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ACCESSING BIOLOGICAL DIVERSITY AND  
ASSOCIATIVE KNOWLEDGE SYSTEM: CAN ETHICS  
INFLUENCE EQUITY

By

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# Accessing Biological Diversity and Associative Knowledge System:

## Can Ethics Influence Equity ?

### Abstract

The bio-diverse regions have been known to be inhabited by the poorest people all around the tropical world (Gupta 1981). It is obvious that we cannot conserve diversity by keeping people poor. Studies have also shown that many of the indigenous innovators whether individual or communities, do not consider their diversity or knowledge about it as a tradable commodity. Their ethical values often motivate them to share their knowledge uninhibitedly with the outsiders without expectation of material reward. In the process while they remain poor, the extractors of their knowledge accumulate wealth. We cannot therefore imply that their superior ethics should legitimize a morality in market place which justifies the extraction.

Apart from the dilemma that arise through mismatch between the ethical values of conservators of biodiversity and the dominant institutions of extractions, there arise questions about the continued validity of values underline discourse in the mainstream. For instance it is a an accepted professional value in academics that any communication oral, visual or written having a substantive implications for one's ideas should be acknowledged. Accordingly, personal communications find place in the academic discourse. However, this accountability is generally observed only towards one's professional colleagues. The farmers, indigenous people, artisans etc. are almost never acknowledged in any discourse on their knowledge in a manner that they can be identified. Why should people remain nameless and faceless in discourse on their knowledge and institutions has never been explained adequately ? So much so that the whole discipline of ethno-botany/biology has gained legitimacy through extraction without acknowledgement. The wealth accumulated out of value addition in this knowledge is seldom shared with the providers.

In a recent paper, I had identified seven dimensions of ethical responsibility such as : accountability of (1) researchers and biodiversity prospectors, engaged by Public / Private Sectors in National/International Organisations towards providers or biodiversity resource from wild, domesticated and public access domains; (2) Researchers and prospectors towards the country of origin; (3) Professionals towards academic communities and professional bodies guiding the process of exploring or extracting biodiversity; (4) International UN or other organisations possessing globally pooled germ plasm collections deposited in good faith but accessible to public or private institutions without reciprocal responsibilities; (5) Institutions of governance legitimizing various kinds of property right regimes and consequent ethical and moral dilemmas; (6) Civil society and consumers of products derived from prospected biodiversity or competing alternatives; (7) Present generation towards future generations and other living non-human sentient beings.

In pursuant of Convention on Biological Diversity (CBD) and International Convention on Combating Desertification (ICCD), various ethical guidelines followed by private/public obligations were reviewed (Gupta 1994, Nietschman and Churchur, 1994) for discussion in a workshop organised by Pew Conservation Scholars last year. Several other scholars were also invited in the discussion to develop Ethical Guidelines for Accessing/Exploring Biological Diversity (See Annexure 1). These guidelines were endorsed in principle by all the Pew Conservation Scholars and are now being circulated for wider debate. Only three out of seven issues were covered comprehensively in these guidelines. In this paper I summarize some of the important issues not covered by the guidelines and offer suggestions for the remaining issues. It is hoped that Conference of Parties (COP) will reflect on these suggestions so that a global accord can be reached on general ethical principles. It is recognized that there may be culture specific differences in the perfection of moral issues. However, I submit that it should be possible to have an universal consensus on at least some basic ethical principles governing access to biodiversity.

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Anil K Gupta

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culture specific differences in the perfection of moral issues. However, I submit that it should be possible to have an universal consensus on at least some basic ethical principles governing access to biodiversity.

## **Part I: Ethical Guidelines**

The Suggested Ethical Guidelines (Annexure 1) recognize the fact that local communities as well as researchers and corporations have prospected biodiversity for a long time. If the current systems of extractions continued keeping the people poor, how much of the biodiversity may disappear. The CBD provides a framework to correct the current imbalance in the responsibility of different activities. The conservation of cultural and biological diversity is considered closely intertwined. The guiding principles recognised that research was an educational process for all concerned (even if opportunities of mutual learning may not always be reciprocal or balanced); the norms of proprietary rights for scientific knowledge could not be fundamentally different from the rights of producers and providers of traditional knowledge as well as contemporary innovations by the communities or individuals; need for respect for local cultural values and norms and, fair and equitable sharing of benefits among various stakeholders.

These guidelines dealt with four kinds of relationship between the external prospectors and researchers and the local communities : a) non-extractive, non-commercial research or interaction, b) extractive but primarily non-commercial, c) non-extractive but with possible commercial potential, and d) extractive for commercial developments. It is obvious that ethical obligations cannot be standardized in each role in the same manner. The purpose of any guideline is to promote good, ethical and responsible research and equitable exchanges among communities and outsiders. In different political circumstances, these guidelines will have to be operated in different manners. At the same time certain aspects of the guidelines imply 'must', 'should' or 'may' in various ethical obligations. We realize that different professionals and political communities may have a genuine difference of opinion on these emphasis. The scholars hoped that these guidelines should provide ground for further progress. In the next part, I discuss implications of the guidelines already developed for future discourse on the subject.

## **Part II - Operationalizing Ethical Discourse on Diversity**

The guidelines developed by various professional associations require prior approval from the appropriate authorities in different countries including the institutions of indigenous people or local communities. It is obvious that the present provision of Article 15.5 of CBD requires informed consent of only the parties to the convention i.e. the governments. The consent of communities or innovative individuals can be invoked only through Article 8J of CBD. To operationalised these articles in conjunction with Article 16(d)<sup>1</sup> of ICCD will require clarification of several expectations.

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1. Article 16(g) of ICCD provides for exchange of information on local and traditional knowledge, "ensuring adequate protection for it and providing appropriate return from the benefit derived from it, on an equitable basis and on mutually agreed terms, to the local population concerned". The Article 16 includes provisions suggesting that information needs of the local communities and decision makers were addressed through various means of information networks integrating physical, biological, social and economic indicators. I have developed a separate paper, 'Knowledge Centre; Building upon what

The process of ensuring, "approval and involvement" of local communities and innovators to get equitable share in the benefits (Article 8j of CBD) at "mutually agreed terms to the local population concerned" (Article 16g of ICCD) will require defining each of the important provisions. What should be the process which gives effective opportunity to articulate and assert one's rights adequately? In the wake of Merck-InBio deal, the expectations of nations as well as knowledgeable communities have increased a great deal. Moderating these expectations in some cases may become imperative. However, the other side is that large number of communities do not even know what worth they should assign to their knowledge or their resources. Situation becomes complex when resource is under government control and the knowledge is in private hands. As mentioned earlier, many communities do not prefer to assign material values to their ethereal relationships with nature. But in some cases, the choices are very clear. People use often the least valuable part of forest or a grazing land. Given the choice of drawing more income from less extraction, they may change their preferences. The time frame in which additional incomes may accrue, may vary from case to case. And yet, in order to survive in the short run, assurances are needed from external institutions.

In the absence of administrative boundaries overlapping with ecological boundaries of a resource, the determination of representative structures of people also poses a challenge.

How much information is sufficient and when should negotiations among people and outsiders be considered satisfactorily concluded are issues which will become clear only through experimentation. It is definite that one cannot take advantage of historically evolved ethical values and consequent generosity of local communities and individuals. It is in this context, that the Ethical Guidelines clearly distinguish four stages for determining the terms and which access to local biological resources be determined : a) when accessing is done, b) when a new use is discovered c) when a product is developed and d) when commercialization is done.

Obviously each party would need assurances backed up by certain guarantees to move in a stage-by-stage process of negotiations. Several safeguards have been suggested which can help in moderating mutual expectations and generating reasonable rewards.

- a) A system for an international registry of innovations has been suggested (Gupta 1994) both in the name of individuals as well as communities as the case may be. This registration should assign a right of precedence as well as protection for limited period. During this period, either other communities or institutions would claim to have already developed the innovation or would agree to add value and seek higher degree of protection. An International Fund under CBD as well as CPGR (Commission on Plant Genetic Resources, FAO) could help in

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people know' (Gupta 1995) for an International Conference on Hunger and Poverty, being organised by IFAD, Rome and European Union in Brussels, in November 1995. I have argued that relevant provisions of CBD and ICCD on fair information exchange among communities and institutions can be operationalised through a Knowledge Centre set up on the pattern of Honey Bee Global Network of Innovative Farmers, Pastoralists, Artisans etc. coordinated by an NGO that will we have set up in Ahmedabad viz. SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions).

maintaining the registry in collaboration with WIPO (World Intellectual Property Organisation). It has to be understood that many communities would prefer collective funds to be set up for local conservation and economic well being. At the same time, SRISTI has been arguing that the rights of individual innovators or conservators of resources should be specifically protected even if they themselves do not pursue the same in the short run. Whenever a reward becomes due, the innovator or conservator concerned should have the option of deciding what to do with the material resources becoming available. It is possible that choices and preferences may change once concrete alternatives are available.

- b) The contemporary innovations should not be subsumed under traditional knowledge as is often attempted by many NGOs and international organisations. Honey Bee Network supported by SRISTI has thousands of innovations in its database which can be sourced to specific innovators and/or communities. It is true that many of these individuals innovators did not develop innovations to seek any material reward. And yet, that cannot be the reason for denying them their due. Another reason for distinguishing individual contributions from the collective is that in case of agricultural biodiversity, only a small disadvantaged section of a village in many cases may be growing land races. To make entire community custodian of any reward that may become due because of the contribution of a few may be unfair. At the same time if the large majority of the people (more than 75 per cent) grow land races, the community level reward may make sense.
- c) No scheme of incentives for conservation should lead to the erosion of the very natural base for which the incentives were put in the first place. Some people have argued that providing material incentives may distort the values of the local communities supposed to be living in harmony and peace with nature.

There may be a substance in this suggestion but it should not be stretched too far. Material rewards in the absence of local institution building can lead to the condition as apparent in some of the North American Indian Reservations. These communities have very high proportion of alcoholism, drop-out, single parent families, adolescent mothers etc. with high economic deprivation. The welfare system unsupported by any investment in local institution building killed the spirit of local enterprise in many communities. There are examples where excellent farm lands were converted into almost wasteland due to lack of proper use or no use at all. At the same time, there are communities like Zunis who have fought against the state, won major law suits and got large amount of monetary compensation to undo the damage to their natural resources because of unauthorized dumping by the state. These communities are using latest technology such as GPS to manage natural resources optimally and revive some of the old technologies and land use systems to rejuvenate the irrigated lands.

Therefore, one must recognize that absence of monetary rewards and other opportunities is unlikely to either preserve the resource, or the ethics which conserved the resource so far. The extent of illiteracy is very high in biodiversity rich regions, consequent emigration of young people particularly males is also very high. The public systems as well as market forces are very weak. Given preponderance of women headed or managed households in these regions, and historical bias against women in the existing institutions, the pressure for reform from below is also weak in many such regions. It is in these conditions that absence of economic incentives for conservation may give a signal to young people not to either acquire the traditional knowledge nor to continue investing the restraint in conserving the diversity. The erosion of knowledge was never so high as in the current generation.

We have suggested following matrix for combining material as well as non-material incentives to conserve the diversity, reward creativity and innovation, generate respect for local institutions and ethical behaviour and influence the values of the future leaders of the society.

Figure 1  
Forms of Rewards

	Material	Non-material
Individual	1	2
Target of Rewards		
Collective	3	4

The first category of material - individual rewards includes the conventional incentives such as patents, license fee, contract fee, monetary rewards for innovations and conservation efforts etc. The individuals who have developed sustainable technological innovations such as herbal pesticides, veterinary medicines, natural dyes, or improved upon the existing ones may deserve to be rewarded for their creativity. It is upto them as to what do they do with their reward. I am avoiding the use of word compensation instead of reward because the former often implies something of lesser value.

We have come across cases in which individual inventors or innovators have refused any private reward. In such cases, we have tried to experiment with setting up of trust funds for the collective use but under the leadership of individuals whose contributions made this possible. Such a measure also generates non-material individual reward in the form of honour or esteem.

The second category of non-material individual incentives include honour, recognition and respect for such individuals who have contributed extraordinarily to the goals of conservation or value addition or both. SRISTI honoured thirteen such individuals last year out of its survey of innovation in one state (Gujarat) in India. Similar surveys through competition and otherwise are being organised in several other states of the country. We have also organised biodiversity contest among school children and honoured the most knowledgeable children. Small material prizes accompanied by honour contributes in building of the spirit of the competitiveness as well as respect for local knowledge. Conservation through competition has been a very successful experiment being pursued by SRISTI in different parts of the world.

The third category of material and collective incentives is a very interesting because of the enormous scope it offers for experimentation. Several kinds of trust funds, guarantee, risk or ventured capital funds can be set up to promote conservation, value addition, commercialization etc. There is no venture capital fund for promoting small innovations though there are many VCFs for large innovators. Similarly, small communities may be interested in value addition in local biodiversity for which risk as well as guarantee funds may be necessary. Some of these funds will operate at regional level while others may be required at community levels.

These funds may provide enough flexibility to different communities to pursue culture-specific norms of conservation as well as reward and/or compensation.

The fourth category of non-material collective includes policy reform, institution building, incorporation of local ecological knowledge in the curriculum at different levels in the educational system, development of markets for organic and other local products at national and global level etc.

Many times the critics of this scheme of rewarding ethical behaviour and cementing local bonds with nature have ignored the fact that a combination of these incentives will provide sustainable outcomes. No one incentive may be sufficient to generate the right kind of respect for traditional knowledge as well as contemporary innovations for conservation.

The ethical guidelines also suggested developing rules of good conduct and practice the researchers as well as the other outsiders. In the next part we deal with those issues that these guidelines did not deal with.

### **Part III - Muddling Through Grey Zones:**

#### **Issues for Further Research and Action**

One of the most important requirement for an ethical society is to let people have the right to information. Some of the most fundamental violations of ethical principles take place because these rights have not been respected. There are several steps that need to be taken in this regard:

- a) The ethical responsibilities of researchers towards professional associations often is more important than many legislations or sanctions. These responsibilities should involve a process of consensus building rather than a regimented approach. For instance national and international associations of Ethno-botanist, biologists, germ plasm collectors, curators of botanical gardens, and pharmaceutical experts should evolve guidelines and code of conduct on the subject. It should become impossible for any professional to present a paper in a national or international conference based on peoples knowledge without having shared it in local languages with people themselves. In addition unless specifically advised by the providers of knowledge, the acknowledgement with name should be obligatory.
- b) The editors of various journals and other associations will also have to ensure the compliance with the point (a) above. The funding organisations particularly in the West required declaration about acknowledgement of professional peers. However, these guidelines seldom insist on prior permission from the providers for using the knowledge. Similarly, no undertaking is taken that if any income accrues out of the use of their knowledge, it should be shared with the people in a reasonable manner.

It is obvious that many NGOs and other groups fighting on peoples behalf may be fond wanting on these grounds. I suppose that with greater pressure from various bodies, the professional as well as NGO Networks will become more accountable.

- c) The national governments in fact are often most indifferent towards the people who have conserved the natural resources so long. If that was not so, the co-relation between biodiversity and poverty wouldn't have been so strong. It is not that this linkage was not known to policy planners. Thirty years ago, when green revolution was just beginning to take shape, research leaders had acknowledged that many centers of genetic diversity were inhabited by the poorest people. Even after thirty years, their condition has not been improved substantially. In many cases it has become worse. Today, when farmers who benefited from green revolution are asked to share a small part of



their wealth in the form of a tax on seeds or outputs, there are world wide protests. But there is no farmers movement in North or South which is fighting to protect the rights of the providers and conservators of biodiversity. There is a considerable opposition to the entry of multi-national corporations, in the seed sectors in some of the developing countries (perhaps for the right reason) but there is no opposition to the continued neglect of poor people's right by the national companies or para statal corporations. Undoubtedly, it gives no relief to the poor people whether they are exploited by the national or international corporations.

- d) Given the fact that the governments in many developing countries are slow in enacting legislations in pursuance of CBD and ICCD, one cannot hope that too much action will take place in near future. At the same time, the commercial extraction of biodiversity will continue to take place by the corporations in developed countries. I have suggested that it should be obligatory for any company or individual seeking protection for any intellectual property emerging through value addition in biodiversity drawn from a developing countries to declare that the raw material and the knowledge about it was procured 'rightfully and lawfully'.

If there is no law which makes the collection of biodiversity and its usages illegal without prior informed consent, then it is legal to take such a resource outside. But can such a behaviour be considered rightful? It is this appeal to moral values which is necessary in the developed countries if their concern for conservation has to be considered seriously. I am not suggesting that governments in developing countries should not enact laws under CBD. I am merely saying that in the absence of these laws, the business as usual cannot continue.