varieties through selection and identification of their useful properties are included in this definition. This is directly related to the protection of IK.

Functions of the Protection of Plant Varieties and Farmers' Rights Authority

Section 8 of the Act lays down the general functions of the Protection of Plant Varieties and Farmers' Rights Authority. Section 8.2(a) clearly states that the registration of new extant plant varieties would be subject to such terms and conditions and in the manner as may be prescribed. On the other hand, section 2(j) defines extant varieties as those which may be notified under the Seeds Act or a farmer's variety, or a variety about which there is common knowledge or that which is in the public domain. Indigenous knowledge regarding agrobiodiversity, specifically relating to plant variety, would fall largely under this category. In this context, the regulatory flexibility inherent within Article 8, mandating the authority to lay down specific terms of conditions of registration on a case to case basis would enable it to take into consideration concerns of IK holders and/or the rights of other users of that plant variety. The Authority, under section 8.2(c) also has the function of documenting, indexing and cataloguing farmers' varieties – this would help establish a database and would form part of a defensive mechanism of protecting IK in plant varieties from biopiracy - by enabling a prior art search. The Authority also has the responsibility of "collecting statistics…including the contribution of any person at any time in the evolution and development of any plant variety". This provision attempts at evolving a search for facilitating access and benefit sharing. However, by limiting this provision to "any person", it remains inadequate; since it clearly ignores the fact that IK relating to plant varieties could be dispersed in terms of ownership and need not be limited to an identified individual.

Requirements for Registration

Section 18 lays down the content of the application form for registration of plant varieties provided for under section 14. One of the mandatory requirement of the application is a disclosure clause relating to the passport data of the parental lines from which the variety has been derived along with its geographical location in India from where the genetic material has been taken and the contribution, if any, of any farmer, village community, institution or any organisation in breeding, evolving or developing the variety. The breeder or other person making application for registration must disclose information regarding the use of genetic material conserved by any tribal or rural families in the breeding or development of such variety. The language of the section is

sufficiently expansive to include any local or indigenous community that may have contributed in any way to the variety. The words 'breeding, evolving or developing' would cover any small function or activity that would have contributed to the growth of that variety. This section, therefore, is a crucial backgrounder to establishing regimes of prior informed consent and access and benefit sharing vis-à-vis plant varieties. The section also further asks for documentary proof of prior informed consent by demanding a declaration that the genetic material/parental material acquired for breeding has been lawfully acquired. These provisions pertaining to disclosure are further reinforced by section 28 (9) which states that failure to disclose any fact to the application may lead to the cancellation of registration.

Grounds for Opposition

Section 21(3) provides for grounds for opposition to applications for registration. Among the four specified grounds, the third refers to the grant of a certificate of registration which may not be in public interest and the fourth, to the variety having an adverse effect on the environment. These two grounds provide policy flexibility to the Authority. The term 'public interest' in itself is not a static term with well defined boundaries. It is a flexible phrase that has been extensively interpreted by the courts to enforce a wide range of public values. In this context, the public interest clause could well be used to stop the grant of registration of varieties that involves usurpation of IK. This clause could, therefore, be used to protect IK.

Rights of Breeders of EDVs

Section 23 (6) extends the rights of the breeder contained under Section 28 to the breeders of the EDVs (Essentially Derived Varieties). There is a proviso attached to this section that clearly provides that the authorisation by the initial breeder to that of the breeder of EDV may be subject to the terms and conditions mutually agreed to by the parties. This clause, thus, makes the rights of breeders of EDVs contingent, on certain agreed terms and conditions, which prevent extension of near monopoly rights without any agreement between the initial breeder and the breeder of the EDVs.

Benefit Sharing

Section 26 relates to the determination of benefit sharing by the Authority. After the receipt of the copy of the registration the Authority shall publish it, in order to invite claims of benefit sharing to the variety registered. The claims in this regard can only be filed by persons, groups of persons, organisations who are citizens of India/have been established or registered in India. The Authority has been given the responsibility for determining the amount for benefit sharing and also a clear mandate to provide for a

precise allocation of the amount of the benefit sharing between the claimants. This section ensures that the use of farmer varieties to breed new varieties will have to be paid for. Revenue generated in this way is to flow into a National Gene Fund.

Farmers' Rights

One of the most pertinent and distinguishing aspects of the Protection of Plant Varieties and Farmers' Rights Act, 2001 is its provision for strong farmers' rights (in sharp contrast to 'privileges' or 'exemptions' or 'concessions' to farmers). As advocacy positions go, most national and international civil society groups have been equating Farmers' Rights with Plant Back rights. This means the farmer would be allowed to save seed from the harvest grown from a variety under Breeders' Rights, to sow the next crop. Gene Campaign's position has been quite different. We have maintained that plant back rights are no rights, only exemptions. Such exemptions, sometimes referred to as Farmers' Privilege, were allowed by Breeders in the early years of UPOV and were limited to plant back rights in varying degrees. We insisted that Indian law has to grant well defined rights, not just provide 'beggarly' exemptions, to its farmers. These rights have to be recognised because of the past and present contributions made by the farming community to the conservation of agro-biodiversity and their role as dynamic breeders of new varieties which anchor the food security of the world. As a result of the pro- active role of NGOs like Gene Campaign, the Act of 2001 provided for strong farmers' rights.

The Farmers' Rights provided by the Act are:

(i) Farmer's right to register traditional varieties

A farmer who has bred or developed a new variety can get his variety registered in the same manner as the breeder of the variety. The farmer's variety qualifies for registration if the application contains a declaration that the genetic material or parental material acquired for breeding the variety has been lawfully acquired. This grants the farmer the exclusive legal right to produce and market his seeds.

(ii) Farmer's right to reward and recognition

The National Gene Fund rewards the farmers engaged in conservation and improvement of genetic resources. Preserving wild relatives of economic plants and improving it through selection is also entitled to credit. Such material selected and preserved by the farmer, however, should have been used as donors of genes in varieties registrable under the Act. The whole idea of rewarding is to encourage conservation undertaken by farming and tribal communities. Farmers conserving

traditional varieties and wild species of crop plants are deemed eligible to receive reward and recognition.

(iii) **Farmer's right to seed**

A farmer is entitled to save, use, sow, resow, exchange, share or sell his farm produce including seeds of a variety protected under the Act in the same manner as was entitled before the implementation of the Act. The farmer is however, not entitled to sell branded seed of a variety protected under the Act. Branded seed means any seed put in a package or any other container and labeled in a manner indicating that such a seed is of a variety protected under the Act. This provision, thus, allows the traditional rights of farmers on seeds of all varieties, including the protected varieties, while plant breeders' rights are allowed to breeders. Legal protection to this traditional right to save, re-sow, exchange, share or sell seeds is important to the majority of Indian farmers and to Indian agriculture. To further safeguard this right on the seeds of registered varieties, the Act prohibits the use of technologies like the terminator gene technology, which destroys the germination capability of saved seeds.

(iv) Protection against innocent infringement

A farmer cannot be prosecuted for infringement of rights specified in the Act if he can prove in court that he was unaware of the existence of such a right. This is a significant departure from the general legal rule that ignorance of law is no exception. The reason behind designing such a protection is that it is not uncommon in Indian households to reuse the packets or container of any substance. So a farmer should not be penalised for putting seeds in a container or bag of a protected seed, but should rather be excused on the pretext of ignorance. This definitely counters the threat that farmers otherwise face from the seed companies etc. This provision is noteworthy as it takes care of the ethos of agricultural India and its consequence is in favour of farmers.

(v)Farmer's right to compensation

The Act states that if the seed supplied does not perform as has been promised by the breeder/ company, the farmer shall have the right to claim compensation. However, it has been felt that the clause is weakly framed, leaving too much to the discretion of the Authority[28]. Companies selling poor quality seeds with tall claims have been the cause of several crop failures leading to irrecoverable losses for the farmer, sometimes with the tragic consequence of farmers committing suicide. The compensation should be

[28] Sahai, S., "India's Plant Variety Protection and Farmers' Rights Act, 2001", *Current Science*, Vol. 84, No.3, February 10, 2003

specified and should be large enough to be a deterrent. If it is proven that the breeder has made false claims and the farmer has suffered a crop failure, then compensation should be awarded amounting to at least twice the projected harvest value of the crop. In addition, a jail term should be provided if the breeder repeats the offence of selling bad quality seeds.

(vi) Farmers' right to free service

The Act exempts any farmer or group of farmers or village community from payment of any fee in any proceeding before the Authority or Registrar or the Tribunal or the High Court under the Act or the Rules made there under.

The Protection of Plant Varieties' and Farmers' Rights Act also includes public interest clauses, like exclusion of certain varieties from protection and the grant of Compulsory Licensing. To secure public interest, certain varieties may not be registered if it is felt that the prevention of the commercial exploitation of such a variety is necessary to "protect order or public morality or human, animal and plant life and health or to avoid serious prejudice to the environment'. The Act provides for the granting of compulsory license if it is shown that the reasonable requirements of the public for seeds have not been satisfied or that the seed of the variety is not available to the public at a reasonable price. The breeder is entitled to file an opposition but should the charge be valid, the breeder may be ordered by the Authority to grant a compulsory license under certain terms and conditions including the payment of a reasonable license fee. Compulsory License, however, will not be awarded if the Breeder can demonstrate reasonable grounds for his inability to produce the seed.

Clauses Requiring Amendment

This *sui generis* legislation enacted by India is not without drawbacks and according to Dr. Sahai[29] the following clauses need amendment:

Benefit Sharing

It has been pointed out that despite its good intentions of protecting the interests of the farming community, the Act is likely to create problems in implementation because the description of the National Gene Fund is confused and poorly drafted.[30] Further, it has been stressed that the Gene Fund should be the recipient of all revenues payable to the

[29] Sahai, S., "India's Plant Variety Protection and Farmers' Rights Act, 2001", *Current Science*, Vol. 84, No.3, February 10, 2003
[30] *ibid.*

farming communities under various heads[31]. This money should be collectively, rather than individually, are accessed by farming communities. Exceptions could be made where individuals are clearly identified as breeders' of specific varieties. Farmers should have the right to decide how this money that they have earned will be spent. The use of the money should not be restricted to conservation or for maintaining ex situ collections. The method for fixing and realising benefit sharing should be made simpler and easier to implement. One approach to fixing benefit sharing could be a system of lump-sum payments, based for example on (projected) volume of seed sale.

Protection against Bad Seed

In providing a liability clause in the section on Farmers Rights, the farmer in principle is protected against the supply of spurious and/ or poor quality seed leading to crop failures. At present there is too much left to the discretion of the Plant Variety Authority which will fix the compensation. This could lead to arbitrary decisions and should be amended. If it is proven that the breeder has made false claims and the farmer has suffered a crop failure, then compensation should be awarded amounting to at least twice the projected harvest value of the crop. Compensation should be large enough to be a deterrent. In addition, a jail term should be provided if the breeder repeats the offence.

Protection against innocent infringement

As already stated earlier, the legislation has also attempted to address a concern voiced by several quarters, that when the new system of Plant Breeders Rights is imposed for the first time, there will probably be many cases of unknowing infringement of Breeders Rights. Section 43 specifies (somewhat fuzzily) that the farmer cannot be prosecuted for infringement of rights specified in the Act if he can prove in court that he was unaware of the existence of such a right. This well intended point is badly made and will have to be made more specific. Nothing is said about what would constitute a violation of Breeders' Right. This becomes especially critical since the Act would allow the farmer to sell generic seed of the variety protected by Breeders' Right. And what would constitute proof in a court of law that the farmer was unaware of the existence of such a right? In all likelihood this will boil down to a 'your word against mine' situation and be very difficult to prove.

[31] *ibid.*

Breeders' Rights

Breeders Rights over the varieties they have developed are more than adequately protected by the legislation. On registration, the Breeder has rights of commercialisation for the registered variety either in his/ her own person or through anyone he designates. These rights include the right to produce, sell, market, distribute, import or export a variety, in short, full control over formal marketing.

The strong protection granted to a plant breeder over his/ her variety is seen in the section dealing with infringement of Breeders Rights where punishment in the form of substantial fines and jail terms has been prescribed for those who infringe the rights of the registered breeder.

Violation of Breeders right can be construed at several levels. It applies to the variety itself as also to its packaging. Infringement will be established if the packaging is the same or even similar, such that the package could appear to be that of the Breeder. Legally, a similar looking package will be considered " Passing Off" and so actionable. Any one, other than the Breeder, naturally can not use the registered name or denomination. The use of the same or similar name in any way, by action or even suggestion, will constitute a violation and will be punishable. Penalties are prescribed for applying a false denomination and for selling varieties to which a false denomination is applied.

The Breeders Rights have been strengthened to the extent that if there is a mere suspicion of violation or infringement, the onus of proving innocence is placed on the alleged violator. In any prosecution for falsely using a denomination, the burden of proof is reversed and it is incumbent on the alleged violator to prove that the consent of the Breeder was obtained. This is excessive and needs to be toned down. The normal course in law is for the accuser to furnish proof for the accusation and so it must remain in this case too. The grounds constituting violation are laid out in such elaborate detail, listing the smallest acts that can be construed as infringement in a way that the hold of the Breeder over his variety is very strong indeed. Unless the alleged violator proves that he acted in innocence, without the intention to defraud , jail terms and penalties are stiff.

The Indian legislation in providing a well-defined breeder's right provides sufficient incentive for the seed industry to invest in this sector. At the same time, it is important to recognize that IPR protection does not necessarily deliver a successful product. If a

variety decisively provides an advantage, it will be bought, if it does not, it will fool the farmers for a few seasons and then fail. It is also necessary to keep in mind that all IPR systems must strike a balance between the monopoly granted to the IPR holder, in this case the Plant Breeder, and the benefits to society, in this case the farmers and consumers. Since nobody concerned with public interest would want plant breeding to shift into just a few hands, it is important to maintain competition and vitality in the plant breeding sector. That is why freedom and rights for other researchers to use all genetic material, including IPR protected material, is important. An IPR system in a country should not grant such strong rights to breeders that farmers suffer and their livelihoods are threatened. On the other hand, the breeders' innovation should be rewarded so that they continue to breed useful varieties to benefit agricultural and food security.

Rights of Researchers

The Act has provisions for Researchers Rights which allows scientists and breeders to have free access to registered varieties for research. The registered variety can also be used for the purpose of creating other, new varieties. The Breeder cannot stop other breeders from using his/ her variety to breed new crop varieties except when the registered variety needs to be used repeatedly as a parental line. In such a case, authorization is required. There are, however, some views that the Indian law actually grants very restricted rights to researchers because of the acknowledgment of Essentially Derived Varieties, EDV, which is defined in detail in the 1991 UPOV Convention. According to the expansive definition of EDVs, it is felt that all kinds of research will become subject to the Breeders' authorization if a protected variety is used for research. In the Indian Act, the Breeders' authorization is needed for making EDVs . The processes for making EDV have been made so encompassing in UPOV (natural selection, mutant selection, somaclonal variants, backcrosses and transformation by genetic engineering) , that all known forms of creating new varieties would be covered. This would squeeze the researcher's space to the extent that for practically any kind of research on the protected variety, the authorization of the breeders would be needed, establishing their control on a lot of germplasm.

Despite the above weaknesses, the Indian law has been hailed as a progressive, pro-developing country legislation, which succeeds in balancing the rights of Farmers and Breeders and exploits the flexibility granted in TRIPS, in an intelligent manner. In addition to the rights of breeders and farmers, there are clauses to protect the rights of Researchers and provisions to protect the public interest as well. The Indian legislation is the first in the world to grant formal rights to farmers in a way that their self-reliance is not jeopardized. What is significant and positive about this legislation is that it charts its own course, deviating from the norms set by UPOV on *sui generis* legislation and

successfully incorporates principles of the Convention on Biological Diversity (CBD), on prior informed consent and sharing of benefits with farmers.

The bearings of the recent Seed Bill on the PPVFR Act

However, while discussing the merits of the Protection of Plant Varieties and Farmers' Rights Act, one also needs to go into the provisions of the Seed Bill, 2004, which can be expected to have some bearing on the former legislation. The Seeds Bill 2004 has been introduced for the purpose of regulating the quality of seeds for sale, import and export and to facilitate production and supply of seeds of quality and for matters connected therewith or incidental thereto. The provisions of the proposed Act shall be applicable to every dealer and every producer who produces for commercial purposes. Those producers who produce for their own use and not for sale are excluded from the purview of the Act.

The provisions of the Seed Bill that governs the seed trade has important implication for plant breeders, particularly those involved in production not for a strictly trading purpose e.g. the Farmers. This makes the compatibility of the Seed Act and the PPVFR Act a very important issue. However a comparison of the provisions of the two brings out certain incoherence. Thus-

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(i) Both the instruments provide for Registration. However, while registration under PPVFR Act is voluntary, the Seed Bill requires mandatory registration of the varieties or seeds. Under the PPVFR Act, the farmers can sell the seeds of a variety registered under the Act (though, not as branded seeds), but under the Seed Bill, no seed of any kind or variety can be sold for the purposes of sowing or planting by any person, unless such seed is registered. This affects a traditional practice of farmers to sell seeds from their fields. Another relevant issue here is, while the PPVFR Act exempts farmers from paying any fees for registering their varieties, under the Seed Bill there is no such exemption.

(ii) The PPVFR requires the declaration of the origin of the variety with pedigree details. But the Seed Bill does not require such declarations. The silence of the Seed Bill in origin and ownership aspects can facilitate unrestricted commercialization of varieties in the public domain, including Farmer's varieties, by private parties. Further there is no provision for benefit sharing.

(iii) The PPVFR allows legitimate opposition to the grant of a registration for a new variety before registration is granted. It gives people an opportunity to raise legitimate concerns if they have reason to think that the variety is not what is claimed. In the case

of the Seed bill, the general public will come to know only after registration is granted. The registered will be made known only through periodic publications and unlike PPVFR there is no provision for inviting objections before granting of registration.

(iv) The Plant breeder's right under the PPVFR is valid for a period of 15 years for crop varieties and 18 years for trees. The Seed bill allows the period of protection to be doubled so that the seed producer can protect the seed variety for 30 years and 36 years respectively. This extension of the seed owner's right will allow monopolies to be established.

(v) Unlike the PPVFR, the Seed Bill has no provision for compulsory licensing to ensure adequate supply of seeds at a reasonable price.

(vi) The PPVFR takes special care for the issue of compensating farmers for spurious or poor quality of seeds. Under the Seed Bill the farmers are left with the only option of going through the rigors claiming compensation through Consumer Courts.

The Seed Bill still has not come as an Act. The PPVFR though, has received the nod from Parliament and awaits notification and enforceability. The apparent incoherence between the two legislations on closely related subjects could prove futile in turning objectives into reality.

4.1.4. THE GEOGRAPHICAL INDICATIONS OF GOODS (REGISTRATION AND PROTECTION) ACT, 1999

The need to protect Indian's famous products, the reputation of each of which was carefully built up and painstakingly maintained by the masters of that region, combining the best of Nature and Man, traditionally handed over from one generation to the next for centuries, through geographical indications, was acutely realized following the basmati case. In 1997, the US Patent Office granted a patent on Basmati rice to an American company called Rice Tech Inc. Basmati is a slender, aromatic, long grain variety of rice from the Punjab provinces of India and Pakistan. It is a major export crop for both countries; annual Basmati exports are worth about $300 m and represent the livelihood of thousands of farmers. In the absence of domestic legislation then, to, protect GIs, India had no option but to resort to the expensive procedure of challenging the patent.

In view of these circumstances, it was considered necessary to have a comprehensive legislation for registration and for providing adequate protection for geographical indications. For, unless a geographical indication is protected in the country of its origin, there is no obligation under the TRIPS Agreement for other countries to extend

reciprocal protection. Also, India being a party to the TRIPS Agreement is required to protect geographical indications and hence in order to fulfill that obligation, the Geographical Indications of Goods (Registration and Protection) Act, 1999 was enacted. The main benefits which follow from registration under the Act are; it confers legal protection to geographical indications in India, it prevents unauthorized use of a registered geographical indication by others, it boosts exports of Indian geographical indications by providing legal protection, it promotes economic prosperity of producers and it enables seeking legal protection in other WTO member countries. Here, the discussion would be confined to those provisions of the Act, which have a bearing on protection of IK of biodiversity.

Definition of Geographical Indication

According to the definition given in the Act[32], a geographical indication in relation to goods[33], means that it is an indication, used to identify agricultural, natural or manufactured goods. The goods which it identifies originate from a definite geographical territory, the manufactured goods should be produced or processed or prepared in that territory and the goods which it identifies should have a special quality or reputation or other characteristics due to its geographical origin. It is not necessary that a GI has to be the name of a country, region or locality; it will be regarded as a GI if it satisfies two conditions: it is related to a specific geographical area and is used in connection with particular goods originating from that area.[34] Section 2.1(g) gives a list of the indications which can be called GI which are; any name, geographical or figurative representation or any combination of them conveying or suggesting the geographical origin of goods.

From the perspective of protection of indigenous knowledge, one of the best features of the Indian Act is the comprehensive definition given of GI, whereby agricultural, natural and manufactured goods all come under the ambit of GI. This is especially important in the Indian context considering the wide variety of goods that is deserving of protection ranging from agricultural products like Basmati, Darjeeling tea to manufactured goods such as Agra ka petha, Kolhapure chappals, Chanderi silk etc.

Collective Ownership

The provisions of the GI Act can be regarded as adequately suited for the protection of the IK of the communities. Section 11 provides that any association of persons, producers, organization or authority established by or under the law can apply for

[32] Section 2.1 (e)
[33] Section 2.1 (f) provides that goods mean any agricultural, natural or manufactured goods or any goods of handicraft or of industry and includes food stuff.
[34] Explanation to section 2.1 (e).

registration of a GI. This section especially facilitates protection of the collective rights of the rural and indigenous communities in their IK.

Protection in perpetuity

Another positive feature of the Act is that by registering an item which is the product of IK as GI, it can be continued to be protected indefinitely by renewing the registration when it expires after a period of ten years. This is unlike the protection offered by a patent; after patent lapses, the subject matter of protection comes into the public domain.

Extension of Additional Protection

The Indian Act also deserves applause for the fact that it has tried to extend the additional protection reserved for wines and spirits mandated by TRIPS to include goods of national interest on case to case basis. Section 22.2 of the Act provides the Central Government with the authority to give additional protection to certain goods or classes of goods. As seen earlier, India is also exerting pressure in the TRIPS Council in this regard so that high quality products of importance to India based on the IK perfected over centuries can be protected.

Prohibition of Registration of a GI as a Trademark

Section 25 of the Act, by prohibiting the registration of a GI as a trademark, tries to prevent appropriation of a public property in the nature of a geographical indication by an individual as a trademark, leading to confusion in the market. This provision is conducive to the protection of IK, which may be regarded as a public property or the heritage of a community .The entire community which, has preserved the knowledge and has passed it on with incremental refinement over generations, should stand to benefit from the knowledge and this should not be locked be up as the private property of one individual.

However, the fact remains that Section 25 is diluted to a great extent by the exception contained in Section 26, by which a trademark containing or comprising a GI is protected on fulfillment of certain conditions. A trademark containing a GI is protected, which has been applied for or registered in good faith under the trademarks law or where such trademarks have been used in good faith either

(a) before the commencement of the Geographical Indications Act; or

(b) before the date of filing the application for registration of such geographical indication under the Act.[35]

The Act also does not apply to GIs which have become the common name of goods in India on or before 1st January, 1995.[36]

Prevention of Assignation and Transmission

Again, as per section 24, a GI cannot be assigned or transmitted. The Act recognizes that a GI is public property belonging to the producers of the concerned goods; as such it cannot be the subject matter of assignment, transmission, licensing, pledge, mortgage or any contract for transferring the ownership or possession. This feature is essential for protection of IK and to ensure that it does not pass on to the hands of those who are not holders of the knowledge.

Measures to Protect GIs in India

GIs, both at national and international level are primarily faced with two kinds of risk, one arising from their generic use to indicate a class of products without any regional nexus and the other from their dilutive use as trademarks on similar or dissimilar goods or services. Such enforcement is further compounded by the difficulties arising from the civil law and common law divide internationally, among various jurisdictions, the former insisting on formal registration in the country of disputed use and the other insisting on proof of local reputation and goodwill in the country of disputed use.

Geographical Indications have emerged as one of the important features of the IPR regime of India. In India, there has been an effort to increase the list of protected GIs. After the Geographical Indications Act came into force on September 15th 2003, applications for registration as GI has been filed in respect of Darjeeling tea, Kancheepuram silk, Chanderi silk sarees, Alphonso mangoes, Basmati rice, Kohlapuri sandals, Bikaneri Namkin, apples from Himachal and Kashmir, Petha from Agra, Pedha from Mathura etc.' some of which like Darjeeling tea, Chanderi silk have been notified as GIs.[37]

Apart from this, India has also resorted to other measures. After long litigation in the case of the Basmati patent, which resulted in ultimately changing the title of the patent, India has set up a Basmati Development Fund, a watch agency to keep a worldwide

[35] Section 26 (2).
[36] Section 26 (3).
[37] "Intellectual Property Rights of Darjeeling Tea in the Age of Globalization and World Trade", *American University-Trade and Environment Database Journal*, Number 752, July 2004.

watch for new trademark applications of Basmati rice or its deceptive variations. In order to protect a valuable GI, its registration under the Act is not sufficient. Many a geographical indication has died a natural death because those who owned the rights were negligent in stopping any kind of abuse of the geographical indications. Communities that own geographical indications must, therefore, be alert to any misuse or abuse of their geographical indications. Instances of abuse and misuse would include use of the geographical indication in respect of similar or dissimilar goods (eg. 'Champagne' in respect of mineral water or perfumes), use of a geographical indication in lower case ('basmati' in place of 'Basmati'), use of a geographical indication as a qualifier or laudatory term ('Champagne of mineral water'), use of a geographical indication in a generic sense ('Darjeeling type tea') etc.[38] The digital and internet age abuse of geographical indications would be the use of a geographical indication as a domain name when the owner has nothing to do with a product in the geographical indication or simply squatting on the domain to derive a monetary gain from the true owners or selling identical goods not originating in the correct place as indicated by the geographical indication through the internet using the domain name[39].

Again, apart from getting GIs protected, due care needs to be taken to maintain and ensure the quality of the GI protected goods, both in India and while exporting them abroad. Owners of GIs have a collective responsibility to ensure that the quality or supply chain integrity is maintained at all stages.

GIs from developing countries like India are mostly agricultural products like rice, tea, dairy products etc. and products of handicrafts such as textiles etc. Most of such products constitute a major source of livelihood and income for rural populations producing them. As such, GIs may be expected to serve as tools for protecting the indigenous knowledge as well as acting as mechanisms for socio- economic development of such communities in developing countries. However, it needs to be pointed out that though GIs are considered free of the many adverse socio-economic results of corporate control and accumulation of IPR rights, it is important to recognize that GIs do not in any way protect the knowledge embodied within the good and/or associated production process. Consequently, neither is protection of GIs a guarantee against the misappropriation of indigenous knowledge nor are other strategies to protect IK precluded by the use of GIs.

[38] Nair, L.R., R. Kumar, 2005, *Geographical Indications: A Search for Identity*, New Delhi: Lexis Nexis, pp. 199-200.
[39] *ibid.*

4.1.4.1. POTENTIAL GIS OF ASSAM- A CASE STUDY

Gene Campaign, as part of this project, had looked into the potential of GIs in contributing to the socio- economic development of the North- Eastern state of Assam. This region, despite being one of the richest regions in India in terms of natural resources, indigenous knowledge and products or commodities with valuable reputations, remains one of the least developed. The problem of misappropriation of the products of Assam could be expected to be compounded further, considering the fact that the North- East region of India has very porous borders. While close proximity to the markets of Bangladesh, Myanmar, China, Bhutan and even the markets of Thailand, Malaysia, Indonesia could be expected to give a fillip to exports from the state, the 'Look East' Policy of the Indian Government, might make its exclusive products increasingly vulnerable to misappropriation in the absence of legal protection.

A few products of Assam have received worldwide attention and fame; Assam silk being one of them. Assam produces three varieties of silk :*pat, muga* and *edi*. The terms *pat* and *edi* are derived from the Sanskrit words, *pattaja* and *erandaja* respectively but there is no Sanskrit equivalent for *muga* which seems to indicate that *muga* is an exclusively indigenous product of Assam. The name *muga* has been given to it on account of its golden yellow colour resembling the colour of the yellow muga pulse. Historical evidence suggests that Assam's silk industry had reached the pinnacle of perfection by the 7th century A.D. Banabhatta, the author of Harshacharita, informs us that the Kamarupa(Ancient Assam) king Bhaskara Varma presented to Harshavardhana silken towels as "silken and pure as the autumn moon's night…". In the present day, the *muga* silk constitutes the state's most popular export product after Assam tea. *Muga* silk is one of its own kind, popular for its natural golden colour, glossy texture and durability and is obtained from the multivoltine silkworm (*antheraeaassamensis*). The rearing of the *muga* silkworm, extraction of its silk and weaving of the *muga* silk fabric are age-old practices in Assam, which are entwined with the tradition, culture and religion of Assamese society. Realizing the value of *muga*, the Patent Information Centre of the Assam Science, Technology and Environment Council (ASTEC) has already made an application for registration of *muga* silk as a GI. Apart from *Muga*, the other products of the region with valuable reputations include Assam tea, *Joha* rice, brass and bell metal products etc.

Assam tea (*Camellia sinensis var assamica*), grown in the lowlands of Assam, is a special kind of black tea renowned the world over for its body, briskness, malty flavor, and strong, bright color. Historically, Assam has the second largest commercial tea production region after China. There exists a 10th century Sanskrit medical text from

Assam called *Nidana* that mentions leaves called *shamapatra* from which *shamapani* was made.The tea industry in Assam has a long history going back to the colonial period; Robert Bruce is credited with the discovery of the tea plant in Assam as early as 1823. Today, Assam produces more than half the tea grown in India. On the international market, Assam Tea can be identified by the official logo chosen by the Tea Board of India.

Joha is a scented variety of winter rice that grows only in Assam. Actually, there are about five to six varieties of *joha*; the most famous being the *kunkuni, keteki* and *tulsi joha.* It is claimed that the *joha* except for its size, can compete with basmati in every other respect. After boiling, the size of the basmati grain is about 12 mm while this is 8 mm; however, some regard its scent as even much better than basmati. The rice, organically grown, has already made a very good impression at several international festivals, particularly among European rice importers at the world-famous BIOFACH in Germany in the year 2005.

Brass and bell metal works in Assam also have a very old history. The manufacture of brass and bell- metal articles in Assam has been traditionally practiced by a particular community known as the Mariyas, who were descendants of the prisoners of war during Turbak's invasion of Assam about 1506 A.D. Bell metal utensils are manufactured by casting in moulds, while brass vessels are made out of thin sheets of metal which are beaten out and pieced together. The principal items are the *kalah (*water pot), *sarai* (a platter or tray mounted on a base), *kahi* (dish), *bati* (bowl), *lota* (water pot with a long neck) and *tal* (cymbals). In recent times, artisans have attempted to bring about innovations in the designs, with an eye on the market.

Apart from the urgency to protect against misappropriation, GI rights in these products could be expected to contribute to socio- economic development, which has till date eluded the people of this region. The development potential of GIs could be expected to have the following dimensions:

(i) **Economical methods of production**: As already seen earlier, many GIs from North-east India relate to products of agriculture or handicrafts; many like Assam silk, Joha rice are products of rural labour. Considering the low- tech and low- cost methods of production followed (usually indigenous methods which have a strong relationship with the premium of the end product); there is an assured higher stream of income for the producers and artisans. This could translate into greater economic benefits for rural artisans and labourers and contribute to their overall development and better quality of life.

(ii) High value nature of goods labelled as GIs: Goods marketed under GIs are usually high value products for a niche market, consumed by the elite section of the society. Despite the low costs of production, the demand in the market for such high quality products makes it an expensive affair, thereby ultimately benefiting the producer by giving high economic returns for low- cost traditional methods. Thus, such incomes derived from GIs can contribute to the economic and social development of a community, help eradicate poverty, empower women in such industries where there is a predominance of female workers (as in the case of production of *eri* or *endi* silk which is exclusively done by women), develop infrastructure, lead to better health and education for children etc.

(iii) Empowerment of producers leading to human development: The empowerment aspect of geographical indications stems from the fact that producers of GIs are given a right to exclude all others from using the name. Such exclusion eventually lends an aura of uniqueness to the product concerned, thereby enhancing its premium. The premium attached to these goods enables the producers to commercially and economically take advantage of the product. Again, some GIs of the North- East are associated with popular tourist destinations, as in the case of the Assam tea (with tea plantations holidays catering to a mostly foreign clientele, in search of the exotic). This could be expected to provide greater employment opportunities to the people in the area.

(iv) Ecological and environmental sustainability: In the context of the overlap and interplay of GIs and IK, it can be said that sustenance through continued use of IK in GIs by communities is essential to human development. If a community is lax about protecting its IK and allows it to be misappropriated by others, such IK descends into the public domain, thereby depriving the relevant community of any economic and commercial advantage it could have derived from such knowledge.

PART-II

4.2. OTHER LAWS AND POLICIES WITH BEARING ON IK OF BIODIVERSITY

Other than the IPR legislation, we also need to look into some of the existing laws and policies as well as forthcoming legislation which have some relation, direct or indirect, to the conservation of biological resources, recognition of the rights of local and indigenous communities etc., which also have an implication on IK protection. We will briefly look into the forest and wildlife legislation, Joint Forest Management, the National

Environment Policy, 2004, the provisions of the Panchayat Extension to Scheduled Areas Act, the Seed Bill and the Tribal Bill, from the perspective of IK protection.

4.2.1. FOREST AND WILDLIFE LEGISLATION

In our quest for a system to protect IK in the interest of the local communities and the national interest, we at Gene Campaign have attempted to examine whether existing legal provisions in the country as well as policies give due recognition to the importance of availability of natural resources to the holders of IK. For this purpose, a legal analysis of the Indian Forest Act, 1927, the Forest Conservation Act, 1980, and the Wild Life Protection Act, 1972 has been attempted. Since the primary subjects of these Acts are forest and wildlife and not IK, the objective will be to see whether they provide the holders of IK access to the natural resources, which is extremely necessary for the existence and development of IK. There can be two ways by which these Acts can protect, or contribute towards protection of IK:

a) By providing protection to the natural resources.
b) By ensuring access to the natural resources by the holders of IK.

Evolution of Forest Laws in India

By the middle of the 19th century, with the depletion of forests becoming a serious issue, the British Government began to take cognizance of the fact that forests in India were not inexhaustible. Accordingly, various officers were deputed from time to time to report on forest areas and all of them emphasised the need for conservation and improvement. In 1856, Lord Dalhousie emphasised the need for a definite forest policy. However, the instantaneous reason for this emphasis can also be attributed to the fact that adequate supplies of timber was required for the great extension of railway lines that were being undertaken.[40] There was also a great demand for Indian Teak.

In 1865, the first Indian Forest Act was passed. It was amended in 1878, when a comprehensive Law, the Indian Forest Act VII, came into force. The provisions of the Act established a virtual state monopoly over the forests in a legal sense on one hand, and attempted to establish, on the other, that the customary use of forests by the villagers was not a 'right' but a 'privilege' that could be withdrawn at will.

In the period upto 1980s there were two major policy statements purporting to give direction to the role of the government in relation to the alternate functions performed by

[40] Smythries, E.A ., "India's Forest Wealth", *India of Today*, Vol. VI, Oxford University Press

forests. They were the policy statements of 1894 and 1952. In practice, it was the Forest Act of 1927 that guided governmental actions for much of the period.

Assertion of central control and emphasis on the role of forests as providers of timber and industrial raw materials is the common thread running though these major statements of policy. There is a view that, the 1894 policy, even though it came from a colonial government, was more sensitive towards local interests. The role of forests as essential on climatic and ecological grounds was realised and the significance of local users was also pointed out. Notably it provided that no restriction should be placed upon local demands, merely in order to increase state revenue. On the other hand, in the National Forest Policy 1952, it was made clear that local priorities and interests and claim of communities around forest areas should be subservient to the larger national interests. Forests were viewed as national assets. In 1976, through the 42nd Constitutional Amendment, 'forest' was transferred from a subject in the State list (7th Schedule of the Constitution) to the Concurrent list. It thus re-emphasised the role of the Central Government in the management of forests. In view of the continuing forest depletion, in 1980, the Forest Conservation Act was enacted. It also emphasised the Central Government's involvement in deciding land use.

Community interests found emphasis only through the introduction of the National Forest Policy 1988. While conservation of forests in the national interest remained a policy objective, the emphasis shifted to the bonafide requirements of the marginalized individuals and communities who are dependent on forests. Giving major emphasis on the ecological role of forests, it stipulates that the rights and concessions relating to forest produce of the tribal community and the other poor living within and near forests must be fully protected. The domestic requirements of fuel wood, fodder and minor forest produce and construction timber should be the first charge on forest produce.

It now remains to be seen whether the laudable objectives of the policy have found reflection through the necessary corollary changes in formal law- the Indian Forest Act, its State variants or the Forest Conservation Act.

4.2.1.1. THE INDIAN FOREST ACT, 1927

At the time when the Indian Forest Act of 1927 (which continues to be the primary forest legislation even today) was enacted, the stated assumption for the introduction of forest laws and policy was that the local communities were incapable of scientific management, and that only a trained, centrally organised cadre of officers could properly manage forests. However, such laws also ensured commercial exploitation of the vast natural resources that India possessed and eliminated the local community

from having any control over the resources. It was prompted by the great demand of forest produce for industrial use in Britain.

The Forest Act of 1927 was enacted to consolidate the existing law relating to forests, the transit of forest produce and duty levyable on timber and other forest produce. The Act as it stands today, does not provide any definition of 'forest'. For the purpose of the Forest Conservation Act, 1980, the Supreme Court in ***TN Godavarman Thirumulkpad Vs. Union of India***[41] has expressed the opinion that 'forest' must be understood according to its dictionary meaning. This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of the Forest Conservation Act. The term 'forest land' will not only include 'forest' as understood in the dictionary sense, but also any area recorded as forest in the government record irrespective of ownership.

The Act provides for various protection measures for forestland. In general it follows the approach of restricting people's access to the forest. Thus, Section 3 empowers the State Government to constitute any forestland or wasteland which is the property of the Government or over which the Government has proprietary rights, or to the whole or any part of the forest produce of which the Government is entitled, as a Reserved Forest. Section 4 provides the procedure for declaration of a Reserve Forest. It requires the State Government to issue a notification declaring its decision to constitute a Reserve Forest and specifying as nearly as possible the situation and limits of such land.

Section 5 lays down that once a notification under Section 4 has been issued, no right can be acquired in or over the land comprised in such a notification, except by succession or under a grant or contract in writing made by or on behalf of the Government. The section further prohibits any fresh clearings for cultivation or for any other purpose unless in accordance with such rules as may be made by the State Government in this behalf.

The combined effect of sections 6, 7, 8 and 9 is that if one fails to bring to the notice of the Forest Settlement Officer any right and corresponding claim over the specified area, his right shall extinguish. In other words, the burden of proving his right lies on the claimant unless such right is already in Government record. The Indian Forest Act anticipates 3 types of claims in forests proposed to be reserved. Firstly, a forest dweller might lay claim of ownership of land. Secondly, right to pasture and forest produce. And thirdly, right with respect to shifting cultivation. Notably, the Forest Settlement Officer has no power to confer any right on the forest dweller, which has not been satisfactorily

[41] AIR1997 SC 1228

established. But he is bound to express fully to the Government, his opinion and advice as to any practice which, though not satisfactorily proved to be an existing right, he may think is advisable to sanction as a right or a concession in the interest of the people. It is upto the Government then to decide whether such non-established rights or concessions may be granted in the interest of the people or not. What is left unaddressed is the fact that while community rights or customary rights are themselves difficult to prove in the prevailing judicial system, even the scope provided to the FSO would remain ineffective if it is left to the whims of the officer.

From the point of view of protection of IK, the most important question that such a provision can pose is - what are the rights over the natural resources that the holders of IK possess. A community might have been using, rather, relying on the forest for livelihood since time immemorial. But unless they have legally recognised rights over the forest they cannot assert them. It is unlikely that tribal or forest dwellers will find the names of their ancestors on any written documents, which may be used to establish rights to the land, even if they have occupied the forest for centuries. Should any person currently using forest land or forest products be given rights over the forest? Should the granting of right be limited to communal rights of Schedule Tribes recognised under the Fifth and Sixth Schedule of the Constitution as distinct communities? Should rights be based on reference to historical documents? How feasible would that be for a community that is oblivious of the modern education and legal systems? The Act does not provide answers to such questions. The only practice that has been recognised by the Act is the practice of shifting cultivation, as a privilege or concession. But being a privilege and not a right, it is enjoyed at the pleasure of the State Government, which can prohibit such practice[42].

During all the stages of inquiry, the Forest Settlement Officer is required to give notice to all the affected parties. This is in line with the principles of natural justice. The Supreme Court in ***Harish Chandra Vs. Land Acquisition Officer*** (AIR 1961 SC 1500) has held that though FSO adjudicating claims under the Act is not a court, yet the principle, which is really of a fair play and is applicable to all tribunals performing judicial or quasi-judicial functions, must also apply to him.

The effect of declaration of Reserve Forest is such that even unauthorised entry to the area becomes an offence punishable with imprisonment[43]. Thus, in the absence of specific rights to access, declaration of Reserve Forest completely blocks access to the natural resources.

[42] the practice of shifting cultivation shall, in all cases, be deemed a privilege subject to control, restriction and abolition by the State Govt; Mohd. Siddiq v. State AIR 1968 All 396
[43] sec.26(1)(d)

Section 28 lays down that the State Government may assign to any village community the rights of Government to or over any land which has been constituted a reserve forest. Such forests are called **village forest**s. The State Government may make rules for regulating the management of village forests. It can prescribe the conditions under which the community to which any such assignment is made may be provided with timber or other forest produce or pasture, and their duties for the protection and improvement of such a forest. However, the Act does not say anything about the factors that the State Government will take into account before assigning a reserve forest to the village community. But such an assignment can provide an opportunity for IK holders to access natural resources.

Apart from Reserve Forest, the State Government can also declare forest land or waste land over which it has proprietary rights, as a Protected Forest. Section 29(3) mandates inquiry and recording of the nature and extent of the rights of Government and of private persons in or over the forest land, before declaring an area as a protected forest. As mentioned above, here also, the lack of well defined policy for providing access to the natural resources can create obstacles for the IK holders in practicing their knowledge. Section 32 empowers the State Government to make rules for granting licence to the inhabitants of towns and villages in the vicinity of protected forests to take trees, timber or other forest-produce for their own use. This is an enabling provision in favour of IK holders.

4.2.1.2. THE FOREST (CONSERVATION) ACT, 1980

This Act does not in anyway effect those provisions of the Indian Forest Act that relate to the access of natural resources by the holders of IK. However Section 2 of the Act lays down that no State Government can, except with the prior approval of the Central Government, make an order that any reserved forest or any portion thereof, shall cease to be reserve. One very important aspect of the Forest Protection Act got highlighted in the Supreme Court Order in the case T N Godavarman Thirumulkpad Vs. Union of India (AIR 1997 SC 1228). The Supreme Court expressed the opinion that the Forest Conservation Act, 1980 was enacted with a view to check further deforestation which ultimately results in ecological imbalance; and therefore, the provisions made therein for the conservation of forests and for matters connected therewith, must apply to all forests, irrespective of the nature of ownership or classification thereof. The court said that the word 'forest' must be understood according to its dictionary meaning. The term 'forest land', occurring in Section 2 of the Act will not only include 'forest' as understood in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership. Thus, according to this meaning, any kind of non-forest activity in any forest will require prior approval of the Central Government. The

observations of the Apex Court can be inferred as conferring sanction to the State's interference even in the context of forests, traditionally owned by communities, in the name of conservation.

4.2.1.3. THE WILD LIFE (PROTECTION) ACT, 1972

The preamble to the Act says that it provides for the protection of wild animals, birds and plants and for matters connected therewith or incidental thereto. It is interesting to note that the Act is not limited only to 'animals', and includes plants as well. Also the scope of the Act extends to matters that are connected or incidental to the basic objective of the protection of wildlife.

Section 2(37) of the Act defines 'wild life' to include any animal, bees, butterflies, crustacean, fish and moths, and aquatic or land vegetation which form part of any habitat. From this definition it can inferred that the Act views wildlife as forming part of a habitat and aims at protection *in situ*.

Chapter IIIA of the Act, introduced by the 1991 amendment, with a view to protecting specified plants, clearly indicates that members of Scheduled Tribes can freely pick, collect or possess, in the district he resides, any specified plant or part or derivative thereof for his bona fide personal use. Thus, the introduction of this particular section creates a sanction for the activities of the Scheduled Tribes dependent upon forests. However if seen from the perspective of the protection of IK, it gives rise to certain questions like:

(i) Why it is only the Scheduled Tribes whose interaction with the forest land is kept in tact? There might be other people who are not Scheduled Tribes but dependant upon the forest.
(ii) The holders of IK, for example a *vaid* in a village practicing herbal medicines, need not be a member of a Scheduled Tribe. It is essential that he is not prohibited from collecting and experimenting upon wild herbs, if his knowledge base is to be protected from extinction due to non use.
(iii) Further, how can 'personal use' the defined in the context of a *vaid*, whose livelihood is to cure people from various diseases?

The above questions need to be adequately addressed if this provision is to benefit the IK holders.

The Wildlife Protection Act is based on a similar approach as the Indian Forest Act, that is, conservation by keeping away people. It provides for the creation of Sanctuaries and National Parks wherein access to the people is severely restricted. The declaration of a

sanctuary or national park is such that no person can destroy, exploit or remove any wildlife, including forest produce without the permission from the Chief Wildlife Warden (CWW). The CWW can grant such a permit only when the State Government is satisfied that such an act is necessary for the improvement and better management of wildlife.

A Sanctuary can be established under sections 18, 26A, 38(1) and 66(3). For an area of land or water, around India's coast to be notified as a sanctuary under section 26A, there are 3 conditions to be fulfilled:

> *Firstly*, notification under section 18, declaring the intention and the boundaries of a particular area that is required to be made a sanctuary. The area should be of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wild life or its environment.
>
> *Secondly*, the period of 2 months after proclamation made by the collector for preferring claim and with regard to people's rights must elapse, and
>
> *Thirdly*, all the claims made in relation to any land must be disposed of by the state govt.

After these 3 conditions are fulfilled, the state government is required to issue a notification specifying the limits of the area that would finally be notified as a sanctuary. In case of reserved forests and territorial waters, this notification can be directly issued.

A National Park can be established under sections 35, 38(2) and 66(3). For an area to be declared under section 35, an intention is declared by notification for an area, which is of ecological, faunal, floral and geomorphological importance. This area may be an existing sanctuary too.

A National Park is notified under the following 3 conditions:

> *Firstly*, when the period of preferring claims has elapsed.
>
> *Secondly*, when all claims in relation to any land in the area intended to be a national park is disposed of by the state government.
>
> *Thirdly*, when all rights in respect of land, which is proposed to be included in the national park are vested in the government

After these conditions are fulfilled, the state government shall issue a notification specifying the limits of the area that is being declared as a National Park.

According to section 27(1) and 35(8) of the Wildlife Protection Act, in both Sanctuaries and National Parks, public entry is restricted and according to section 29 and 35(6) of the Act, the destruction of any wildlife or habitat is prohibited. In theory, National Parks enjoy a higher degree of protection than Sanctuaries. For example, according to section 35(7) no grazing of any livestock is permitted in a National Park but according to section 33(d) it is permissible in a Sanctuary.

The process of settlement of rights in declaring a Sanctuary/National Park can be explained as below:

Stage I: Intention notification declaring intention and limits of such area.

Stage II: Determination of rights- Under section 19, the Collector or any officer authorized by the state government is required to determine the existence, nature and existence of right of any person who may be a claimant in the process of settlement. Section 20 specifically bars the accrual of any rights after the intention notification. The determination of rights under the section is quite comprehensive as it includes the rights of any person. This could mean that such persons may not only be those who live within and around the protected area but also those outside it.

Stage III: Proclamation notification under Section 21. The Collector or any officer so authorized by the state government is required to issue a proclamation notification under section 21. Such a proclamation is required to be published in a regional language in every town or village or in the neighborhood of the area specifying the boundaries of such a proposed protected area. Under the said notification any claim under section 19 is required to be submitted within 2 months from the date of such a proclamation.

Stage IV: Inquiry – section 22 describes the process of inquiry by the collector or his authorized officer. The inquiry includes the claims under section 21 as well as claims under section 19 which may exist as per the collector but not claimed. The inquiry is to be done "expeditiously" though no time limit is given. The primary basis of the claims under this section is the records of the government and evidence of any person acquainted with the same.

Stage V: Acquisition - under section 24, the Collector is empowered to pass an order which may admit or reject a claim in whole or part. If such a claim is admitted wholly or partly, then such land may either be excluded from the limits of the protected area or

acquired by the state. Such acquisition may either be under an agreement between the right holder and the government or where such a right holder has agreed to surrender his right to the government in lieu of compensation, as per Land Acquisition Act, 1894.

In case of sanctuaries, the Collector has been given special powers under section 24(2)(c) to allow any right over any land in Chief Wildlife Warden (CWW) of the state. However, it is pertinent to note that no guideline or grounds have been enumerated for acceptance or rejection of such claims. Further, the role of the CWW is unclear in case of allowance of any right in a sanctuary. The Act is silent on the question of whether his views are binding or not.

Stage VI: Final notification - A sanctuary or national park may be finally notified under section 26A or 35(4), only after the period of claim has elapsed and all other claims have been disposed off (or vested in the government , in case of NationalPpark).

Thus it can be said that the restrictions in case of National parks are stricter than those of Sanctuaries. Because, in case of National Parks, all the rights are vested with the government. There is no scope for continuation of any traditional right over such land.

As far as effects arising from declaration of sanctuaries and National parks are concerned, there has been a prolonged debate over the issue of alienation of the people from the forests, as also taking away their livelihood. Such a debate is not confined only to the Wild Life Act, but covers the whole perception behind the policy that forests and wildlife are to be protected from the people.

In recent times, however, there has been a shift, with the Government gradually realizing the need for people's participation, as reflected in present policy statements. Thus, the preamble of the Wild Life (Protection) Act, 2002 recognises the growing alienation of the local communities from wild life conservation programmes as having an effect on increased wild life crimes and mismanagement. The amended Act seeks to provide for participatory management of the buffers around the National Parks and Sanctuaries. Section 36C of the Act introduces the concept of 'Community Reserves', under which the State Government may, where the community or an individual has volunteered to conserve wild life and its habitat, declare any private or community land not comprised within a National Park, Sanctuary or a Conservation Reserve, as a Community Reserve, for protecting fauna, flora and traditional or cultural conservation values and practices. This is a welcome step towards legal recognition of people's efforts at conservation. However, as per the definition provided for Community Reserve, it is confined only to private or community land. There may be communities traditionally involved in conservation, though the land concerned might belong to the Government. In such cases, those communities will not be able to derive benefits from this new

provision, nor extend the benefits to the biodiversity they are conserving. Further, there is no definition of community land.

There are some other provisions in the Act of 2002, which can be termed as supportive of the close link between community and natural resources. Section 36A of the Act which provides for the constitution of "Conservation Reserves", states that for such a constitution, the nature of the land should be such that it is adjacent to a national park or sanctuary and link one protected area with another. The objective is to protect landscapes, seascapes, flora and fauna and their habitats. Notably, the Act requires consultation with local communities in declaration of a Conservation Reserve. Also, in the Management Committee for the Conservation Forest, there is provision for including members from the Village Panchayat and NGOs. Though it is a positive step, yet actual representation from the village community can not be said to be ensured. While on one hand the management committee is only an advisory committee, on the other, representation is sought through elected members from the Panchayat. The success of the *Panchayati* system is itself under a great deal of debate and there has been anopinion that elected members often do not represent all sections of society, particularly the disprivileged.

The same concern also applies to the Community Reserve Management Committees, formed under the Act. It also consists of members nominated by the Village Panchayat and where there is no such Panchayat, nominated by the *Gramsabha.* However, unlike the management committee for Conservation Reserve, this Committee has authoritative powers to manage the reserve. It is competent to prepare and implement management plans for the reserve and can take steps for the protection of wildlife and habitat.

4.2.1.4. JOINT FOREST MANAGEMENT

The Forest Policy, 1988 envisaged people's involvement in the development and protection of forests, and enunciated that it is one of the essentials of forest management that the forest communities should be motivated to identify themselves with the development and protection of forests from which they derive benefits. The Government of India passed a resolution on June 1 1990, introducing the concept of Joint Forest Management to facilitate the implementation of the policy. It has over the past few years acquired a more formal shape as the different States have brought out Regulations for this purpose[44].

[44] States such as Assam, Himachal Pradesh, Orissa and Madhya Pradesh have formally introduced Participatory Forest Management through formulating regulations under their respective State Forest legislation.

The original circular of 1990 to the different States set out a new policy on forest management vide a process of reafforestation of degraded forests through a partnership between foresters and forest communities by establishing ecological and economic benefits for the community. The June 1990 resolution, for the first time, recognized the rights of the protecting communities over forestlands. It also acknowledged the role of NGOs as intermediaries between the Forest Department and the communities. Some of the salient features of JFM Resolution 1990 are: -

- Forests should be protected by voluntary agencies or village communities, jointly with State Forest Departments as Village Forest Communities.
- No ownership or lease over forest land to be given to a village community or voluntary agency.
- The community is entitled full usufruct rights (over non-timber, grass, firewood and timber products) and partial share in the final harvest of timber.
- The community to prepare micro-plan for the forest along with the Forest Department.

The subsequent guidelines brought out by the Ministry of Environment and Forests in the year 2000 and amended again in 2002, have tried to plug the gaps and strengthen the programme. The 2000 guidelines have advised the State Governments to provide legal status to JFM committees through registration of forest committees under Societies or Co-operative Societies Act, increased participation of women in the programme, giving 33% reservation to women in the Executive Committee, extension of JFM to less degraded forest areas, flexible forest working plans, to suit micro-plan for JFM areas, recognition for self-initiated forest protection groups and a transparent mechanism to compute the income sharing and benefits between different stakeholders. Further to these guidelines, in 2002 the MoEF issued another set of guidelines with a view to strengthening the JFM system. The provisions under these guidelines are important from the IK point of view, as they provide a scope for reflecting local needs in the work plan for JFM. The 2002 guidelines brought about articulation to the working arrangement between the forest department and the JFM committees. It required that, for the purpose of ensuring smooth working relationship between forest department and the JFM committees and also to bring a sense of empowerment and accountability, a Memorandum of Understanding (MOU) should be signed between the forest department and the JFM committees. Such a MOU should outline the short term and long term roles and responsibilities, implementation of work program, pattern of sharing of usufructs and conflict resolution. Also, in the MOU the JFM committees should form the basic forest management units to provide in them a feeling of empowerment and enable them to effectively protect and conserve the forest resources. This provision shows recognition by the government of the fact that, a sense of empowerment is

necessary for the much-needed identification by the people with the issue of conservation. It was stated that the MOU should reflect the consumption and livelihood needs of the forest dependent communities. It was also stated that the MOU for each committee should have location specific work program based on site-vegetation profile and mutual understanding. It should plan for restoration of vegetation and clearly spell out the roles, responsibilities and powers. It was emphasized that all JFM committees should be assigned specific roles for boundary demarcation, fire prevention and control of grazing, encroachments and illicit felling as well as ensure non-destructive harvesting of non timber forest produce including medicinal plants. For this purpose, it was suggested, that the committees should be given the authority to act. They should also be given monetary and other incentives and are treated as genuine stakeholders.

JFM and Protection of Indigenous Knowledge

The JFM model provides an example of government effort to involve people in the process of conservation, as distinct from the alienation imposed by the existing legal regime for forests in India. In its ideal formulation, this system can be a potent tool for successful forestry management and IK protection. Available statistics also show a similar conclusion. However the JFM system is also not free from criticism. It has received criticism mostly in the following areas –

- Effective participation of the Village Forest Committees (VFCs): A number of case studies in JFM areas have highlighted the fact that, though on paper the VFCs are equal partners in management of forest resources, in practice a number of factors block this from happening in reality. Those factors include historical attitude of Forest department towards exclusionary protection of forest resources, reflection of societal, caste-based inequalities in the constitution of VFCs and effective participation of villagers in functioning of those committees.
- Effective participation of women: This is a reflection of the lack of due representation of women that is typical of the Indian socio-political system. While the JFM notification of 2000 specifically targeted this issue by providing for equal participation of women in the VFCs, expressed a requirement for their presence in management meetings and at least a one third participation in the management committees, in reality the JFM model has not have proved to be an effective tool for ensuring effective gender participation. Women, with their immense contribution to the generation, protection, propagation and transmission of indigenous knowledge, need to be adequately involved for JFM to contribute to the protection of IK and biodiversity. As against the provisions for community participation in preparing work plans and management of forest resources, the

JFM model has been criticized for not considering the traditional practices of forest management of the community.

- From a more legal point of view, the legal status of the JFM guidelines have been questioned on the ground that they are based on the 1988 Forest Policy, which is not a legally enforceable document. That also raises questions about the legal protection afforded to those village communities who undertake the MOUs and put their efforts in implementing them. There is no legal accountability on the part of the forest department while implementing the JFM system in general, or MOU in particular. Further the benefit sharing provisions under the MOUs also have been criticized for favoring the state over the community which undertakes to implement the MOU. The benefits are accruable only on the satisfactory performance of the duties and functions by the community.

The criticisms provide an insight in to the inherent, as well as implimentative improvements required in the JFM system. However, it cannot be denied that the JFM system does provide a viable alternative to the protectionist approach to forest management and also contains a number of attributes for effective participation of the community. From the IK point of view, these aspects, implemented effectively, could prove to be an impetus for protection and development of indigenous knowledge related to forest resources. Being a participatory mechanism, it also promises a balance between rights and duties and the national interest of forest protection. It can be mentioned here that providing individual or community ownership rights to people might not always prove to be beneficial for conservation. Every community has its own philosophy and practice and is continuously responding to the changes in values, ethics and aspirations. Instead of having a blanket regime for rights over forest resources, there is a need to look into the present state of practices in each society and accordingly plan their participation in managing forest resources. This will provide on one hand, the much-required livelihood requirements and on the other, ensure that community practices are reflected in the management of forests. The JFM model provides specific provisions for local needs and practices into the management plans. These provisions, effectively implemented, can be a means for realizing continuous use and development of IK by the community through the use of and interaction with the surrounding natural resources.

The legislation as it stands today offers little scope for the community's knowledge to be reflected in the conservation process. The efficacy of the new provisions inserted in the Wildlife and Biodiversity law is yet to be observed. A review of the laws and policies in this field brings to the fore the following:

- The policy statements in the sector of forests and environment are quite progressive but there is a huge departure in the laws from the policies on the same subject.
- Policy statements are mere guidelines and serve as intent statements, non-compliance with policies is not enforceable. Hence the good provisions of the policies need to be incorporated into the law on the given subject or else a new law should be enacted to reinforce the intent.
- In addition, seeking legal recognition to community rights is not sufficient; IK will have to be integrated into developmental planning processes to regain a status and validation.

4.2.1.5. FOREST LAWS IN THE STATE OF ASSAM- A CASE STUDY

A detailed analysis of some of the relevant laws and policies of the state of Assam was undertaken by the Policy Analysis team of Gene Campaign with a view to achieve the following objectives:

(1) Identifying those provisions which protect Indigenous Knowledge (IK) of Biodiversity directly and also those that can be construed to protect IK.
(2) Identifying those provisions which accord recognition and protection to customary laws and practices as there is a close relationship between that and the protection of biodiversity and natural resource management, which indirectly protect Indigenous Knowledge.
(3) Identifying those provisions which mandate local community participation, as it is believed that local communities have an intimate knowledge of their habitat and know best how to protect it, a conservation ethos being inbuilt within their culture.

The study examined and reviewed the provisions of the following laws with a view to arriving at the above mentioned objectives:

(1) The Assam Forest Regulation 1891.

(2) The 1995 Amendment to the Assam Forest Regulation 1891.

(3) The Assam Joint (People's Participation) Forestry Management Rules, 1998.

(4) The Assam Forest Policy, 2004.

The Constitution of India, 1950, places the subject matter of forest on the State List which implies that the states are authorized to legislate on that subject. But most of the States continued to follow the Indian Forest Act, 1927 enacted during the British period. However, some States had their own legislation pertaining to forests even prior to independence and some states had adopted new laws[45]. The forests in the state of Assam were managed according to the Assam Forest Regulation 1891 which was a pre-independence enactment. However, it is observed that the basis of all state forest legislation is the Indian Forest Act, 1878.

The Assam Forest Regulation 1891, as amended in 1995

The Assam Forest Regulation of 1891 like the other state legislation of the times drew heavily from and was modeled on similar lines as the Indian Forest Act of 1878.

The Assam Forest Regulation of 1891 defines itself as "a regulation to amend the law relating to forest, forest produce and the duty leviable on timber in Assam". Section 4 of the Regulation in chapter 2 empowers the state government to declare any land at its disposal as a reserved forest. The following section provides the procedure for declaration of the reserved forest which includes the specification of the limits of the land which is being proposed to be constituted as a reserved forest, expressing intent of declaration and appointing an officer to inquire and determine the nature and extent of rights existing in such land. Section 10 of the same Regulation specifies the treatment to claims relating to the practice of *jhum* cultivation:

" In the case of a claim relating to the practice of *jhum cultivation*, the Forest Settlement Officer shall record a statement setting forth the particulars of the claim and of any local rule or order under which the practice is allowed or regulated, and submit the statement to the state government together with his opinion as to whether the practice should be permitted or prohibited wholly or in part.

(1) On receipt of the statement and opinion, the State Government may make an order permitting or prohibiting the practice wholly or in part.

[45] In India, at present, the following State Acts which deal with conservation and safety of forests, are in force:
Assam- Assam Forest Regulation 1891.
Andhra Pradesh- Andhra Pradesh Forest act 1967
Karnataka- Karnataka Forest Act 1963
Jammu and Kashmir- Jammu and Kashmir Forest Act 1987
Kerela- Kerela Forest Act 1961
Nagaland- Nagaland Forest act 1968
Orissa- Orissa Forest Act 1972
Rajasthan- Rajasthan Forest Act 1953
Tamil Nadu- Madras Forest act 1882

(2) If such practice is permitted wholly or in part, the Forest settlement Officer may arrange for its exercise-

(a) by altering the limits of the land under settlement so as to exclude land of sufficient extent of a suitable kind, and in a locality reasonably convenient for the purposes of the claimants, or
(b) by causing certain portion of the land under settlement to be separately demarcated, and giving permission to the claimants to practice *jhum* cultivation therein under such conditions as he may prescribe.

All arrangement made under this sub-section were to be subject to the previous sanction of the state government.

(3) The practice of *jhum* cultivation shall in all cases be deemed to be a privilege subject to control, restriction and abolition by the state government and not to be a right.

The above provision of the Assam Forest Regulation is laudable in the sense that it gives recognition to a customary practice, an agricultural practice of the local communities evolved over time tracing its genesis to prehistoric times and in response to the unique demands of the environment. Shifting cultivation is considered by many experts to be ecologically destructive and its practice is looked upon as a major cause of deforestation and soil erosion. However, shifting cultivation is also seen by many as the only practical way out from the inherent difficulties confronted in preparing a proper seedbed in steep slopes as in the case of North East India.[46]

While recognizing the claims of the people practising *jhum*, the Regulation exercises state control and monopoly by relegating the practice of jhum to the position of a privilege and not a right, following Baden- Powell's distinction between rights and privilege reinforcing that it may be controlled, restricted and abolished by the state at will.

Section 11(1) provides that in the case of a claim to a right in or over any land, the Forest Settlement Officer shall pass an order specifying the particulars of such a claim and admitting or rejecting the same wholly or in part. Section 11(2) says that if such a claim is admitted wholly or in part, the Forest Settlement Officer may come to an agreement with the claimant for the surrender of the right or exclude the land from the limits of the proposed forest or proceed to acquire such land in the manner provided by

[46] Ninan, K.N., "Economics of Shifting Cultivation", in Some Readings of the Seminar on Environment and Education Initiatives for the North-East, October 8 1993.

the Land Acquisition Act, 1870. Thus, a legal separation of rights was made by these provisions whereby state control was sought to be retained by a permanent settlement that either extinguished private rights, transferred them elsewhere, or in exceptional cases allowed their limited exercise.

The Assam Forest Regulation also accords recognition to the following customary rights: right-of-way, a right to water-course or to use of water and a right to pasture or to forest-produce (sections 11-13). However, these are not legal rights but mere concessions or privileges (especially in the context of the right to pasture or to forest produce) which the Forest Settlement Officer has the prerogative to admit or reject the same wholly or in part. However, in the context of right-of-way and to water-courses in reserved forests, the Forest Officer's right to stop any public or private way or water course in a reserved forest is limited in the sense that this could only be done provided that another way or water course which, in the opinion of the state government is equally convenient, already exists or has been provided or constructed by the Forest officer. Here again, the state's predominance is evident in the manner in which the convenience of the way or water-course is to de determined by the government and not by the person or people by whom it is to be used.

Chapter III (sections 29-31) of the Assam Forest Regulation deals with Village Forests. Section 29 provides that the state government may, by notification in the official Gazette, constitute any land at its disposal a village forest for the benefit of any village community, or group of village communities. The Forest Act of 1878 was the first legislation which provided for village forests but this provision was never implemented, like the Indian Forest Act of 1927. The scheme of joint forest management announced by the government confessed, albeit indirectly, that the government cannot manage the forests through its laws and the forest department without the participation of the people. It, however, does not repose full faith in the village communities and does not give them an opportunity to undertake all the responsibilities. Secondly, it lacks legal support. The provision for village forests that does not have both these deficiencies as it has been realized through the experience of many years. The provision for village forests, although an old one, has therefore assumed a new significance in this new context.[47] Interestingly, the Assam Forest Regulation, like the forest legislation of many states, has this provision but no rules have so far been drafted by the state government to implement it (exceptions are the states of Uttar Pradesh, which came out with the U.P. Van Panchayat Rules 1976 under the Indian Forest Act of 1927, the Uttaranchal Panchayati Forest Rules, 2001 under the Indian Forest Act of 1927, the Orissa Village Forest Rules 1985 under the Indian Forest Act of 1927).

[47] Hiralal, M.H., 2002, Gateway to Sustainable and Participatory Community Forest Management- Village Forest with Draft Rules under section 28 of Indian Forest Act 1927, Maharashtra: M.H. Hiralal.

Though recognizing the importance of setting up village forests for the ' benefit' of village communities, the Assam Forest Regulation seeks to maintain the state's control over them with the state government being empowered to "vary or cancel any such notification" (section 29). Similarly, section 30(1) of the Regulation confers powers on the state government to make rules for regulating the management of the village forests, prescribing the conditions under which the community or group of communities, for the benefit of which any such forest is constituted, may be provided with forest produce or with pasture, and their duties in respect of the protection and improvement of such a forest.

The Assam Joint (People's Participation) Forestry Management Rules, 1998

The Assam Joint (People's Participation) Forestry Management Rules, 1998, through which Joint Forest Management in the state of Assam is implemented, have been framed "for the active participation and involvement of local people for regeneration, maintenance and protection of degraded forest and plantations".

Rule 7 provides for the constitution of the "Forest Protection and Regeneration committee" and further states that the families acting as members of the Committee shall be allowed, as a matter of incentive, usufructs subject to observance of the conditions provided in these rules. Thus, in these rules, the idea is implicit that people dependant on forests for their livelihood need to be involved in their management and that they should have access to the use and profit of the benefits accruing from forests(in the form of rights, concessions or privileges). Also, it is pointed out by experts that the committee constituting of the representatives of all the families in the village is the only structure which ensures proper grassroots' level participation and the cooperation of the real stakeholders.[48]It is, however, felt that if it is provided that one member from each family should be there in the Village Forest Protection and Regeneration Committee, there is a possibility that only the male member would attend its meetings. To avert this, the structure should ensure equal participation of women. In this context, the Assam Rules are quite progressive as they provide for equal participation of women. Rule 7(ii) clearly lays down that "the option to become members of the Committee shall be open to all the concerned villagers, living in the vicinity of the Forest concerned. Membership of each family will be in the name of the husband and wife or a male and a female member of the family and shall be considered as one unit of beneficiary".

[48] Even in the context of PESA, it has been felt that a *gram panchayat* encompassing large populations and with decision making powers concentrated in the hands of the representatives elected through majority vote, is not an effective unit; it has got to be a small revenue village, *pada, tola* or *mohalla* having population around 200 to 500 (Hiralal, M.H., *op. cit*.).

The Rules provide for the sharing of usufructuary benefits under the Joint Forest Management Programme with the beneficiaries being permitted to collect minor forest produces free of cost, without causing any damage to the forest/plantations (Rule 10(ii)). However, this is subject to the condition that the beneficiaries shall have to protect the forest to be eligible for sharing the benefits (Rule 10(i)).

As regards the duties and functions of the Forest Protection and Regeneration Committee which includes the beneficiaries, Rule 9 (ii) provides that it has to ensure that no grazing of cattle and other animals is permitted in the forest land under joint forest management. However, permission for cutting and carrying of grass and fodder as permissible silviculturally is allowed free of cost to encourage stall feeding of cattle and other animals. In this manner, the local people's customary right of pasture is sought to be regulated with the help of the people themselves so as to achieve the goal of forest protection. Again, it seeks to stop a centuries old customary practice which is believed to cause environmental degradation and forest loss- *jhum* cultivation, through the community itself, by making it one of the duties of the Committee to ensure that none of the beneficiaries practice *jhum*.

The Assam Joint Forestry Management Rules, 1998 while recognizing the imperative of people's participation and also the need to confer usufructuary rights to them, tries to regulate their participation, as well as their customary rights over forest, through the intervention of the state. State control over the Forest Protection and Regeneration Committee is evident in the sense that the constitution of the Committee including its executive committee (which includes the Gaonbura or any member of the local *Gaon Panchayat* and the elected representatives of the beneficiaries, not exceeding nine) has to be approved by the Divisional Forest Officer concerned on the recommendation of the concerned Range Officer (Rule 7(vii)). The D.F.O. will also monitor, supervise and review the functions of the Committee (Rule 7(viii)). Rule 11 confers wide powers to the D.F.O. regarding the termination of individual membership and dissolution of the Executive Committee.

Assam Forest Policy, 2004

The Assam Forest Policy while having maintenance of environmental stability, conservation of natural heritage of the state and checking denudation of forests and soil erosion etc. as some of its objectives, also aims at providing livelihood support to the fringe dwellers of Protected Areas by encouraging sustainable eco-tourism and eco-development (Section 2.1). It aspires to meet the *bonafide* livelihood needs of fuelwood, fodder, bamboo, canes, small timbers and other non timber forest products (NTFPs) of the rural poor and the indigenous communities in particular, with due regard to the carrying capacity of the forests. It seeks to create a massive people's movement with

special involvement of women for achieving the objectives and to minimize pressure on forests under the community based conservation programmme. The fact that the policy recognizes the need for “symbiosis of traditional knowledge and modern technology” to achieve the goals of forest conservation is confor********** as also that is (Section 2.1 has, as one of its objectives, “encouraging conservation of genetic resources and development of traditional knowledge repository of Assam” (Section 2.1). It also states that the mega-biodiversity existence of Assam will be protected and developed with the active involvement of the communities (Section 2.2.1) and that the forest cover of Assam will be progressively maintained through scientific sustainable forest management practices giving emphasis on the traditional knowledge and understanding of the ethnic communities of Assam (Section 2.2.3).

The Assam Forest Policy has many provisions which talk of the indigenous knowledge of the local communities, their customary rights and the need for the policy to reflect their needs and aspirations. Section 3.4 recognizes that NTFPs, including medicinal and aromatic plants, provide sustenance to the tribal and other people residing in and around the forests. It provides that such produce would be sustainably managed and production enhanced with the objective of generating employment and income opportunities for the local people with emphasis on trade of bamboo and other NTFPs including medicinal and aromatic plants, such as Agarwood and Patchouli etc. after adequate value addition (Section 3.6). Section 4.2.5 states that the abundant potential of people living in rural and forest areas would be tapped for sound participatory forest management and that efforts would be made to facilitate assistance from financial institutions to the forest dwellers engaged in forest based economic activities. Section 4.2.6 talks of the need of benefit sharing.

The Assam Forest Policy takes a sympathetic approach towards “encroachers who belong to the ethnic communities of Assam” who are traditionally and characteristically dependant on the forests, who would be motivated to join the forest protection activities as economic stakeholders (Section 4.3.1.2). It says that providing sustainable livelihood support to the people who live in the fringe villages would be a major activity of the forest department so that the fringe villagers would work as real protectors of forests. It talks of the constitution of People’s Protected Area (P.P.A) inside forests where the settlers create community assets of forests along with the services required for their livelihood and that the Government of Assam should take necessary steps to convert the Forest Villages to Revenue Villages (Sections 4.3.1.4 and 4.3.1.5).

The Forest Policy exhibits remarkable sensitivity by recognizing the customary practice of *jhumming* as “an emotional heritage mainly with the Hill tribes” and that the problem needs to be tackled with “due regard to local tradition and culture” (Section 4.3.5).

Again, it seeks to arrest illegal grazing in forests by "raising awareness in the communities and with their active participation".

As regards the rights and concessions of the communities, the policy states that these would primarily be for the *bonafide* use of the communities living within and around forest areas, especially the tribals, Scheduled Castes and other indigenous communities. While recognizing these rights and concessions, they are sought to be regulated in a manner which is in tandem with the carrying capacity of the forests. However, the policy seeks to ensure fulfillment of the requirements of the community when they cannot be accomplished by the rights and concessions by mandating that these "would be met by the development of Social Forestry outside the Reserved Forests" (Section 4.4.1).

The Assam Forest Policy talks extensively of the need for biodiversity conservation with one of the key areas being conservation of Bio- Cultural Diversity, recognizing that the diverse ethnic groups of Assam have a mosaic of traditions and culture (Section 4.8.4), which is intrinsically associated with the biological diversity of the state, thereby acknowledging the link between indigenous knowledge and biodiversity. One of the ways it seeks to achieve it is through intensification of survey and inventorisation of bio-cultural resources, with the survey including information on the distribution pattern of various species/ population/ community and the status of ethno-biologically important groups (Section 4.8.4). This provision can be interpreted as pertaining to the recognition of documentation of Indigenous Knowledge of Biodiversity being an essential step towards protection of IK of biodiversity.

The Policy also focuses on the need for initiating a Forest Certification Process, keeping in view global requirements, so that export items produced by the local communities and artisans such as bamboo products, cane products, handicrafts and NTFPs have a greater value in the international market.

Observations

An analysis of the forest legislation and policy of Assam reflects that the Assam Forest Policy, 2004 is far ahead of the rest in terms of the weightage it gives to indigenous knowledge, customary rights and local participation. It is a remarkable document committed to ensuring the livelihood security of local communities, while ensuring forest preservation. It accords considerable importance to the indigenous knowledge of the local communities, the need for benefit sharing and suggests ways and means to bring about their welfare while always keeping the local paradigm and knowledge in perspective. It also recognizes the importance of documentation for protection of the bio-cultural diversity of the state and is attuned to the needs of the times in the sense

that it refers to benefit sharing, the need for value addition of local products and for forest certification.

However, the drawback is that all these provisions are being contained in a policy document which lacks teeth as it is not legally enforceable. However, the hope lies in the fact that a policy document, though not legally enforceable, is a guiding legal document that influences the decisions of the courts[49].

It is imperative that if protection of biodiversity and the associated IK is to be achieved, the Government of Assam should take necessary steps to give effect to the policy decisions through suitable amendments in the legislation (The Assam Forest Regulation) or by bringing forth a new legislation.

4.2.2. DRAFT NATIONAL ENVIRONMENT POLICY 2004

The draft National Environment Policy has a number of provisions relevant to protection of Indigenous Knowledge. To begin with, clause 5.2.3 of the policy defines the term 'traditional knowledge' (TK). TK is here defined as the ethno-biology knowledge possessed by local communities, relating to uses of various indigenous plant and faunal varieties, including in traditional medicine, food, etc., and is potentially an important means of unlocking the value of genetic diversity through reduction in search costs. The policy recognizes IK as a valuable resource and proposes adoption of a *sui generis* IPR system for its protection. The draft policy emphasizes enabling of the local communities, through this IPR system to derive economic benefits by permitting the use of their ethno-biology knowledge.

The policy objective sets out the need to ensure equitable access to environmental resources for all sections of society particularly to the poor communities which are most dependent on these resources for their livelihoods. It also lays emphasis on providing space for participation of underprivileged men and women in various processes. Livelihoods of these vulnerable communities are very closely linked to the biological resources and the IK evolved from it. Thus, fulfillment of this policy objective would also ensure protection of IK when the vulnerable communities are assured equitable access to environmental resources.

The policy makes this important observation that village commons – water sources, grazing grounds, local forests, fisheries, etc., have been traditionally protected by local communities from overexploitation through various norms, which may include penalties

[49] . In the TN Godavarman case in the Supreme Court of India, the main petition has been filed in order to give effect to the Forest Policy of 1988

for unacceptable behaviour. These norms, may, however, have got diluted as a result of the process of development, including urbanization, and population growth resulting from sharp reductions in mortality, also through state actions which may create conditions for the strengthening of individual over communitarian rights and in doing so allow market forces to press for change that has adverse environmental implications. Such access to the community resources under weakened norms would lead to resource degradation and in result affect the livelihoods of the community.

Protection of IK is also inherent in some of the Principles expressed in the NEP 2004 which assure entitlements to human beings in the form of a right to a healthy and productive life in harmony with nature. People are entitled to a right to development and this for underprivileged, bio-resources dependent communities implies access to resources; their rights of self-determination and the right to regulate others' access to their knowledge. Under Principle of Equity, the NEP mentions procedural and end-result equity where the former relates to fair rules for allocation of entitlements and obligations and the latter relates to fair outcomes in terms of distribution of entitlements and obligations. The NEP reinforces the doctrine of Public Trust and has in clear terms stated that the State is not an absolute owner but merely a trustee of all natural resources which are by nature meant for public use and enjoyment, subject to reasonable conditions necessary to protect the legitimate interests of a large number of people, or for matters of national interest.[50]

Weak enforcement of the laws and policies among other things has been attributed to insufficient involvement of the potentially impacted local communities in the monitoring of compliance.[51]

The Policy makes some reference to the traditional land use practices of local people to suggest that the use of such practices should be encouraged through research and development. This accords some validation to the traditional practices which are based on indigenous knowledge of the local and indigenous communities.

The National Environment Policy acknowledges the fact that the receding traditional community rights of forests dwelling tribes since the commencement of formal forest laws and institutions in 1865 has led to the deterioration of the forests. Disempowerment of the communities led to the forests becoming open access in nature. Clause 5.2.2 (i)(a) of the policy places a categorical emphasis on giving legal recognition to the rights of the forest dwelling tribes. This, according to the policy, would

[50] Clause 4 of the Draft National Environment Policy enlist these principles
[51] Clause 5.1.3 (v) of the Draft National Environment Policy relating to Substantive Reforms

secure their livelihoods of these people and also provide long – term incentive to the tribals to conserve the forests.

The policy also alludes to the establishment of multi-stakeholder partnerships involving the Forest Department, local communities and investors, with clearly defined obligations and entitlements for each partner, following good governance principles to derive environmental, livelihood, and financial benefits. It also suggests rationalization of restrictions on cultivation of forest species outside notified forests to enable farmers to undertake social and farm forestry where their returns are more favourable than cropping.

Similarly regarding protection of wildlife, the policy emphasizes expansion of the Protected Area (PA) network of the country which would include the new categories of Conservation and Community Reserves. In doing so, the policy seeks participation of local communities, and the other stakeholders, to harmonise ecological and physical features with needs of socio-economic development. It also proposes partnerships for enhancement of wildlife habitat in Conservation Reserves and Community Reserves so as for the community to derive both environmental and eco-tourism benefits. The policy, further, proposes promotion of site- specific eco-development programmes in fringe of Protected Areas to restore livelihoods and access to forest produce by local communities.

But as the policy itself says…. 'any policy is only as good as its implementation'. The draft NEP, 2004, outlines a number of new and continuing initiatives in matters relating to conservation of biological resource, protection of community rights thereby affording protection to IK, but the policy does not make any reference to any legislative effort that would be required to make the provisions of this policy enforceable.

4.2.3. THE PANCHAYATS EXTENSION TO SCHEDULED AREAS ACT, 1996

As already discussed in Chapter-II, the Panchayats Extension to Scheduled Areas Act, enacted in 1996, provides for extension of Part IX of the Constitution of India to the Scheduled areas. The PESA has sought to facilitate the establishment of a decentralized structure of governance, conferring radical governance powers to the tribal community.

The term `Scheduled Areas' has been defined as "such areas as the President may by order declare to be Scheduled Areas". Paragraph 6 of the Fifth Schedule of the Constitution prescribes procedure for scheduling, rescheduling and alteration of Scheduled Areas. Article 244 of the Indian constitution allows the government to compile a schedule (list) of areas of the country occupied by Scheduled Tribes. The

Sixth and Ninth Schedules of the constitution list the Scheduled Areas. The Panchayats' Extension to Scheduled Areas Act applies to the Scheduled areas of the States of Andhra Pradesh, Bihar, Chattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Rajasthan.All of these States were required to enact or amend their respective State laws vis a vis Panchayats so as to conform with the PESA. A period of one year was given to all these States.

As already said before, one of the most important features of PESA is that it acknowledges the competence of the *Gram Sabha*, the formal manifestation of a village community, to safeguard and preserve the traditions and customs of the people, their cultural identity, community resources and the customary mode of dispute resolutions. Before we look at the provisions of PESA, one must understand the difference between Gram Sabha and Gram Panchayat. "Gram Sabha" or a village assembly means a body consisting of all the persons registered in the electoral rolls relating to a village comprised within the area of Panchayat at the village level. "Panchayat" means an institution of self-government constituted under article 243B, for the rural areas.

PESA, in clear words, lays down that any State Legislature will not enact any law that is inconsistent with the features of local governance as recognized and enlisted in the Act. Since the Act is premised on the principle of empowerment of Panchayats and Gram Sabha, it enjoins a duty on the States to ensure that their legislations on Panchayats are in consonance with the customary law, social, religious and management practices of community resources. Thus, PESA, by empowering the tribal communities to manage their own affairs, can be viewed as a legislation which could facilitate their management of the biological resources in a manner which is protective of both the resources and the associated knowledge.

Community Resources

The Act provides that the State legislation has to be in consonance with the traditional management practices of the community resources. The Gram Sabha is recognized as competent to safeguard its community resources and other traditions and customs. The Sate is to take care that this feature of the Gram Sabha does not get affected by enactments of the State. These community resources include their biodiversity and the knowledge associated therein. This recognition of the Gram Sabha could serve as an important step in the direction of IK protection.

The planning and management of minor water bodies is entrusted to the Panchayats at the Sappropriate level. It should be noted that this power is not with the Gram Sabha but Panchayats. What is meant by 'at an appropriate level' is to be decided by the respective State Governments. However, a minor water body has not been defined and

the Sates should take care to define and distinguish it from other water bodies. Nevertheless, this could be a very positive step as most of the fishing rights etc. are exercised in minor water bodies.

Land Acquisition, Rehabilitation and Projects

The Gram Sabha and the Panchayat, at appropriate levels, is to be consulted before making any acquisition of land for the purposes of projects and before rehabilitating and re settling of persons thereby. Consultation with the Gram Sabha in matters relating to relief and rehabilitation is important because when the re settling of a community takes place, the new habitat provided is so different from the previous one that the community has to leave its previous traditions and practices. This poses another serious threat to their IK

Any plans, programmes and projects for social and economic development have to be approved by the Gram Sabha before they are implemented at the village level by the Gram Panchayat. Prior to granting any mining lease or licence, obtaining recommendations of the Gram Sabha or Panchayats is mandatory.

Customary Laws

As already seen in Chapter-II, the State has to ensure that no State legislation is in derogation with the customary law. The Act also recognizes the competence of the Gram Sabha to resolve issues through their customary mode of dispute resolution.

Pursuant to Article 40, the State has to endow the Panchayats with such powers as may be necessary. PESA lays down that this conferment of powers should be specifically with respect to ownership of minor forest produce and control over local plans and resources

The above powers can go a long way in the protection of indigenous knowledge of biodiversity as most of the IK that a particular community has is related to local resources and minor forest produce. However, not much can be said about this power as most of the States have a separate legislation governing trade or transfer of minor forest produce. Whether the provisions contained therein are in conformity with this provision depends on the situation of each individual State.

Hence, through recognizing the powers of Gram Sabha on their resources and its management, PESA indirectly plays an important role in preserving the IK of communities. Access and control over resources is the first step towards protection of IK. However, one cannot comment on the efficacy of this Act without looking at the

confirmatory steps taken by the States. It is important that the spirit and objective of PESA is maintained in the enactments or amendments carried out by the ten states. It is for this purpose that we at Gene Campaign have tried to analyse the compliance of PESA by one such state- Orissa, which was under obligation to give effect to it.

Compliance of PESA by the State of Orissa

The Orissa Gram Panchayat Act of 1964 was amended in December 1997. Three different Acts were passed in the Orissa Legislative Assembly, which are:

- The Orissa Gram Panchayat (Amendment) Act of 1997
- The Orissa Panchayat Samiti (Amendment) Act of 1997
- The Orissa Zilla Parishad (Amendment) Act of 1997

A thorough analysis of these three legislations, which have sought to give effect to PESA, reveal that the basic objective of PESA to empower the Gram Sabha is watered down to a large extent by the fact that the power of the Gram Sabha to approve the plan, programmes and projects for social and economic development is not autonomous,. Administrative control is established over the Gram Panchayat by the provision which says 'Collector or such other officer or person specially authorised in that behalf of the State Government shall exercise general powers of inspection, supervision and control over the exercise of powers, discharge of duties and performance of functions by the Gram Panchayat.' Further, the Gram Sabha does not have any say over the plans and programmes sponsored by the State or Central Government and corporate bodies executed in the Gram Panchayat.

While amendments have been made to implement PESA, its provisions are again diluted by the provision which states that the safeguards provided in PESA, have to be "--- consistent with the relevant laws in force and in harmony with basic tenets of constitution and human rights."

The Zilla Parishad under the Orissa Zilla Parishad (Amendment) Act 1997 is entrusted with all the power on matters such as of land acquisition for development projects, planning and management of minor water resource bodies, and grant of mining lease for minor minerals and concessions for exploration of minor minerals.In exercise of its abovementioned powers, the Zilla Parishad, is not even required to consult the Gram Sabha while exercising all these powers.

In conclusion, it may be said that the state legislation of Orissa, through which PESA has been legislated in the state, has not been able to provide the right atmosphere for

establishment of genuine self rule for tribal areas, by curtailing the powers of the Gram Sabha.

4.2.4. THE DRAFT SCHEDULED TRIBES (RECOGNITION OF FOREST RIGHTS) BILL, 2005

The draft Scheduled Tribes (Recognition of Forest Rights) Bill, brought out by the Ministry of Tribal Affairs, Government of India has been described as an attempt to legally restore the ruptured tribal-forest relationship, by making forest-dwelling scheduled tribes primary stakeholders in conservation[52]. The Bill, which seeks to redress "the historical injustice done to the forest dwelling tribal community by providing the legal basis and procedures for the recognition of adivasi rights to ancestral forest land and resources", has been described by even its critics "as quite irrefutable on grounds of natural justice and ethics"[53].

Definition of Forest Rights

The bill seeks to "recognize and vest the (listed) forest rights and occupation in forest land in forest-dwelling scheduled tribes (FDSTs) who have been residing in such forests for generations but whose rights could not be recorded" and "to provide a framework for recording the forest rights so vested and the nature of evidence required." Under section 3, forest rights of the forest dwelling scheduled tribes are defined to include-

a. Right to hold and live in the forest land, under individual or common occupation, for habitation or for self cultivation for livelihood, by a member or members of a forest dwelling scheduled tribe.
b. Rights such as nistar and uses in erstwhile princely states, zamindari or such intermediary regimes.
c. Right of access to, use or dispose of minor forest produce.
d. Other rights of uses or entitlements such as grazing and traditional seasonal resource access of nomadic or pastoralist communities.
e. Right of habitat and habitation for primitive tribal groups and pre-agricultural communities.
f. Rights in and over disputed lands under any nomenclature in any State where claims are disputed.
g. Rights for conversion of Pattas or leases or grants issued by any local authority or any State Government on forest land to titles.

[52] Sarin, M., "Scheduled Tribes Bill 2005: A Comment", *EPW Commentary*, May 21, 2005.
[53] Madhusudan, M.D., "Of Rights and Wrongs: Wildlife Conservation and the Tribal Bill", *Economic and Political Weekly*, November 19, 2005.

h. Rights of conversion of forest villages into revenue villages.

i. Rights of settlement of old habitations and unsurveyed villages, whether notified or not;

j. Right of access to bio-diversity and community right to intellectual property and traditional knowledge, related to forest biodiversity and cultural diversity;

k. Right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving;

l. Rights which are recognised under any State law or laws of any Autonomous District Council or Autonomous Regional Council or which are accepted as rights of tribals under any traditional or customary law of any State;

m. Any other traditional right customarily enjoyed by the forest dwelling Scheduled Tribes which are not mentioned in clauses (*a*) to (*l*) but excluding the right of hunting.

The above provisions of the proposed legislation could be expected to have an impact upon protection of indigenous knowledge and the biological resources. It explicitly recognizes the forest rights of the tribal people living within the forest area, with such recognition entailing user rights of forest produce/natural resources. If the proposed bill can ensure the continuity of the relationship between tribal people and the surrounding natural resources, this can indirectly help in protecting IK through continuous practice of their knowledge as well as its further development. The legal recognition provided by the Bill, to a right to access forest bio-diversity as well as the right to protect, regenerate or conserve or manage any community forest resource can be expected to ensure continuation of the traditional practices of the FDSTs, which in turn will contribute to the protection and development of IK. The recognition of community right to intellectual property and traditional knowledge related to forest biodiversity and cultural diversity is a definitive step towards establishing community ownership over indigenous knowledge. Irrespective of the fact that the process for actual implementation of such provisions are yet to be worked out, the explicit legal recognition of community rights over indigenous knowledge would surely provide the desired support in ensuring legal ownership to the actual owners of the knowledge.

Some other Definitions

While viewing the Bill from the perspective of IK protection, it is pertinent to discuss some of the other definitions used in the Bill. The Bill defines FDSTs as the members or

community of scheduled tribes who primarily reside in and around forests and include the scheduled tribes pastoralist communities and who depend on the forests or forest lands for bonafide livelihood needs[54]. The forest rights as are recognized and vested to the FDSTs under the Bill can be exercised only for bonafide livelihood purposes. The Bill defines bonafide livelihood needs in relation to FDSTs to mean the use of forests and forest based products for subsistence of such tribes or for their own consumption and includes barter and sale of such forest-based products for their household needs[55].

The Bill also defines forest villages as the settlements which have been established inside the forests by the forest department of any state government for forestry operations or which were converted into forest villages through the forest reservation process. It also includes forest settlement villages, fixed demand holdings, all types of taungya settlements and includes lands for cultivation and other uses. Further, according to the Bill, minor forest produce includes all non-timber forest produce of plant origin including bamboo, brush wood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the like.

For the purpose of the Bill, Gram Sabha means a village assembly, which consists of all adult members of a village whose names are included in the electoral rolls for the Panchayat at the village level. In case there is no Panchayat in the State, then the traditional village institutions will be considered as the Gram Sabha.

Nature of Forest Rights and their Settlement

Under Section 4 of the Bill, the Central Government recognizes and vests forest rights (as is defined in the Bill) in the FDSTs, where they are scheduled. In other words, this recognition and vesting is applicable only to those tribes that are scheduled for the area and have been living in the forests. A tribal from outside that area will not benefit. Thus the benefits under the Bill is on “as is where is” basis. Such forest rights are in respect of recognition of occupation of FDSTs on forest land and their habitat, where they have been living for generations. The recognition and vesting of these rights are subject to the condition that the tribes or tribal communities had occupied forest land before 25th October 1980, or such other date as the Central Government may notify. Till the time the recognition and verification procedure is completed in the manner as may be prescribed, no member of a FDST can be evicted or removed from forest land under his occupation.

[54] Sec 2©
[55] Sec 2(a)

Some other aspects of the recognition and vesting of forest rights are:

- The rights conferred under the Bill are in heritable but not alienable or transferable.
- Where the forest rights are in respect to land, the area of such land shall not exceed 2.5 ha per nuclear family of a FDST.
- The title to the extent given has to be registered jointly in the name of the male member and his spouse.
- The forest rights recognized under the Bill can be exercised only for the bonafide livelihood purposes and not for exclusive commercial purposes.
- The rights under the Bill also entail the responsibility of protection, conservation and regeneration of forests, on the FDSTs.

From the above provisions, it can be inferred that the Bill tries to achieve a balance between conservation interests and livelihood interests of the FDSTs. The inheritable but non-transferable forest rights ensure that the Bill benefits the FDSTs and the rights are not taken away from the people by any third party. Also the fact that the Bill applies "as is where is", ensures that land need not be distributed among the FDSTs afresh; also that tribal people will not be allowed to newly claim land irrespective of their place of living. The bill seeks to recognize the rights while the status quo remains. Each family is given only a fixed allotment of land with the upper limit of 2.5 ha.

The rights recognized under the bill have a defined limit of exercise, i.e. only for bonafide livelihood purposes. The rights also bring the responsibility on the FDSTs to ensure protection, conservation and regeneration of forests. However, the scope of legal consequences of such a responsibility is not yet known. Nevertheless, such provisions can be expected to ensure that there is no overexploitation of the resources once land rights are given to the FDSTs. The bill also seeks to ensure gender equity when it requires that rights given have to be registered jointly in the name of the male member and his spouse.

It has been felt that one major strength of the Tribal Rights Bill is the clear process that it specifies by which these rights can be settled, and the provision for including multiple stakeholders in this process[56]. It also specifies the kinds of evidence that can be looked into while ascertaining claims to rights. The Bill provides for clear institutional mechanisms to cross check the claims before being finalised and a body to regularly monitor the process. All the bodies thus established have a multi-stakeholder

[56] Kalpavriksh, "The Scheduled Tribes (Recognition of Forest Rights) Bill 2005: General Comments on the Content and Process", July 9, 2005.

representation, the one weakness being the absence of environment/conservation NGOs.

The Role of the Gram Sabha

Another important aspect of the Bill is that the determination of the extent of forest rights that may be given to the FDSTs has been made the responsibility of the Gram Sabha[57]. Village G*ram Sabhas* have been made central to the process of ascertaining the rights as well as conserving the forests over which the rights exist. From the IK point of view, it can ensure that specific practices of the FDSTs living in the area are considered while determining their forest rights and thus contribute towards recognition and continuation of such practices. The Bill intends to empower village Gram Sabhas to be the legal institutions dealing with unsustainable use, although the word unsustainable itself has not been defined. The Bill also attempts to empower the village Gram Sabhas to deal with activities that are socially and ecologically destructive.

Offences and Penalties

The Bill provides for penalties[58] for committing various offences by the FDSTs. If any holder of forest rights under the Act or any other person,

- Contravenes or abets the contravention of any of the provisions of this Act, or
- Commits the breach of any of the conditions of the forest rights vested or recognized under this Act,
- Engages in unsustainable use of forest or forest produce,
- Destroys wildlife, forests or any other aspect of biodiversity,
- Fells trees for any commercial purpose

Then he will be held guilty of an offence under the Act and be punished with a fine upto Rs.1, 000/-.If the offence is committed more than once, the forest right of the offender shall be de-recognised for such period as the District level Committee[59], on the recommendation of the Gram Sabha, may decide.

Relationship with Existing Laws

Save as otherwise provided in the bill, the provisions of the bill "shall be in addition to and not in derogation of the provisions of any other law for he time being

[57] Section 6
[58] Section 8
[59] Section 6(7)

in force". This goes to imply that all xisting conservation laws will remain in force. The rules to be framedunder the bill shall prescribe how this will work.

Weaknesses of the Bill

While the Bill's good intention has been appreciated by all, it has been felt by many that there are many weaknesses, which need to be done away with, if it is to be successful in achieving its objectives.

It has been pointed out that the Bill entrusts the Gram Sabha with a great deal of responsibility, without going into the question whether all Gram Sabhas are willing to take on all the responsibilities and have the capacity to do so. In reality, many Gram Sabhas may not have the inclination or the capacity to deal with such daunting tasks as dealing with forest offences on their own. They may need or ask for a systematic support to handle the responsibilities that they have been entrusted with. The Bill doesn't provide for any such institutional or other kind of support; perhaps this can be built into the Rules[60].

During settlements, the bill vests authority in the Gram Sabha to initiate action for determining and recording the forest rights that may be vested. This is to be done in well-attended open meetings to ensure transparency and accountability and to protect the non-literate from the tyranny of paper work and bureaucratic procedures. Critics, however, argue that Gram Sabhas are not necessarily democratic.

The Bill, again, treats wildlife and forest offences in a light manner, by imposing a comparatively very small fine of Rs 1000 fine, which is inconsistent with fines for same offences under Wildlife Protection Act and other existing Acts.

The Bill will be applied in areas and subjects which are also under the Indian Forest Act, Forest Conservation Act and Wild Life Protection Act, which have elaborate provisions to deal with forest and wildlife related offences. There is no suggestion in the Act about dealing with these offences in any joint manner. In order to avoid confusion on ground, the Bill needs clarity on interrelationship between the Gram Sabha and the forest department in particular, and the relationship between this Bill and other relevant Acts in general. Clear institutional mechanisms need to be worked out to deal with the offences at various levels and of various grades of gravity, with appropriate checks and balances.

[60] Kalpavriksh, "The Scheduled Tribes (Recognition of Forest Rights) Bill 2005: General Comments on the Content and Process", July 9, 2005.

Critics of the Act have also pointed out that it would be incorrect and dangerous to presume, as the Bill does, that all adivasi cultures and societies aid conservation goals. Madhusudan[61] has opined that "serious research in many indigenous societies and ecosystems across India and elsewhere has established that indigenous land and resource use practices can be significantly damaging to wildlife conservation". He further says that "this is not to underplay the important role these communities could potentially play in assisting wildlife conservation. But to push the tribal bill through on a rather naïve belief that adivasi lifestyles are low-impact and wildlife-friendly is to ignore accumulating data to the contrary. If the rights of adivasis over forest land are to be recognised, it must be done with the explicit understanding that they too, like other communities, can adversely impact wildlife and build safeguards against it"[62].

Also, forest rights under the Bill are to be vested "only in those forest-dwelling scheduled tribes who are living in the areas in which they are scheduled and in occupation of land since before October 25, 1980".These provisions have resulted in unjustified exclusion of otherwise equally eligible non-tribal as well as tribal forest-dwellers which may lead to generation of tensions and divisions. The Bill also does not define terms like "sustainable use" of resources, or "community forest resource". Such terms need to be precisely defined as otherwise, these remain subject to various interpretations, including misuse, and would be most difficult to implement.

[61] Madhusudan, M.D., *op.cit*.
[62] *ibid.*

CHAPTER V

NON- LEGAL EFFORTS TO PROTECT IK: THE STATE OF DOCUMENTATION IN INDIA AND OTHER SOUTH ASIAN COUNTRIES

5.1. THE NEED FOR DOCUMENTATION OF IK

In the previous chapters, we have primarily concentrated on the legal efforts at the national and international level to protect IK; in this chapter, we will be dealing with the non- legal efforts undertaken to protect IK; primarily the efforts at documentation of IK in South Asia.

Documentation of Indigenous Knowledge is regarded as a means to extend protection to the indigenous knowledge, innovations and practices in a number of ways. [1] Particularly, it is believed that proper documentation of associated IK could help in checking bio-piracy.[2] The nature of IK is such that more of it is transmitted orally than written down; this poses particular problems when parties not authorized by the holder of that knowledge seek to obtain IPRs over it. In the absence of any accessible written record, a patent examiner in another country is unable to access documentation that would challenge the novelty or inventiveness of an application based on IK. The only option for an aggrieved party, be it the holders of the knowledge, or someone representing them, is to challenge the patent during the granting process or after grant, which is an expensive and cumbersome process (as highlighted in the Basmati and turmeric case). It is assumed that if the material/ knowledge is documented, it can be made available to patent examiners the world over so that prior art in the case of inventions based on such materials/ knowledge are/ is readily available to them. Such documentation can help establish the property rights of local communities over their IK and in cases where IK is commercialized, facilitate prior informed consent (PIC) and an equitable sharing of benefits with the IK holders. Documentation can also serve as a mechanism for obtaining protection of IK through national *sui generis* systems.

In addition, documentation can help provide a reliable estimate of the nature and extent of biodiversity and associated IK. It can facilitate researchers and others in

[1] UNU, "The Role of Registers & Databases in the Protection of Indigenous Knowledge-A Comparative Analysis", United Nations University Institute of Advanced Studies (UNU-IAS), Japan, January 2004

[2] " Protection of Biodiversity and Traditional Knowledge- The Indian Experience" (WT/CTE/W156 IP/C/W/198), Submission by India at the Committee on Trade and Environment Council for Trade-Related Aspects of Intellectual Property Rights, 14 July 2000

examining the threats faced by biodiversity and IK. Through recording and preservation in a documented form, IK is prevented from being lost.

Although interest in the protection of biodiversity and associated IK has only increased recently, its documentation is not new. Researchers (particularly anthropologists and sociologists) in South Asia have long been engaged in the documentation of local practices and knowledge. These studies have been primarily aimed at understanding the relationship between communities and their resources and knowledge pertaining to these resources. Similarly, ethno-botanists have collected a great deal of information on local knowledge associated with the plant resources of South Asia. In addition, government agencies such as the Zoological Survey of India and the Botanical Survey of India) have carried out a number of surveys of bio-resources. Others such as the Council for Scientific and Industrial Research and the Indian Council of Agricultural Research have documented national bioresources and IK related to industry and agriculture.

In this chapter, we have tried to comprehensively review the main efforts at documentation undertaken in India, Bangladesh, Sri Lanka and Pakistan and assess their effectiveness in protecting IK.

5.2. DOCUMENTATION OF IK IN INDIA

Till date, most of the work to document IK in South Asia is being carried out in India, which includes:

a) the preparation of Community Biodiversity Registers (CBRs) and People's Biodiversity Registers (PBRs) [3];

b) the documentation of local innovations, with the twin objectives of facilitating the protection and commercialization of these innovations;

c) the documentation of IK pertaining to traditional systems of medicine in a digitalized format; and

d) ethno-botanical studies.

These efforts are described in the following paragraphs.

[3] Initially, the registers were called "Community Biodiversity Registers". Later, the name was changed to People's Biodiversity Register (PBR).

5.2.1. COMMUNITY AND PEOPLE'S BIODIVERSITY REGISTERS

India has witnessed the most extensive and ambitious efforts to document IK and biodiversity in the form of registers, which is unparalleled anywhere in the world. According to a Government of India document, 75 Plant Biodiversity Registers had been established by mid 1998. The PBRs prepared in India include the following:

5.2.1.1. PBRs BY FRLHT AND IISc

The first attempt to prepare a People's Biodiversity Register in India was undertaken in 1995, as a collaborative effort between the Foundation for Revitalisation of Local Health Traditions (FRLHT) and the Indian Institute of Science (IISc), Bangalore.[4] It was expanded in 1996 to 52 sites in a number of states and covered about 1000 villages. The programme covered the states of Himachal Pradesh, Rajasthan, Bihar, Assam, Orissa, Karnataka, Maharashtra and the Andaman and Nicobar Islands. These eight regions were selected as representative of the varied ecological and social regimes in the subcontinent, including tropical wet, tropical moist, tropical dry, tropical semi-arid, subtropical, temperate and alpine. These also covered a whole range of ecosystems including forest, pasture, wetland, degraded forest, agriculture, horticulture and desertic, This work was carried out between 1996-98 as part of the Biodiversity Conservation Prioritization Programme, supported by the World Wide Fund For Nature (India).

The first Register for this programme was prepared by the group Research and Action in Natural Wealth Administration (RANWA), during 1995-96. It covered Supegaon village, bordering the Phansad Wildlife Sanctuary in Murud Taluka, in the Raigad district of Maharashtra. The Register was deposited with RANWA, the local panchayat and IISc.[5] As this was the first effort of its kind, the register largely consisted of lists of plants of economic value, with a description of their important uses. With greater experience, registers with more detailed information have been prepared.

The main objectives of the registers prepared under this programme were:

- to document, monitor and provide information for the sustainable management of local biodiversity resources and strengthen the process of decentralized management of natural resources. Included is information on the status of biodiversity resources; factors which affect the conservation of biodiversity resources; the extent of local

[4] Gadgil, M.(undated), "People's Biodiversity Registers: Lessons Learnt", Centre for Ecological Sciences, Indian Institute of Science, www.etfrn.org/etfrn/workshop/biodiversity/documents/gadgil/bioreg.pdf

[5] Information provided by Mr. Utkarsh Ghate, FRLHT.

community involvement in the conservation of biodiversity and the local community's use of IK for this purpose.

- to establish the claims of individuals and local communities over the knowledge associated with their biodiversity resources and to bring to them an equitable share of the benefits flowing from the use of such knowledge and resources;

- to act as a tool for teaching environment and biology, with particular focus on the preservation of local communities' ecological knowledge and indigenous medicines, such as Ayurveda and Unani medicine.

According to Gadgil[6], the Registers are expected to promote:

- an awareness of the economic value of bioresources and IK, which could lead the community to develop an interest in the sustainable harvesting of its natural resources;

- an understanding of the role of ecological processes in the conservation of biodiversity;

- indigenous practices, which can contribute to the conservation of biodiversity and IK;

- social mobilization at community level; and

- the commercialization of IK.

The methodology for the preparation of the registers was finalized through a process of discussions between FRLHT, IISc and various collaborators. A common manual, specifying the methodology, was used by all the groups involved in the preparation of PBRs under this programme. The fieldwork was largely carried out by local people, but under the supervision of college and university teachers, rural development workers and environmental NGOs. In addition to local communities, help was also taken from local institutions such as the Gram Panchayat, Taluk Panchayat, Zila Panchayat and government agencies involved in the management of natural resources.

Data was collected through the following steps: (a) The rationale of the project was explained to local people, which helped to build a close rapport with them. (b) Important biodiversity user groups and individuals with knowledge of the distribution of biodiversity and its uses were identified and interviewed. (c) The landscape of the study site was mapped. (d) Group discussions involving knowledgeable individuals and user group members, in the presence of the entire village population, were held.

[6] Gadgil, M,, , *op.cit.*

(e) Discussions were also held with outside elements which affect the resources, such as nomadic shepherds, artisans, traders and government officials.

Ten modules were used for the collection of information. These pertain to information on the following aspects of IK: [7]

(a) description of the habitats and bio-resources on which the community depends, such as fuel wood, dung, medicinal herbs, small timber, cane, reeds, bamboo etc.;
(b) extent and distribution of biodiversity and IK;
(c) local community's perceptions and practices of sustainable use, conservation and restoration of biodiversity resources;
(d) local community's perceptions of current conservation and development efforts;
(e) the community's relationship with local resources and changes which might affect a habitat and the community's relationship with it;
(f) economic transactions using local biodiversity resources and the perceptions of local people as to how fair such transactions are;
(g) personal aspirations of local people and how these could affect their relationship with the natural, especially the living world;
(h) local people's perceptions of options for the development and management of their natural resource base in an environmentally friendly fashion.

The PBRs prepared under this programme documented both 'secret' and widely known information. The information was collected from members of local communities who interact with biological resources as a part of their living and practitioners of indigenous medicine. In addition to this, the registers also documented information obtained from practitioners of Ayurveda, Unani and Sidhha. Wherever considered necessary, only limited information was revealed in the registers, in order to protect the intellectual property rights of the individual/community.

The basic documents were first prepared in local languages. Later, many of these were translated into English.

The documents are freely available to the community concerned. Commercial companies can gain access after paying a prescribed fee and signing a "benefit-sharing" agreement.

[7] Gadgil, M., 2003, "People's Biodiversity Register: Outline of a Methodology Manual", http://ces.iisc.ernet.in/hpg/cesmg/downloads/pbrmanual.pdf, May 10, 2003.

In the long term it is planned to link the community level, decentralized databases to form a national database. As a part of this work, it is also proposed that communities will be provided with market related information, such as prices and the size of demand, which would help them to increase their earnings.

5.2.1.2. COMMUNITY BIODIVERSITY REGISTERS PREPARED BY CCD, MADURAI[8].

The registers prepared by CCD, Madurai documented information on the following aspects:

- Indigenous health practices and home remedies used by folk healers and local women. This work was done with technical and financial support from the Foundation for Revitalization of Local Health Tradition (FRLHT). It was a very detailed survey, covering the socio-economic background of the healers, the cultural context in which the practices were sustained, the mode of knowledge transmission, the practitioners' attitude towards further dissemination of IK, the health conditions treated, the herbs and other raw drugs used for the medicines, the method of preparation, dosage, indications, contra indication, the practitioners' perception of the drug efficacy etc.

- Indigenous crop varieties and IK associated with their cultivation. This register profiled the varieties, their characteristics and associated agricultural practices. It also covered farmers' access to seed and their practices with regard to the saving, conservation and exchange of seed.

- Grass root level innovations. This included information on the circumstances which led to the innovation, the process and steps involved and the comparative advantages vis-a-vis existing practices / equipment. This work was done on behalf of the National Innovation Foundation (NIF).

These documents have been released to the public through district administration officials. The practices contained in the document have been declared, by the local body, to be the intellectual property of local communities as per the requirement of the Convention on Biological Diversity (CBD). CCD is acting as the repository of the documented IK. Its use for academic and non-commercial purposes is permitted without charge. Commercial use is allowed, but the benefits accruing from this are to be shared with the local community. There is no information as to whether any

[8] Information provided by Mr. N.Muthu Velaytham, Secretary, CCD

commercial use of the IK documented in these registers has taken place and what mechanism of benefit sharing has been used.

5.2.1.3. WORK DONE BY GENE CAMPAIGN

Gene Campaign has documented biodiversity and associated IK in Jharkhand, Madhya Pradesh, and Uttarakhand. It has focused on three tribal populations: the Munnars in the Chotanagpur region of Jharkhand; the Bhils of Madhya Pradesh; and the Tharus of the Terai region of Uttarakhand. The Department of Science and Technology of the Indian government supported the documentation.

The main objective of the documentation was to establish that the IK held by these communities was their intellectual property. It is hoped that the documentation would help in challenging IK based patents taken by private companies, check biopiracy and enable communities to get a fair share of the benefits, when the documented IK is used commercially.

A large number of villages were covered in the documentation exercise. For example, 50 villages of the Tharu communities of Uttarakhand were included. The fieldwork was carried out by members of the community themselves, who were trained to do so by Gene Campaign. In addition to a standardized, structured questionnaire, techniques such as semi-structured questionnaires, informal interviews and group discussions were used for the collection of data. Group discussions exclusively for women were also conducted. In some villages it was found that the women were more curious and enthusiastic about the documentation work than their male counterparts.

Each community has been assured that the data would remain their property and its misuse would not be permitted. Only the community itself would have the power to grant permission for commercial use of the IK contained in the documents. The data is presently with the Department of Science and Technology, Government of India, though the ownership rights belong to the communities concerned.

In addition to the collection of information on IK, the project also involved making these communities aware of the threat of biopiracy, and the implications of IPRs and various national and international developments concerning the protection of biodiversity and IK. They were also informed of their right to a share of benefits derived from the commercialization of IK.

5.2.1.4. WORK DONE BY M.S. SWAMINATHAN RESEARCH FOUNDATION

The M.S. Swaminathan Research Foundation of Chennai has been engaged in the preparation of a Farmers' Rights Information System (FRIS). With focus on the conservation of agro–biodiversity, the main objective of the database is to help local communities derive economic benefit from the conservation of agro-biodiversity. It also aims to give recognition and reward to tribal and rural communities for their contribution to genetic resources conservation and enhancement.[9]

FRIS is a comprehensive database linked to the Community Gene Bank (CGB) set up by MSSRF, which holds samples of farmers' varieties of seeds for different crops from Tamil Nadu, Kerala and Orissa. The objective of the gene bank is to collect and document biological materials, and to regenerate plants facing threat of extinction. The system includes a database of indigenous knowledge and ethno–botanical information on economically important plants, both in manual and electronic format.

The Foundation has a strict policy governing access to the material and information contained in its Gene and Data Banks. It performs the role of the custodian of genetic resources, which continue to be owned by farming and tribal communities. Access to collections is not at the discretion of the foundation but requires the prior informed consent of farmers.

MSSRF has also prepared PBRs in the Wynaad district of Kerala.

5.2.1.5. PBRS PREPARED BY KERALA SASTRA SAHITYA PARISHAT

The Kerela Sastra Sahitya Parishat, a leading member of the People's Science Movement in Thiruvananthapuram, has prepared PBRs covering all 85 village councils of the Ernakulam district. This work was done during 1998-99 and was part of their work on local level mapping of natural resources to support decentralised systems of resource management. Details are not available.

5.2.1.6. WORK DONE BY KALPAVRIKSH AND THE BEEJ BACHAO AANDOLAN

Kalpavriksh, a leading NGO based in Pune and Delhi and the Beej Bachao Aandolan (Save the Seeds Campaign) of Tehri-Garhwal, Uttarakhand have collaborated with the villagers of Jardhar village of the Teri Garhwal district of Uttarakhand to document the bio-resources and conservation practices of the community. A copy of the register is kept in the village, while another copy is kept by Kalpavriksh. The information in the register can be used and distributed only with the consent and knowledge of the

[9] UNU, 2004, *op.cit.*

villagers. The conditions under which commercial use of the information is permitted is not known.

5.2.1.7. CBR BY THE RESEARCH FOUNDATION OF SCIENCE, TECHNOLOGY AND ECOLOGY

RFSTE has been engaged in documenting biological resources and associated indigenous knowledge with the help of a movement called the Jaiv Panchayat (Living Democracy). The information, collected from local villagers, has been compiled in the form of Community Biodiversity Registers (CBRs). An important objective of the work has been to try to establish the sovereignty of local communities over their biodiversity resources. Most of this work is concentrated in Uttarakhand. The first register was completed in Agasthyamuni village, Garhwal district, Uttaranchal, in 1999. According to RFSTE, such efforts have been made in 292 sites in the country.

5.2.1.8. PREPARATION OF INVENTORY BY THE GREEN FOUNDATION (BANGALORE)

The Green Foundation has prepared an inventory of local biodiversity resources and indigenous knowledge. The objectives of the work, carried out with the active participation of local communities have been to create an awareness of biodiversity and associated IK among community members and to create a sense of ownership of the resources within the community.

5.2.1.9. DOCUMENTATION BY THE DECCAN DEVELOPMENT SOCIETY OF HYDERABAD

The Deccan Development Society of Hyderabad has documented the occurrence and management practices of land races of cultivated crops to support their on-farm conservation work.

5.2.1.10. PBR BY PASCHIM BANGA VIGYAN MANCH OF KOLKATA

The Paschim Banga Vigyan Manch of Kolkata has prepared a PBR in the Hooglie district of West Bengal.

5.2.2. DATABASE OF LOCAL INNOVATIONS

The documentation and preparation of a database of local innovations in India is largely being done by the Society for Research into Sustainable Technologies and Institutions (SRISTI) and the Honeybee Network.[10]

SRISTI, a grassroots NGO working primarily in the arid and semi-arid areas of Gujarat, has developed a national network of NGOs, local communities, local government, scientists, State Administration and the Forest Department, to work towards the conservation of biological diversity and indigenous knowledge. An objective of the Society is to document and add value to indigenous knowledge so that its contribution to the lives of local communities, and others, is enhanced.

As part of this work, SRISTI has set up a global network of grassroots organizations and individuals in more than 70 countries. It is called the "Honey Bee Network". The main objectives of the Network are: to forge links between knowledge providers and innovators; acknowledge the contribution of knowledge providers and collectors; and ensure fair distribution of benefits among all stakeholders, including communities.[11]

The Network, which is engaged in the documentation and dissemination of indigenous knowledge, probably has the world's largest database on grass root innovations. About 10,000 innovations are included, with the names and addresses of the innovators (individuals or communities). Established about ten years ago, the database focuses on indigenous knowledge and innovations related to the use of bio-resources in agriculture and health care by individuals and local communities. It includes information from India and other developing countries in Africa, Asia and Latin America. The Network brings out a Newsletter (the Honey Bee Newsletter) to disseminate information on grassroots innovations to more than 75 countries.

The main objective of the database is to provide local innovators with an opportunity to register their innovations. It is hoped that registration will prevent unlawful commercial use of innovations. It will also facilitate the commercialization of grass root innovations on a basis of fair and equitable sharing of benefits. For example, efforts are being

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Gupta, A., 2001, “How Can Asian Countries Protect Indigenous Knowledge, Farmers Rights and Access to Genetic Resources through the Implementation or Review of the WTO TRIPS Agreement”, paper presented at The Joint ICTSD/CEE/HBF Regional Dialogue for Governments and Civil Society, organised by International Centre for Trade and Sustainable Development, Geneva at Chiang Mai, Thailand March 29 – 30, 2001. http://www.ictsd.org/dlogue/2001-03-29/Gupta.doc

[11] UNU, 2004, *op.cit.*

made to commercialize these innovations through a micro venture promotion fund. [12] This is being done in collaboration with the Gujarat government, which has set up a fund to convert the innovations on the Honey Bee database to commercial enterprises. The fund files patents on behalf of grassroots' innovators and supports those who may not have access to risk capital, technical know-how or design inputs.

Another step taken to promote and diffuse innovation is the establishment of the National Innovation Foundation (NIF), set up in 2000 by the Indian Government's Department of Science and Technology, with a corpus of US 5 million dollar. The objective of the Foundation is to create a national and international Register for Innovations and act as a clearinghouse for local innovations.[13] It is hoped that the Foundation will facilitate the building of bridges between informal and formal science and create awareness in society of the importance of grass root innovations. It can also help in providing low cost protection for local innovations.

The Fund has developed a prior informed consent (PIC) system to seek the consent of the innovators and IK holders for documenting, and adding value to, the information. The PIC system sets out procedures and conditions for the sharing of innovations and IK with third parties; benefit–sharing arrangements for the commercial use of innovations and IK; and the assignment of technology to NIF.[14] Under this PIC system, NIF can mediate and negotiate with potential entrepreneurs and investors on behalf of the innovators and IK holders. Also, in the event that disputes arise with regard to the transfer of technology to third parties, NIF will provide legal support to the IK holders.

One potential concern about placing indigenous knowledge in the database is that communities may be deemed to be placing it in the public domain, and thereby may lose any rights over such information. For this reason, innovators are given an option to have their information kept confidential.

5.2.3 TRADITIONAL KNOWLEDGE DIGITAL LIBRARY

The Traditional Knowledge Digital Library (TKDL) is an Indian Government initiative to prepare a computerized database of IK related to medicinal plants. The project was born out of India's experience in seeking to overturn the two patents granted in the US and Europe over products based upon Indian IK (the wound healing properties of

[12] Gupta, 2001, op.cit.

[13] Gupta ibid.

[14] UNU, 2004

turmeric and fungicidal properties of *neem*). The time and resources required to contest these two patents convinced the Indian government of the need for a mechanism to prevent the granting of inappropriate patents. TKDL was viewed as an important element in this mechanism.

The TKDL database is primarily targeted at examiners in patent offices in various countries. It is hoped that they would use TKDL to ascertain whether, when a patent is applied for, the development is already in the public domain. Also, if for some reasons TKDL does not become available to the examiner at the examination stage, it can be used to challenge the patent at the time of opposition proceedings. Moreover, some countries such as the United States do not invite objections before the grant of patents. TKDL, therefore, is the only viable way to challenge the granting of patents based on IK.

The project, which was initiated in 2002, is a collaborative effort between the National Institute of Science Communication and Information Resources (NISCAIR, erstwhile NISCOM), the Department of Indian Systems of Medicine and Homeopathy (ISM&H), and the Ministry of Health and Family Welfare. It is being coordinated by NISCAIR. A number of institutions, including NBRI and FRLHT, are working on the TKDL project.[15] NBRI is working on the documentation of oral sources. Most of this material will come from the All Indian Coordinated Project on Ethnobiology. The project is expected to cost about Rs. 30 million.

The TKDL project is also preparing an indigenous knowledge resource classification system (TKRC).[16] This is required because the classification system used in the existing IPR regime can not accommodate much of the indigenous knowledge. The proposed classification system is based on the structure of the International Patent Classification (IPC) system. TKRC will be able to be used systematically to arrange, disseminate and retrieve about 5,000 sub–groups of IK related to medicinal plants. It also converts Sanskrit *Slokas* into English, German, French, Japanese and Spanish.

During its first phase the digital library has focused on IK related to *ayurveda*. So far 36,000 *Slokas* (formulations in verse forms) have been identified and transcribed from the *Ayurvedic* texts for inclusion in the database. Of these, 29,000 formulations have been verified and validated by *Ayurveda* experts. Their translation into Spanish, German, French and Japanese has also been completed. Other forms of indigenous medicines (*unani, siddha*, naturopathy, homeopathy and folklore medicine) will be covered later.

[15] Indigenous Knowledge Digital Library, http://www.infinity-foundation.com/mandala/_es/t_es_TKDL.htm
[16] UNU, 2004

Access to the data contained in TKDL will be closely regulated. The Department of the Indian Systems of Medicine and Homeopathy has set up an Inter–Ministerial Access Policy Committee, which is currently developing a system to ensure safeguards against the misuse of data, while giving access to global patent examiners and others at national and international levels. It is proposed that the database will be made available to patent examiners throughout the world under a non–disclosure agreement. The database may also be made available via the internet on a secure access basis.

5. 2.4 ETHNO-BIOLOGICAL STUDIES

Ethnobiology refers to the study of indigenous societies and their relationship with surrounding flora and fauna. Many ethnobiological studies focus on IK associated with the use of flora and fauna by local communities. For this reason, ethnobiological studies constitute an important source of information on IK.

India has a long tradition of ethnobiological studies, and efforts to conduct these have intensified during the post-independence period.[17] The first major step in this direction was taken by the Economic Botany section of the Botanical Survey of India, in the mid-1950s, when it took a number of such initiatives.[18] The volume of research has seen a steady increase since then. The 1980s saw a particularly large increase in interest in these studies. According to a review of ethnobotanical literature published between 1982-2000, about 1250 publications appeared in India during this period.[19]

Most Indian ethnobotanical studies deal with tribal people, who account for about 19% of the population.[20] IK associated with health care has been the major focus of these studies.[21] Gene campaign's analysis of almost121 papers published in major journals during 1995-2004 shows that almost half the ethnobiological studies during this period focused on the IK related to the medicinal use of plants as evident in Table1below:

[17] Jain, S.K., (undated), "Ethnobotany and Research on Medicinal Plants in India", National Botanical Research Institute, Lucknow, India.

[18] Lalramnghinglova, H., L.K.Jha," Ethnobotany: A Review", *Journal of Economic Taxonomic Botany,* Vol. 23, No.1, 1999.

[19] Jain, S.K., S. Srivastava, "Indian Ethnobotanical Literature in Last Two Decades-A Graphic Review and Future Directions", *Ethnobotany*, Vol. 13, 2001, pp. 1-8.

[20] Arora, R.K., "Ethnobotanical Studies on Plant Genetic Resources-National Efforts and Concerns", *Ethnobotany*, Vol. 7, 1995, p. 134.

[21] Our findings are also supported by other observers. For example, Jain and Srivastava, 2001:2, *op.cit*.

Table I

Focus of Ethnobiological Studies

Focus of the Study	Medicinal properties	Conservation	Food	General	Others	Total
Number	60	7	11	37	8	121
(%)	49	6	9	30	6	100

Perhaps the most ambitious attempt to document ethnobiological information in India was carried out under the All India Coordinated Research Project on Ethnobiology. Launched in 1982, the project covered about 80% of India's tribal area. An important reason for setting up the project was the feeling that "….biological resources in tribal and other backward areas are becoming scarce as a result of their indiscriminate and unplanned management". [22] It was considered necessary to carry out a comprehensive all-India survey to collect this information before it was lost. It was also hoped that the project would contribute to improving the economic condition of the tribal population. According to the Status Report of the Project: "It is hoped that information generated by this project may help the planners, policy makers and administrators a great deal to evolve realistic tools to aid development and welfare programme of the tribals…."[23]

The main objectives of the Project were to:

(a) document tribal knowledge systems before they are lost. Collect new information on unexploited natural resources, and new uses of existing resources pertaining to food, medicine, fibre and fodder.

(b) revitalize disappearing knowledge and promote its use for the benefit of both the local community and the whole society.

(c) Contribute to the conservation of biodiversity and IK. "…. document methods to preserve/conserve all indigenous belief and knowledge systems that promote

[22] Pushpangadan, P., (undated), "Ethnobiology in India-A Status Report", All India Coordinated Research Project on Ethnobiology, Ministry of Environment and Forest, Government of India, New Delhi.

[23] *ibid.*

conservation oriented practices and sustainable utilization of local resources by the tribal people."

(d) collect information which could help in the cultivation of threatened plants.

(e) document indigenous skills and crafts and "..find ways to reorganize and upgrade these vocational jobs so that the tribals could improve the standards and quality of the living."

The Project was supported by the Ministry of Environment and Forest and involved a number of research centres. It has resulted in a large body of ethnobiological information, which covers a large number of tribal groups and local communities. In terms of bio-resources, the project focused on plants with medicinal and food value; it covered 200 plants with medicinal properties and 200 wild edible plants. Access to these documents is closely controlled by the Ministry of Environment. The information collected for the project has not been made public, although some of the individual researchers associated with the Project have published their findings in academic papers.

5.3. DOCUMENTATION OF IK IN OTHER SOUTH ASIAN COUNTRIES

Following India's lead, a number of government agencies and NGOs in other South Asian countries have been engaged in the documentation of IK, primarily through preparation of biodiversity registers with objectives, similar to those of India. By and large, these efforts are in their infancy, and their impact on the protection of IK has been minimal. The important initiatives are described in the following paragraphs.

5.3.1. DOCUMENTATION OF IK IN BANGLADESH

Very limited work on the documentation of IK is being carried out in Bangladesh; most of such work is focused on biodiversity and not the associated IK. For example, the Bangladesh Centre for Advanced Studies (BCAS) has carried out a number of studies to document biodiversity in wetland and forest areas. The Bangladesh Agriculture Research Institute and Bangladesh Institute for Rice Research have collected information on agricultural biodiversity. The Bangladesh Environmental Lawyers Association is preparing a document on the state of bio-diversity (plant species) in a hill district of Bangladesh.[24]

We have information on only one project related to the documentation of IK in Bangladesh. This is a project to document health related IK by the Bangladesh Centre

[24] Information provided by Syeda Rizwana Hasan, Bangladesh Environmental Lawyers Association, Dhaka, Bangladesh.

for Advanced Studies (BCAS).[25] The focus of this work is on the knowledge of indigenous healers, locally known as *Kabiraj*. The work is being carried out in the *Chanda Beel* wetland area. The information contained in the document will be placed in the public domain. There is no information on the procedure adopted for the commercial use of this information and benefit sharing.

5.3.2. DOCUMENTATION OF IK IN NEPAL

The Nepalese Ministry of Environment and the IUCN has developed a project for documentation of IK in Nepal.[26] A number of other agencies, including the National Federation of Ethnic and Indigenous people of Nepal, the Nepal Agricultural Research Council, the Ministry of Law and Justice and local NGOs are also involved in the implementation of the project. It is expected that about 30 CBRs of various indigenous communities from all over Nepal will be prepared under the project. The objectives of the documentation include:

- to promote the preservation of IK;
- to protect the rights of indigenous communities over their knowledge by following a defensive publication strategy;
- to prevent misappropriation of biological resources and associated IK;
- to establish a mechanism to facilitate the commercialization of IK and create conditions for benefit sharing between the users and providers of biological resources and associated IK;
- to promote sustainable use and conservation of biological and genetic resources and associated IK and further development of indigenous innovation and practices;
- to disseminate selected elements of the IK already in the public domain to other communities for public benefit.

The registers will consist of two parts: one part will contain information on bio-resources while the other part will document IK. The first part (with information on bio-resources) will be deposited with the government ministry dealing with biodiversity. The part of the register containing IK will be the property of the concerned communities, and access to it by outsiders will be solely at their discretion.

[25] Information provided by Mr. Tapas Ranjan Chakraborty, Bangladesh Centre for Advanced Studies (BCAS).

[26] Information provided by Mr. Sagendra Tiwari, Programme Coordinator, IUCN-The World Conservation Union, Nepal

However, work on the preparation of these registers has been delayed because of the uncertain political situation prevailing in Nepal. Currently, the work is focused on building the capacity to carry out the IK documentation work. As part of this, training modules and case study methodologies are being prepared. According to IUCN, it is difficult to say when the documentation work will begin.

Two other initiatives to document IK in Nepal are being planned. These are being undertaken by: a) LiBIRD in collaboration with Nepal Agricultural Research Council and IPGRI; b) USC Nepal. As these initiatives are at an early stage, it will be some time before these registers are ready.

5.3.3. DOCUMENTATION OF IK IN PAKISTAN

Very little information on the documentation of IK in Pakistan is available. At SDPI, there is a proposal to document IK related to health care in Northern Pakistan. The documentation will cover about 60 plants and will be in electronic format. The information will be made public and will be placed on the internet as a digital library. The main objective of the work is to prevent the patenting of IK by commercial interests and discourage biopiracy.

Some large companies with interest in herbal medicine are also working on the conservation of biodiversity and IK.[27] These include a collaborative effort by Qarash Industries and WWF Pakistan. It is reported that the Hamdard Group is also involved in similar work.

5.3.4. DOCUMENTATION OF IK IN SRI LANKA

Indigenous medicinal knowledge in Sri Lanka exists largely as part of the formalised systems such as Ayurveda, Siddha, and Unani. There is very little indigenous knowledge available on non-formalised systems as much of it has already been lost. [28] Whatever remains is being protected as family secrets handed over from one generation to another. Only a handful of communities maintain a separate identity. These include the *Veddahs,* the *Rodiyas* and a community of gypsies, who speak their own dialect. While each of these groups has its own indigenous treatments for disease, there has been little or no attempt to document them.

[27] It is not clear whether they are also working on the protection of IK.

[28] Kumar, V., "Systems And National Experiences For Protecting Indigenous Knowledge, Innovations And Practices – Sri Lanka", Presented At Unctad Expert Meeting On Systems And National Experiences For Protecting Indigenous Knowledge, Innovations And Practices, Geneva 30 October – 1 November 2000.

The documentation of formalized indigenous knowledge has been carried out by the Sri Lankan Government's Department of Ayurveda, as part of an Ayurveda Pharmacopoeia. The Pharmacopoeia documents the raw materials used in the indigenous medicinal system and drug preparation methods.

In addition to this, the following agencies are engaged in the documentation of IK in Sri Lanka:[29]

- The Ministry of Environment and Natural Resources.
- IUCN
- Intermediate Technology Development Group(ITDG) of Sri Lanka
- National Federation for the Protection of Agri resources of Sri Lanka

Work on the documentation of biodiversity in Sri Lanka is being carried out by:

- The Law and Society Trust (LST), which has documented indigenous crop varieties of rice. This work was done as part of a larger project on Farmers' Rights in collaboration with the South Asian Watch on Trade, Economics and Environment (SAWTEE), Nepal.
- The Plant Genetic Resource Centre (PGRC) of the Department of Agriculture of the Government of Sri Lanka. PGRC has documented indigenous plant varieties in Sri Lanka.

Apart from the above mentioned efforts at documentation in the other South Asian countries, some work on ethnobotany has also been attempted. However as compared to India, very limited work in this regard has been carried out in other South Asian countries. Gene Campaign's study of literature suggests that, as in India, the focus of ethnobiological work in these countries has been on preparing inventories of plants and their uses by tribal populations for health care purposes. Again, these studies are not concerned with issues concerning ownership of IK, its protection and benefit sharing.

In addition to work by national researchers, international institutions and agencies have also undertaken ethnobiological studies. Their role in collecting IK related information has been particularly important in the smaller South Asian countries. One of the most important of these was carried out by ICIMOD, under a programme called 'Promotion of Sustainable and Equitable Use of Plant Resources by the Application of Ethnobotany'. This three-year programme, which began in 1995, was centered in six Hindukush countries, including India, Pakistan, Bangladesh and Nepal. The major objectives of the

[29] Information provided by Ms. Avanthi Weerasinghe, Law and Trust Society (LTS), Sri Lanka.

program were to improve the management and conservation of plant resources and IK through the use of ethnobotanical studies.[30]

Some of the documentation of IK carried out under the project includes:

- Ecology and indigenous management techniques of the home gardens of the *Marma* community in the Chittagong hill tracts of Bangladesh;
- Sustainable cultivation practice of *Alder* (Alnus nepalensis) by the *Angami Naga* community in Nagaland, India;
- Management of fruit plants using indigenous knowledge in the Drosh valley, Chitral, Pakistan;
- Indigenous methods of cultivation of fruits and practices to maintain soil fertility in orchards in the Drosh valley, Pakistan;
- Ethnobotanical study of the impact of harvesting medicinal herbs in the buffer zone of the Valley of Flowers National Park, Garhwal, India;
- Study of the ethnobotanical uses of local plants in the Margalla Hills National Park, Pakistan;
- Community based forest management of *Sal* (Shorea robusta) forests at five sites in the Chitwan district of Nepal;
- Compilation of an ethnobotanical inventory with a focus on medicinal plants, an assessment of the current use pattern of herbal medicines, and their availability;
- Cultural background and forest resource management by local communities in the Chittagong hill tracts, Bangladesh;
- Study of the status of indigenous medicinal plants and their conservation in the Newar community in Bungamati, Lalitpur, Nepal;
- Ethnobotanical studies of medicinal plants and indigenous health care practices of the Gurung community in Bichauri village of Lamjung, Nepal.

The United Nations is funding an international effort to prepare an electronic (on-line) network of ethnobotanical databases of countries in the Asia- Pacific region. The Indian component of the network (called the Asian-Pacific online Network for Transfer of Indigenous Medical & Herbal Technology) is being coordinated by the Department of AYUSH, Government of India. The technical aspects of the database are looked after by the National Botanical Research Institute (NBRI).

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[30] Rastogi, A., "Applied Ethnobotany for Biodiversity Conservation", ICIMOD Newsletter, 31 Spring 1998, http://www.panasia.org.sg/nepalnet/ecology/ethnobot.htm

5.4. EFFECTIVENESS OF DOCUMENTATION EFFORTS IN PROTECTING IK

Let us now consider how effective documentation has been in contributing to the protection of IK in South Asia. As mentioned earlie, IK has been documented either as a part of ethnobiological studies, in people's registers, innovation databases or digital libraries. Of these, the ethnobiological studies have covered the largest number of local communities and their IK; they have made a significant contribution to the preservation of IK by recording it. However, most ethnobiologists have not been concerned with issues related to the ownership of IK and its protection from misappropriation by commercial interests. Their studies consist of inventories of bio-resources, and their uses by tribal communities.[31] For example, our analysis of the ethnobiological literature of South Asia between 1995-2004 shows that most of these studies are merely lists of plants found in the area inhabited by the community concerned, and the uses of these plants for medicinal and other purposes. Only 6% of the papers were explicitly concerned with the protection of IK.

Most of the ethnobiological information is freely published in academic journals. As a result a large body of IK is now available in the public domain. However, as this information is not arranged in a searchable format, it has only a limited role in preventing the patenting of IK. Only if it is put in databases can this information become a useful tool in defence of IK, preventing it from being patented by outside interests.

A group of ethnobiologists and the governmental agencies involved with ethnobiological studies are beginning to be concerned about the negative impact of putting IK in the public domain, worried that developing countries could subsequently lose control over their indigenous knowledge. For this reason, government agencies that fund ethnobiological studies are beginning to adopt a policy of keeping information on IK confidential.

This change of policy is best seen in the case of the All India Coordinated Research Project on Ethnobiology, described above. At the time when the Project was conceived, there was little awareness of the issues concerning the ownership of IK. However, during the second phase of the project the issues of biopiracy and unlawful use of IK by commercial interests had become important. Recognising the need to keep control over IK, the Ministry of Environment and Forests, which sponsored the Project, decided in 1985 that the project would not publish any information which was new (not published).

[31] Arora, R.K., *op.cit.*

As a result of this policy, the results of the Project have not been officially published. [32] The information will only be published when a system to protect IK is in force in India.

The organizations involved with ethnobiological studies are also beginning to be aware of the need to give greater recognition to the contribution made by local communities. This is being done through acknowledgements in publications and, in at least one case, through co-ownership of patents; NBRI now has a policy of making a community the co-owner of patents based on their IK. It has already filed 4 patents in India in which the community is a co-owner.[33]

Unlike ethnobiological studies, peoples' registers, innovation databanks and digital libraries of traditional knowledge are explicitly concerned with the ownership of IK and the distribution of benefits arising from its commercial use. Most of them seek to establish the rights of local communities over IK and prevent the patenting of IK based innovation by outsiders. The strategy adopted for this is to place the IK in the public domain. How effective has this strategy been? It must be emphasized at the outset that, except in India, the preparation of people's registers and databases in South Asian countries is at an initial stage, and it is too early to examine their contribution to the protection of IK. However, the documentation of IK in these countries is very similar to the work done in India, so its impact on the protection of IK is also likely to be similar to that experienced in India.

A number of IK registers and databases have been prepared in India. Their objectives include: establishing local communities' control over IK; preventing its patenting by outsiders; to control access to IK by outsiders through PIC; increase the income of local communities through commercialization of IK, and help communities to receive a fair share of the benefits arising out of its commercial use.

We find that, although the objectives of the documentation are to place IK in the public domain, most of the documents are being kept as confidential. As India and other South Asian countries do not have *sui generis* systems to protect IK, the organizations responsible for the preparation of these documents are reluctant to disclose their contents. Also, the information contained in the documents is not being used to prevent the patenting of IK based inventions. This is for the following reasons. a) The information is not compiled in a searchable format. b) There is no mechanism to make this information available to the patent offices. c) There is no agreement between

[32] Individual researchers involved with the Project have published a number of papers based on the information collected for the project.

[33] Discussions with Dr. Pushpangdan

national governments and patent offices to ensure that the information is used for patent assessment only. Furthermore, the absence of national *sui generis* systems increases the risk of making this information available to patent offices.

In addition there has been no increase in the commercialization of IK following documentation. In fact, by and large industry is not even aware of these documents. Again, those responsible for the documentation are reluctant to publicize the IK contained in the registers and databases. There is a feeling that, in the absence of legal protection, industry will use the knowledge without sharing the benefits with local communities. Therefore documentation, expected to promote PIC and benefit sharing, is yet to provide economic benefits to communities through enhanced commercial use of IK.

The organizations engaged in the documentation of IK are faced with a serious dilemma. On the one hand, they consider it important to place IK in the public domain so that the its patenting can be prevented. On the other hand, they are concerned that public disclosure of this information could undermine the rights of local communities over their IK and enable companies to exploit the IK contained in the documents commercially without sharing the benefits.[34] For this reason, most organizations involved in the documentation of IK have adopted a policy of either keeping the information secret (as in case of PBRs) or providing access for the limited purpose of patent assessment (as in the case of TKDL). It is very important that this dilemma is resolved. This can only happen through a national *sui generis* system, which will allow the sharing of IK information with others without losing ownership rights.

To summarize, the documentation of IK has made little contribution to the protection of IK in South Asian countries. India's experience shows that documentation alone is not enough to establish a community's rights over its IK and protect it from misappropriation by others. A number of measures, including the preparation of searchable databases, arrangements with patent offices for the transfer of information on IK and agreement to use this information only for the evaluation of patent applications are necessary to make documentation of IK more effective. Unless a national and international legal framework is developed and adopted, the documentation efforts are unlikely to have much impact, either in terms of providing protection to IK or promoting commercialization of IK and

[34] In the absence of control over the use of IK, commercial companies are under no obligation to acknowledge the contribution of local communities and share benefits with them. For example, anti-diabetic properties of Sri Lankan plant, *Salacia reticulata*, are being invested in Japan and the United States. This has resulted in a number for papers and patents in both countries. However, the researchers have not made any mentioned of the contribution of indigenous knowledge obtained from Sri Lanka. The commercial exploitation of this work is unlikely to result in the sharing of benefits for the holders of the indigenous knowledge in Sri Lanka. Kumar, V., 2000, *op.cit.*

benefit sharing. This requires a national *sui generis* system in South Asian (and other developing) countries to provide legal protection to IK. Only then will it be possible to make full use of documentation to establish a community's rights over IK and prevent its misappropriation by others.

CHAPTER VI

RECOMMENDATIONS FOR AMENDMENTS IN NATIONAL LEGISLATION TO PROTECT IK OF BIODIVERSITY

As an outcome of our findings, arrived at after research of two years conducted as part of the research project "Protection of Indigenous Knowledge of Biodiversity", we would like to make the following recommendations with respect to existing shortcomings in the different research components covered by the project, primarily with respect to customary laws and practices and national legislation.

6.1. RESEARCH COMPONENT I- CUSTOMARY LAWS AND PRACTICES AND IK PROTECTION

(i) Customs constitute a source of law; becomes such only when recorded in statutes or recognized by courts.

For customs to contribute effectively to IK protection, need to be accepted as law *per se* and to be recorded as state- sanctioned formal rights.

(ii) Customary laws relegated to a position beneath other laws.

Needed to be treated at par with statutory laws. In certain contexts like the Sixth Schedule areas, central statutes could be exempted from extension.

(iii) Most statutes like the Indian Forest Act, 1927 reduce customary rights to the level of concessions.

Need to be recognized as legal rights.

(iv) Most customary rights are not documented; thus, difficult to prove.

It is recommended that oral evidence in forms like community knowledge should be considered adequate in itself to provide evidence. Under the PESA, evidentiary value could be given to statements made by the Gram Sabha. Could further be given duty of codifying customs.

(v) Demand for high standards of proof by statutes and judgements.

Need for judicial bodies to recognize and internalize components of customary law.

(vi) State Governments in Sixth Schedule Areas ineffective in giving importance to customary laws and institutions, owing mostly to their insensitivity to indigenous communities and their knowledge, outside the formal system. Expert Committees, as seen in the Godavarman judgement, are composed of government officials and scientists, not local people.

Need to ensure more effective participation of local people and for assimilating people's knowledge, customary laws and strengths of traditional institutions into formal structures.

(vii) Customary law could be strengthened by reading more into existing provisions. The Fundamental Rights and Directive Principles of State Policy may be construed in favour of it. The right to life envisaged in Article 21 could be construed to include the right to livelihood. Can be used to check actions that dislocate local and indigenous communities or disrupt their traditional life style or through which a customary right to a traditional livelihood could be protected. It may be construed that the indigenous communities have a right not to be displaced and disabled by actions robbing them of their customary rights so that they can live with basic human dignity.

6.2. RESEARCH COMPONENT II- NATIONAL LEGISLATION ON IPRs

6.2.1. THE PATENTS (AMENDMENT) ACT, 2005

Section 2 - This section does not include the definition of micro-organisms, but refers only to the 'Budapest Treaty' which does not provide for a definition of micro-organisms either.

Recommended that micro-organisms should be defined in extremely narrow terms, through a multi- stakeholder consultation process. This is because granting monopoly rights like patents on micro-organism always carries with it the risk of restricting accessibility to the resource base, due to the expansionary tendencies of the patent holder claiming ownership rights over all the usage of that resource and consequently the risk of a rights spill over.

Section 25- It allows third parties to represent to the controller for non-granting of patent. However, by the addition of the proviso that the person making such a representation shall not become a party to any proceeding under the Act, the clause prevents the active participation of the person making the representation.

Gene Campaign's view is that the participation of the person representing is vital not only for the establishment of the initial facts, but also to gauge the nature and scale of

misappropriation, for the affected parties, as well as the circumstances involving the misappropriation and modes of redress. Thus, this provision of the Act, which necessarily translates into a disincentive for any person making the effort, needs amendment.

We also believe that it should be made mandatory for the National Biodiversity Authority, constituted under the Biological Diversity Act, to represent to the patent controller in cases where the invention claimed was anticipated, having regard to the knowledge available within any local or indigenous community in India, where NBA has such information. This is imperative since NBA being the specialised body meant for the express purpose of protection of biodiversity and indigenous knowledge, has both the constitutional mandate and the expertise to play an active role.

Section 26- It states that any person interested after the grant of patent (within one year) may give notice of opposition to the controller. Herein the *locus standi* for filing of opposition is limited to 'any person interested'; the implication is to restrict the filing of opposition only to those persons who have been commercially affected by the grant of the patent.

This would unduly limit the *locus standi* and would *de facto* nullify the effect of the stated grounds of opposition, which would logically entail the involvement of actors who may not be interested in the commercial aspect of the patent. Thus 'interested persons' should also include any persons acting pro bono.

The Act provides a limit of **one year for post-grant opposition**.

This time period is insufficient, because the existing IK may not be noticed within a year of grant of patent, especially given the relative newness of the patent system in India. The time period should be extended to at least three years, with the added flexibility that any notice of opposition after the expiry of three years would be acceptable on the condition that the applicant satisfies the authority that he had sufficient cause for not making the application within the prescribed time period.

Section 54 deals with any 'invention' that has been modified or improved.

It is important to realise that this may become a mechanism by way of which indigenous knowledge may be used to undertake improvements or changes to the initial 'invention'. It is therefore, necessary, to include an express exclusion of the usage of indigenous knowledge to contribute to the improvement or modification of the 'invention'.

Section 19 specifies the powers of the controller in cases of potential infringement. In this case the basis of a potential infringement is “that the patent applied for cannot be performed without substantial risk for infringement of a claim of any other patent”.

Herein the risk of potential infringement should be expanded to also include substantial risk of infringement of any indigenous knowledge.

Section 83- states the general principles applicable to the working of patent inventions.

The mere inclusion of such a general clause is not sufficient to protect larger social objectives and goals, especially that of protection of indigenous knowledge. This could be done in two steps. Firstly, it should be expressly stated that the violation of any listed principles should be a ground for revocation or compulsory licensing. This would make the provision enforceable and thus inherently enabling. Secondly, the phrase ‘public health’ should be extended to include the right to access biological resources and health remedies sourced from therein. And, therefore, if the grant of a patent right over certain resources (micro-organisms being patentable) circumscribes this right of local or indigenous communities, it should be interpreted to mean violation of public health needs.

6.2.2.THE BIOLOGICAL DIVERSITY ACT, 2002

(i) Section 2 (f) defines the phrase ‘fair and equitable benefit sharing’ as something that will be determined by the National Biodiversity Authority.

The determination of fair and equitable benefit sharing is a matter in which local persons and beneficiaries must have a strong say.This actually amounts to a transgression of the rights of the local and indigenous communities, who being the actual beneficiaries of the benefits arising out of the use of their knowledge, would have no role in this process of determining equitable benefit sharing.

(ii) Section 37 of the Act declares that the power of declaring a Biodiversity Heritage Site lies with the state government. This provision threatens the local and indigenous communities who live in forest areas where we find the maximum bio-diversity. The Act fails to recognize communities as a critical component of this diversity, and thus specifies that when the state so wishes it may declare an area as "heritage site" and remove all communities from there. This is an anti-people clause. The heritage sites should be designated only after consultation and moreover, consent of the affected communities. (The Tribal Rights Bill has tried to some extent to address such issues and take corrective steps).

(iii) Rule 22(6) of the Biodiversity Rules 2004 clearly states that the main function of the BMC is to prepare Peoples' Biodiversity Registers in consultation with the local people. The Register is expected to contain comprehensive information on availability and knowledge of local biological resources.

The PBR appears to be a one-way extractive flow out of information, which is likely to be controlled, in a centralized database where it then becomes easy for the State to negotiate/enter into agreements with private parties. There is no clarity on how this documented material could genuinely help people and communities or include their consent when evaluating access by third parties to information.

(iv) Section 3 and Section 7 differentiate between Indian and non-Indian citizens and companies. This is unjustified, given that Indian corporations are not any more responsible towards the environment or towards local communities. Also Indian Companies are often local fronts for foreign enterprises.

It needs to be ensured that Indian companies alone do not have automatic rights to commercialization. The only differentiated category can be the local community itself. Commercial interests both Indian and foreign must be treated on par with respect to access and benefit sharing when it comes to bioresources and IK.

(v) Rule 14(4) of the Biological Diversity Rules 2004 provides for the NBA to grant approval for access to biological resources and associated knowledge subject to such terms and conditions as it may deem fit to impose. This raises the question whether these terms and conditions incorporate the needs and ethos of the community associated with the particular knowledge.

A provision to ensure NBA consulation with a representative body of local communities is needed as a corrective.

(vi) Rule 14(6) lays down some clauses, which have to be included into the agreement of access. This list of clauses ignores the livelihood concerns of the community. Though it does state that the applicant has to adhere to the limit set by the authority regarding the quantity and quality of the biological resources, this limit clearly excludes the livelihood requirements of the local communities. This should be clearly stated.

(vii) The presence of various governmental agencies is likely to create a conflict of interest unless some clear and common mandate and understanding is developed. Further, conflicts in functioning are likely to arise with the presence of the elected local body – Panchayats and the other institutions such as Forest Management Committees,

Eco-development Committees, Water users Associations and the Biodiversity Management Committees. Exact roles and jurisdiction needs to be specified.

(viii) Conflict likely between Various Legislation

Initially, the Biological Diversity Act was designed as an umbrella Act to make good the defects of the earlier colonial Forest Act and override it.and as a herald of a new age, it would have overridden many of the earlier acts such as the Forest Act designed in the colonial era. As passed, however, it only has the status of a complementary Act and will have to be operated side by side with a whole range of other Acts.

(ix) Under section 6 of the Act, a person must obtain the prior approval of the NBA before he applies for Intellectual Property Right in or outside India for any invention based on any research or information on a biological resource obtained from India. In case of a Patent, the permission from the NBA can be obtained after the acceptance of the Patent but before sealing of the Patent by the concerned Patent Authority. However, this provision does not apply to an application made securing any right under any law relating to protection of plant varieties.

The Biodiversity Act surrenders ground on IPR of bioresources that has been claimed by other legislation related to the subject matter. The PPVFR and the Patent Act have separately proscribed the application of patent protection to biological materials like plants and animals and their parts and products based on IK. By not qualifying the nature of the IPR, the Act may hav tacitly accepted that IPR may include patents. This is distinctly out of tune with the prevailing ethos of not granting patents on biological material (except microorganisms) and IK.

(x) On occurrence of an instance of biopiracy, the NBA is empowered by the Act to take necessary action to oppose the grant of IPR in any country outside India on behalf of the Government of India [Section 18(4)]. In the absence of a globally agreed single forum wherein such cases can be challenged, the NBA may have to only engage in fire-fighting at different patent/ trade mark offices overseas.

Also, it has been realized that to check biopiracy, national action alone is not sufficient. The onus must also be shared by the users of this knowledge all over the world so as to ensure compliance of the consent requirement for using the knowledge and equitable sharing of benefits as visualized in the CBD.

6.2.3. THE PROTECTION OF PLANT VARIETIES AND FARMERS' RIGHTS ACT, 2001

The following clauses need to be amended in order for the Act to be effective:

Benefit Sharing

Despite its good intentions of protecting the interests of the farming community; the Act is likely to create problems in implementation because the description of the National Gene Fund is confused and poorly drafted.

It is recommended that the Gene Fund should be the recipient of all revenues payable to the farming communities under various heads. This money should be collectively, rather than individually, accessed by farming communities. Exceptions could be made where individuals are clearly identified as breeders' of specific varieties. Farmers should have the right to decide how this money that they have earned will be spent. The use of the money should not be restricted to conservation or for maintaining ex situ collections. The method for fixing and realising benefit sharing should be made simpler and easier to implement. One approach to fixing benefit sharing could be a system of lump-sum payments, based for example on (projected) volume of seed sale.

Protection against Bad Seed

In providing a liability clause in the section on Farmers Rights, the farmer in principle is protected against the supply of spurious and/ or poor quality seed leading to crop failures. At present there is too much left to the discretion of the Plant Variety Authority which will fix the compensation. This could lead to arbitrary decisions and should be amended. If it is proven that the breeder has made false claims and the farmer has suffered a crop failure, then compensation should be awarded amounting to at least twice the projected harvest value of the crop. Compensation should be large enough to be a deterrent. In addition, a jail term should be provided if the breeder repeats the offence.

Protection against innocent infringement

The legislation has attempted to address a concern voiced by several quarters, that when the new system of Plant Breeders Rights is imposed for the first time, there will probably be many cases of unknowing infringement of Breeders Rights. Section 43 specifies (somewhat fuzzily) that the farmer cannot be prosecuted for infringement of rights specified in the Act if he can prove in court that he was unaware of the existence of such a right. This well intended point is badly made and will have to be made more

specific. Nothing is said about what would constitute a violation of Breeders' Right. This becomes especially critical since the Act would allow the farmer to sell generic seed of the variety protected by Breeders' Right. And what would constitute proof in a court of law that the farmer was unaware of the existence of such a right? In all likelihood this will boil down to a 'your word against mine' situation and be very difficult to prove.

Breeders' Rights

Breeders Rights over the varieties they have developed are more than adequately protected by the legislation. On registration, the Breeder has rights of commercialisation for the registered variety either in his/ her own person or through anyone he designates. These rights include the right to produce, sell, market, distribute, import or export a variety, in short, full control over formal marketing.

The strong protection granted to a plant breeder over his/ her variety is seen in the section dealing with infringement of Breeders Rights where punishment in the form of substantial fines and jail terms has been prescribed for those who infringe the rights of the registered breeder.

Violation of Breeders right can be construed at several levels. It applies to the variety itself as also to its packaging. Infringement will be established if the packaging is the same or even similar, such that the package could appear to be that of the Breeder. Legally, a similar looking package will be considered " Passing Off" and so actionable. Any one other than the Breeder naturally can not use the registered name or denomination. The use of the same or similar name in any way, by action or even suggestion, will constitute a violation and will be punishable. Penalties are prescribed for applying false denomination and for selling varieties to which false denomination is applied.

The Breeders Rights have been strengthened to the extent that if there is mere suspicion of violation or infringement, the onus of proving innocence is placed on the alleged violator. In any prosecution for falsely using a denomination, the burden of proof is reversed and it is incumbent on the alleged violator to prove that the consent of the Breeder was obtained. This is excessive and needs to be toned down. The normal course in law is for the accuser to furnish proof for the accusation and so it must remain in this case too. The grounds constituting violation are laid out in such elaborate detail, listing the smallest acts that can be construed as infringement in a way that the hold of the Breeder over his variety is very strong indeed. Unless the alleged violator proves that he acted in innocence, without the intention to defraud , jail terms and penalties are stiff.

The Indian legislation in providing a well-defined breeder's right provides sufficient incentive for the seed industry to invest in this sector. At the same time, it is important to recognize that IPR protection does not necessarily deliver a successful product. If a variety decisively provides an advantage, it will be bought, if it does not, it will fool the farmers for a few seasons and then fail. It is also necessary to keep in mind that all IPR systems must strike a balance between the monopoly granted to the IPR holder, in this case the Plant Breeder, and the benefits to society, in this case the farmers and consumers. Since nobody concerned with public interest would want plant breeding to shift into just a few hands, it is important to maintain competition and vitality in the plant breeding sector. That is why freedom and rights for other researchers to use all genetic material, including IPR protected material, is important. An IPR system in a country should not grant such strong rights to breeders that farmers suffer and their livelihoods are threatened. On the other hand, the breeders' innovation should be rewarded so that they continue to breed useful varieties to benefit agricultural and food security.

Rights of Researchers

The Act has provisions for Researchers Rights which allows scientists and breeders to have free access to registered varieties for research. The registered variety can also be used for the purpose of creating other, new varieties. The Breeder cannot stop other breeders from using his/ her variety to breed new crop varieties except when the registered variety needs to be used repeatedly as a parental line. In such a case, authorization is required. It is however felt that the Indian law actually grants very restricted rights to researchers because of the acknowledgment of Essentially Derived Varieties, EDV, which is defined in detail in the 1991 UPOV Convention. According to the expansive definition of EDVs, it is felt that all kinds of research will become subject to the Breeders' authorization if a protected variety is used for research. In the Indian Act, the Breeders' authorization is needed for making EDVs . The processes for making EDV have been made so encompassing in UPOV (natural selection, mutant selection, somaclonal variants, backcrosses and transformation by genetic engineering) , that all known forms of creating new varieties would be covered. This would squeeze the researcher's space to the extent that for practically any kind of research on the protected variety, the authorization of the breeders would be needed, establishing their control on a lot of germplasm.

6.2.4. THE GEOGRAPHICAL INDICATIONS OF GOODS (REGISTRATION AND PROTECTION) ACT, 1999

(i)The weaknesses stem from the general characteristics of GIs, rather than from limitations of the Act.

(ii) Section 22.2 of the Act provides the Central Government with the authority to give additional protection to certain goods or classes of goods, reserved for wines and spirits. This provision is ineffective without corresponding changes in the international scenario. India needs to successfully negotiate in the TRIPS Council, to broaden the scope of additional protection to other sectors of importance to it. It would be practical to base such absolute protection on a registration system specifying the geographical indications

(iii) However, it is crucial for India to consider carefully the potential costs of extension. Increased protection, applied internationally, may adversely affect local enterprises which exploit geographical indications that may become protected by another party.

(iv) The economic consequences of seeking and enforcing protection for geographical indications might be prohibitively high. Resources may need to be deployed to ensure that the required quality, reputation or other characteristics of the product covered by the geographical indication is maintained. Indian IK holders may not always be in a position to do so.

(v) Registration under the Act is not enough; communities that own GIs must be alert to their misuse or abuse and prevent their genericide.

6.3. RESEARCH COMPONENT III- OTHER NATIONAL LEGISLATION WITH BEARING ON IK

6.3.1. THE INDIAN FOREST ACT, 1927

The combined effect of sections 6, 7, 8 and 9 is that if one fails to bring to the notice of the Forest Settlement Officer any right and corresponding claim over the specified area, his right shall extinguish. In other words, the burden of proving the right lies on the claimant unless such right is already in Government record. It is recommended that the procedure for proving the right of the claimant should be made more easy.

The Indian Forest Act anticipates 3 types of claims in forests proposed to be reserved. Firstly, a forest dweller might lay claim of ownership of land. Secondly, right to pasture and forest produce. And thirdly, right with respect to shifting cultivation. Notably, the Forest Settlement Officer has no power to confer any right on the forest dweller, which has not been satisfactorily established. But he is bound to express fully to the Government, his opinion and advice as to any practice which, though not satisfactorily proved to be an existing right, he may think is advisable to sanction as a right or a concession in the interest of the people. It is upto the Government then to decide

whether such non-established rights or concessions may be granted in the interest of the people or not.

It is recommended that considering the fact that since community rights or customary rights are difficult to prove in the prevailing judicial system, the scope provided to the FSO should not be left to the whims of an officer.

From the point of view of protection of IK, the most important question that such a provision can pose is - what are the rights over the natural resources that the holders of IK possess. A community might have been relying on forest products for its livelihood for generations. But unless they have legally recognised rights over the forest they cannot assert them. Written records of the ancestors of tribal communities are not likely to exist, making claims to forest land contentious between tribal communities and non-tribal communities that have occupied land since generations.

Should any person currently using forest land or forest products be given rights over the forest? Should the granting of right be limited to communal rights of Schedule Tribes recognised under the Fifth and Sixth Schedule of the Constitution as distinct communities? Should rights be based on reference to historical documents? How feasible would that be for a community that is oblivious of the modern education and legal systems? The only practice that has been recognised by the Act is the practice of shifting cultivation, as a privilege or concession. But being a privilege and not a right, it is enjoyed at the pleasure of the state Government, which can prohibit such practice.

6.3.2. THE WILD LIFE (PROTECTION) ACT, 1972

Chapter IIIA of the Act, introduced by the 1991 amendment, with a view to protecting specified plants, clearly indicates that members of Scheduled Tribes can freely pick, collect or possess, in the district he resides, any specified plant or part or derivative thereof for his bona fide personal use. Thus, the introduction of this particular section creates a sanction for the activities of the Scheduled Tribes dependent upon forests. However if seen from the perspective of protection of IK, it gives rise to certain questions like:

(i) Why it is only the Scheduled Tribes whose interaction with the forest land is kept in tact? There might be other people who are not Scheduled Tribes but dependant upon the forest.

(ii) The holders of IK, for example a *vaid* in a village practicing herbal medicines, need not be a member of a Scheduled Tribe. It is essential that he is not prohibited from collecting and experimenting upon wild herbs, if his knowledge base is to be protected from extinction due to non use.

(iii) Further, how to define 'personal use' in the context of a *vaid*, whose livelihood is to cure people from various diseases?

The above questions need to be adequately addressed if this provision is to benefit the IK holders.

Section 36C of the Act introduces the concept of 'Community Reserves', under which the State Government may, where the community or an individual has volunteered to conserve wild life and its habitat, declare any private or community land not comprised within a National Park, Sanctuary or a Conservation Reserve, as a Community Reserve, for protecting fauna, flora and traditional or cultural conservation values and practices. This is a welcome step towards legal recognition of people's efforts at conservation. However, as per the definition provided for Community Reserve, it is confined only to private or community land. There may be communities traditionally involved in conservation, though the land concerned might belong to the Government. In such cases, those communities will not be able to derive benefits from this new provision, nor extend the benefits to the biodiversity they are conserving. Further, there is no definition of community land.

Community land needs to be clearly defined so that this provision could be effectivelu used to recognize the rights of the people.

Section 36A the Act which provides for constitution of "Conservation Reserves", states that for such constitution, the nature of the land should be such that it is adjacent to national park or sanctuary and link one protected area with another. The objective is to protect landscapes, seascapes, flora and fauna and their habitats. Notably, the Act requires consultation with local communities in declaration of Conservation Reserve. Also, in the Management Committee for the Conservation Forest, there is provision for including member from the Village Panchayat and NGOs. Though it is a positive step, yet actual representation from the village community can not be said to be ensured. While on one hand the management committee is only an advisory committee, on the other, representation is sought through elected members from the Panchayat. The success of the *Panchayati* system is itself under a great deal of debate and there has been opinion that elected members often do not represent all sections of society, particularly the disprivileged.

The same concern also applies to the Community Reserve Management Committees, formed under the Act. It also consists of members nominated by the Village Panchayat and where there is no such Panchayat, nominated by the *Gramsabha.*

These provisions need to be reframed in such a manner that there is comprehensive representation from all sections of the society, particularly the disadvantaged, women and others.

6.3.3. THE DRAFT SCHEDULED TRIBES (RECOGNITION OF FOREST RIGHTS) BILL, 2005

(i) The Bill entrusts the Gram Sabha with a lot of responsibility, without going into the question whether all Gram Sabhas are willing to take on all the responsibilities and have the capacity to do so. In reality, many Gram Sabhas may not have the inclination or the capacity to deal with such daunting tasks as dealing with forest offences on their own. They may need or ask for a systematic support to handle the responsibilities that they have been entrusted with. The Bill doesn't provide for any such institutional or other kind of support; perhaps this can be built into the Rules.

(ii) During settlements of rights, the bill vests authority in the Gram Sabha to initiate action for determining and recording the forest rights that may be vested. This should be done in well-attended open meetings to ensure transparency and accountability and to protect the non-literate from the tyranny of paper work and bureaucratic procedures.

However, Gram Sabhas need not always be democratic.

(iii)The Bill treats wildlife and forest offences quite casually, by imposing an fine insignifican of Rs 1000 , which is inconsistent with fines for same offences under Wildlife Protection Act and other existing Acts. Penalties need to be more stringent and on the higher side to serve as effective deterrent.

(iv)The Bill will be applied in areas and subjects which are also under the Indian Forest Act, Forest Conservation Act and Wild Life Protection Act, which have elaborate provisions to deal with forest and wildlife related offences. There is no suggestion in the Bill about dealing with these offences in any coordinate manner.

The Bill needs to clearly specify the roles and responsibilities of the Gram Sabha and the forest department and the relationship between this Bill and other relevant Acts. Clear institutional mechanisms need to be worked out to deal with the offences, with appropriate checks and balances.

(v)The Bill presumes that all adivasi cultures and societies aid conservation goals.

Gene Campaign feels that it would be incorrect and dangerous to make such presumptions. It suggests that if the rights of adivasis over forest land are to be recognised, it must be done with the explicit understanding that they too, like other communities, can adversely impact wildlife and incorporate appropriate safeguards .

(vi) The Bill does not define terms like “sustainable use” of resources, or “community forest resource”.

Gene Campaign recommends that such terms need to be precisely defined as otherwise, these remain subject to diverse interpretations, and would be most difficult to implement.