

## Indigenous Knowledge Newsletter

### For Community Rights and Sustainable Development

#### E newsletter by Gene Campaign

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#### **Precautionary Principle and Traditional Ecological Knowledge in Natural Resource Management (NRM) - Nupur Chowdhury**

*Precautionary principle ensures that any activity or substance that may cause harm to the environment is prevented from adversely affecting the environment, even if there is an absence of a causal connection between that activity or substance and the environmental damage. Within the field of NRM its application has resulted in negative socio-economic impacts that have called into question the successful implementation of the entire project. A possible remedy lies in the internalisation of traditional ecological knowledge within the decision making structure, that would lead to positive impacts for both equity, access to justice and a more consultative and participatory decision making structure.*

#### **Precautionary Principle**

Precautionary Principle ensures that a substance or activity posing a threat to the environment is prevented from adversely affecting the environment. Uncertainty is a crucial prerequisite for the precautionary principle to be applied. The inherent requirement of the application of precautionary principle is that of constant reevaluation of the risks. As a consequence a regular adjustment and revision of the decisions relating to protection of the environment or of public health is necessary.

In the context of International Environmental Law, the CBD refers to precautionary principle under Principle 15 of the Rio Declaration which states that 'In order to protect the environment, the precautionary approach shall be widely applied by the states according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'. It has also been included extensively within the Biosafety framework (Cartagena Protocol on Biosafety), in the guiding principles on invasive alien species (Guiding Principles for

the Prevention, Introduction and Mitigation of Impacts of Alien Species that threaten eco-systems, habitats or species) and the Convention on International Trade of Endangered Species. There are several other forums or specific resolutions in which the precautionary approach is reiterated.

### **Traditional Ecological Knowledge (TEK)**

TEK forms a component of the concept of indigenous knowledge. TEK is specifically related to the ecological processes that underlie the natural world (flora and fauna). It shares the characteristics that of indigenous knowledge in terms of beings experiential in nature and local specific. Another important characteristic is being validated over several years and transferred over generations primarily orally. TEK refers to a 'body of knowledge built by a group of people through generations living in close contact with nature. It includes a system of classification, a set of empirical observations about the local environment, and a system of self-management that governs resource use' (<http://www.mtnforum.org/resources/liabrary/stud98a2.htm>; accessed on 15 July 2005)

### **Precautionary Principle in NRM**

Within the specific context of natural resource management the characteristic of uncertainty is exacerbated in terms of threat construction and the persistency of those threats. The threats originate from not only natural systems but also from socio-economic and political factors that to a large extent determine resource management. The multiple sources of these threats complicate the decision-making.

The decision-making process underlying the application of the precautionary principle focuses extensively on gathering of scientific evidence. This kind of an approach is however limited both in its ambit and in its scope of application. A simplistic collection of scientific evidence fails to appreciate the complex nature of interaction among the sources of threats. It is necessary to be sensitive to the identification of threats and the decision-making framework based on such threat identification. There has been a number of documented evidences of the operational failures of decision-making framework that overvalues some variables at the expense of the others. This would have specific poverty and livelihood security impacts.

### **Precautionary Principle, NRM and TEK**

TEK is a body of knowledge that is experiential in nature. It is best attuned to the changes in the eco-system both over a short-term and more importantly over the long-term. Also since it is local specific it is adaptable to the specific changes in the eco-system. Moreover it is a body of knowledge that has been successfully validated over generations by users of the knowledge. It is also a knowledge system that is easily accessible and cost-effective in terms of transaction costs

In the specific context of application of the precautionary principle in the NRM; TEK can become a crucial tool in dealing with the unique characteristics of the sector. There are certain inherent characteristics of the natural resources sector that make relatively more difficult to deal with the various variables in arriving at a precautionary decision. TEK in this sense is uniquely placed to enable the Precautionary Principle decision-making framework to workout a logical variability chart in terms of weighing of variables that have to be taken into consideration while arriving at a decision based on Precautionary Principle.

The application of the Precautionary Principle within NRM is still largely *ad hoc* in nature reflecting the deep inconsistency in the application of PP. One needs to undertake a stock taking of the situation in terms of realizing that there exists a separate body of knowledge that is experientially driven, local specific and cost-effective. In addition, one would also need to undertake a cost benefit analysis of the distributional aspects of a NRM decision that applies the PP solely based on scientific evidence. Studies have shown that this kind of reliance only on laboratory driven science has resulted in negative impacts that have further exacerbated the conflicts and lead to depletion of natural resources and impact biodiversity conservation negatively.

Procedurally speaking the internalizing of TEK within the Precautionary Principle decision-making framework would hold substantive benefits for *Adivasi* and other groups that are usually the most affected parties – in any PP decision – that usually result in prohibition of activities. These may be in terms of costs of admitting evidence – which will substantially decrease – if they are allowed to produce evidence from TEK. This would also address questions on access to justice that have become a sore point of contention amongst local persons affected by such decisions and the enforcement agencies that arrive at such decisions with little or no participation of the affected persons.

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## [Article2](#)

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### **Indigenous Knowledge and Oral Transmission: A Living and Breathing Culture Can Resuscitate Itself in a Modern Framework** - Valeria Gheorghiu

#### **Orality versus Literacy: Divergent Relationships to Knowledge**

Indigenous knowledge is a living body of knowledge. It depends on the commitment of an individual to retain it, on the community to value and use it and on oral transmission to preserve it. As communities seek to assimilate to a more modern life, the process of cultural erosion gradually contributes to the death of indigenous knowledge. Orality is replaced by literacy through formal education as the youth no longer seek the oral teachings of their elders. Eventually, one can say Indigenous knowledge is dead when it is no longer used, even if it has been recorded on paper by well meaning researchers for future resuscitation.

It is said that in the Western world, people mistake formal degrees of higher education for knowledge. In the modern era, for the large part, one may learn a trade and graduate without having to know all the material by heart because s/he may always rely on reference books. In contrast, in an oral tradition, without the convenience of reference books, one must learn the material by heart. Accordingly, there is a marked difference in the relationship one has with the body of knowledge between oral and literate cultures. Exploring this difference may highlight one of the roots of the loss of Indigenous knowledge and may point to a solution.

The phrase, to “know it by heart,” itself suggests a difference. When one only relies on the self to retain knowledge, and not on tools or papers, one internalizes the knowledge. It takes a lot of heart, a lot of love to memorize so much information; to spend so much time repeating the knowledge until it actually becomes a part of one’s self. One merges with the knowledge, and one therefore cannot lose it.

In contrast, owning reference books with a cursory knowledge of the subject matter coupled by excellent research skills places the body of knowledge outside of the “expert.” She does not know the knowledge by heart and it is not part of her being. Rather, it is her profession; something which she may quite easily leave in the office. Such a relationship to the body of knowledge is itself more superficial by its nature, as it is only used when needed. In relying on reference books and research skills, one does not have to know it all by heart. Rather than merging with the knowledge by heart, one uses the mind more as a tool to dig through the research for the relevant information. It is more of a utilitarian approach to knowledge that is also symptomatic of an equally utilitarian modern society.

As societies transition from an oral based system of knowledge to a literacy-based system of knowledge, Indigenous knowledge may more readily meet its death in rows of black and white letters on paper or locked up in databases. In fact, it may be the case that fewer and fewer

people even bother to keep the knowledge living in their hearts and minds, daily practices and conversation. As the knowledge is transferred into books, fewer people bother to make the effort to internalize the knowledge, and hence keep it alive in practice. They know they can always rely on the reference books if they need the knowledge. However, without its daily rehearsal or reinforcement through conversation, the knowledge merely sits stagnant in the books.

Thus, in preserving indigenous knowledge, it is essential not only to value the actual information, but also the methods by which the knowledge has been transferred and preserved. The songs, the symbols, the mentoring of youth, and other forms of oral transmission must also be held sacrosanct as part of the effort to preserve indigenous knowledge. To preserve the knowledge, and all the means with which it stays alive as part of a self-perpetuating culture, means essentially to preserve a way of life.

However, this does not mean that the way of life may not continue to evolve. The next step in this inquiry would be how to preserve this way of life within a modern plurality. How can the two modes of information management, the oral and the electronic/literacy based, complement each other so that the values of each way of relating to knowledge are utilized and preserved to their fullest?

### **Orality in a Modern Context**

One positive example which demonstrates both a consequence of cultural erosion and a proactive step to preserve such a more heartfelt relationship to knowledge is to look at the unexpected place of the changing legal system in the United States. Perhaps recognizing the loss of the art of oral debate and persuasion as a result of excess reliance on TV, the internet, and overall literacy, there has been a move in certain law schools, such as Vermont Law School, to include more oral exams in their curriculum.

Applying this to the preservation of indigenous knowledge, and oral transmission, could there be a similar requirement in the indigenous curriculum if it becomes part of a university course? Valuing and continuing to utilize such ancient modes of learning through a modern framework may go far to promoting a living multicultural society.

Looking to the En'owkin Centre established by the Okanagan in Canada may provide such a model of preserving knowledge and the means of transmission within a modern framework. The Okanagan are a first nations indigenous community in Canada who have created their own post-secondary institution accredited with public universities so as to preserve both their philosophy and their way of life. Rather than relying solely on the preservation of their knowledge, their institution "*practices and implements* [italics added] Indigenous knowledge and systems" (<http://www.enowkincentre.ca> accessed on July 12, 2005.)

If the *Adivasis* in India were able to see their modes of transmission valued by actual incorporation into a university system, whether self created or facilitated by the current university system, then the impact on cultural self-esteem perhaps would be great enough so as to encourage the youth to keep listening to their elders while incorporating a modern way of life into their own. The driving force behind this is a combination of self-determination and collaboration, where all traditions are incorporated into a modern plurality.

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### **Viewpoint**

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**India's Scheduled Tribes Bill, 2005**  
**-Raghu Velankar, Gene Campaign**

Ministry of Tribal Affairs (MTA) of Government of India has prepared a draft bill 'The Scheduled Tribes (Recognition of Forest Rights) Bill, 2005'. It has generated a heated debate among environmentalists, human rights activists and various government officials especially those related to Ministry of Environment and Forests (MoEF) of Government of India. For years forestlands and forest rights has been the domain of MoEF and various state forest departments. This article is based on the ongoing discussion on a list serve named nathistory (<http://new-lists.princeton.edu/listserv/nathistory-india.html> ). Participants of the discussion include forest officers, environmentalists, human rights activists and tribal activists. A range of opinion is observed in the discussion. It ranges from those completely rejecting the provisions of the proposed bill to those accepting the provisions in totality.

### **Background**

The Common Minimum Programme (CMP) of the ruling UPA government had assured of giving recognition to the rights of the scheduled tribes. This assurance was based on the premise that tribals in India have many years been not given what is legitimately due to them. The tribes have been deprived of rights over resources and land for many years. To address this a new bill wherein due rights would be given to the tribes was assured in the CMP. As a follow up of this, the Prime Minister of India directed MTA to prepare the draft bill.

### **Important provisions in the bill**

Important provisions of the bill include regularization of the encroached and disputed forestlands. Forest Departments of all the states are looking after this aspect for years. The bill has brought in the change that now regularization of the encroached and disputed forestlands will be primarily a domain of Gram Sabhas (GSs) i.e. village councils. Other important aspect of the proposed bill is that it provides for giving (regularizing) 2.5 Ha encroached forestland to each nuclear tribal family.

Preamble of the bill mentions that forest rights on ancestral lands and the habitat of forest dwelling Scheduled Tribes were not adequately recognized and the bill is meant to address the long standing insecurity of tenurial and access rights of the forest dwelling Scheduled Tribes.

Since 1865 Indian Forest Act exists in India. It was amended time to time. The existing forest act is the Indian Forest Act 1927. As per this law erstwhile colonial government declared that all lands not under cultivation belonged to the state. A school of opinion is that this provision curtailed the rights of the forest dwelling communities. Until this provision came into being, the forest dwelling communities enjoyed their environment without any restrictions. Usefructory rights over bioresources were under the purview of the customary law and not under the state law. According to this school of opinion declaration of lands not under cultivation as state property resulted in curtailing the community rights and many community practices like clearing of the forest for shifting cultivation were being treated as encroachment over the state property.

Under the proposed bill it is provided that all such encroachments will be regularized. The bill also mentions that each nuclear family of the forest dwelling community will be provided 2.5 hectares of land. The proposed bill authorizes Gram Sabhas - the village councils (GSs) as the primary authority to settle any disputes arising in practicing the forest rights. The whole discussion on the list serve revolves more or less around these provisions.

### **The discussion on the list serve**

Participants of the list serve discussion can be grouped in to four broad groups based on their interpretation of the provisions in the proposed bill. One of these groups strongly criticizes the bill. MoEF and its officials belong to this category. Though this group is sympathetic of injustice being faced by the forest dwelling communities over the decades, it strongly criticizes devolution of authority to the GSs. Also this group is critical of the provision of regularizing the forestlands and allotting 2.5 hectares of forestland to each nuclear family of the forest dwelling Scheduled Tribes. As far as this group's interpretation of regularization of encroached forest lands and recognition of the forest rights goes, the bill provides for giving away 2.5 hectares of forest land to each tribal

nuclear family. This group further interprets that this will result in more than 60% of the forests going into private hands, mostly the tribal families. According to this group gullible forest dwelling communities may fall in the trap of external factors with vested interests. This will lead to rapid deforestation and devastation of natural resources. In the same context this group has reservations about potential of GSs as dispute settlement authority. The group fears that timber mafia can easily influence GSs. One of the opinions belonging to this group is that there is no need of such a separate bill. There are enough provisions in the Indian Forest Act, 1927 (especially in section 4 to 20 and section 44) for recognition of forest rights and the dispute settlement. What is needed is proper execution of these provisions free of political interference. This group expresses its dissent over the fact that MTA prepared the bill. Also this group feels that given the provisions in the proposed bill, status of protected areas (National Parks and Wildlife Sanctuaries) would be doubtful.

The second group consists of environmentalists. Mostly they are wildlifers. To major extent this group agrees with the earlier group. However their concern is more for wildlife. This group recognizes importance of forest community's participation in the biodiversity and wildlife conservation but is skeptical of regularizing titles of the (encroached) forestlands. Also this group expresses fear that GSs are prone to external influences.

The third group is of tribal activists opposing the bill. This group is suspicious of political intentions and motives of the bill. This group fears that the bill if passed in its present form will create divide in the tribal population. It will be the injustice on the forest dependent communities and hunter-gatherers which are not listed in the scheduled tribes list and are not residing in the schedule V or schedule VI areas. A forum of North Eastern tribes rejects the bill on the grounds that the very process of making the draft of the bill was not transparent. No direct consultation was done with the scheduled tribes.

The fourth group is of tribal activists accepting the bill. According to this group the bill is a positive development. It is for the first time that tribals of the country are given what is due to them. According to this group the fear of environmentalists and the MoEF that 60% of the forests would go in the tribal hands is far fetched. This group interprets that giving recognition to the forest rights of the Scheduled Tribe in the form of regularizing encroached lands and allotting 2.5 hectares per nuclear family is limited to the 'encroachments' prior to 1980. To make their point clear the group refers to a particular MoEF report submitted to the supreme court in which it was mentioned that prior to 1980 encroached forest lands constitute not more than 2% of the total forest land. Nevertheless this group agrees that there are some lacunae in the draft bill and that the bill needs refinement. Among the limitations of the bill, most important is the definition of forest dwelling Scheduled Tribes in the draft bill. The group is critical of the term communities staying in and 'around ' the forest area. This group expresses its satisfaction on the provision in the bill that primary dispute settlement authority is with GSs. This group feels that state forest departments are in existence for at least last 57 years (since 1947, the independence year). Since then although total authority of the forest management is with the state forest department, it could not control deforestation. This group thinks that it is a time to give opportunity to the forest dwelling communities who have greater stake than any other stakeholder. This group cites many such examples where communities have shown that they can manage the forest quite efficiently. In addition according to this group there will be many more eyes in managing the resources. This group thinks that provision of GSs as the primary authority in the regularization and dispute settlement of forest rights is in accordance with the objectives laid by the National Forest Policy, 1988. The policy provides for participatory forest management.

#### **Some valid questions emerging from the discussion**

- What does 'nuclear family' mean? Is it a nuclear family as existed in 1980 or it also includes families of those who were minors in 1980, the cutoff year for regularization of encroachment?
- What is the guarantee that once pre 1980 encroachments are regularized, pre 1990, and pre 2000 encroachments will not be demanded for the regularization?
- What does 'around' mean in the definition of forest dwelling communities of the bill?

-Why not to amend the existing provisions in the Indian Forest Act, 1927 that addresses forest rights issue at present and execution of these provisions instead of making a new act altogether?

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### From IK World

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*Gene Campaign conducted a community level consultation at Ranchi in May 2005. The participants included government officers, Civil Society organizations, academicians, NRM professionals, students of sociology, anthropology and biology and more importantly Adivasi community members. Some of the participants shared their experiences of IK.*

#### **Red Ants as a food item**

Dr. Gupta of NBPGR shared his experience of red ants being sold as a food item in a local weekly market. He saw red ants and the nymphs were being sold in the leaf cup as a munching item. He observed the seller for a while and found that people were purchasing the ants along with Hadia, a local rice beer. Later he enquired with some adivasi youth who purchased the dish. They explained that leaf plate full of red ants with local rice beer is traditionally considered as a fatigue reliever. Those adivasi youth after having a long walk from their place to the weekly market had purchased the ants and rice beer as a munching item and subsequently to relieve them off the fatigue.

Dr. Gupta linked this experience with an incidence in a super market abroad. In the supermarket he was looking for a candy. He found that there were two similar looking candies but their price was different. Dr. Gupta asked the salesman about the difference in the price. To his surprise the salesman explained that the candy with higher price had ants as its ingredient. It was supposed to be nutritious than the similar looking normal candy.

#### **Popularising importance of indigenous varieties of rice**

Mr. Meghnath, a noted documentarian shared his experience about popularizing the indigenous varieties of rice. In social gatherings his organization would convince the host to use a particular local variety of rice to serve in the meals. Also they would invite the farmer who had maintained this variety. A board with details of the variety would be displayed at a place such that all invitees notice it. Later the farmer would serve the guests and would ask about taste of the rice. Mr. Meghnath explained that it did help to create awareness about the richness of rice diversity and of importance of conservation through this innovative method. On one hand the farmer would get peer recognition and feel encouraged. On the other hand the people, consisting mostly of local farmers, would get opportunity to taste the variety first hand and also to interact directly with the cultivator.

#### **In built mechanism of bioresources conservation**

Dr. Vandana, an entomologist shared a specific example of an in built conservation of a bio resource. During her zoological explorations she came to know of a beetle being used in curing the dog bite. However, she noted that a ritual was associated with the collection of the beetle. The beetle is found in the leaf litter on forest floor. According to the procedure in the local healing practices, the efficacy is assured only if the beetle is collected in the early morning hours. According to Dr. Vandana such condition, which people strictly follow, is an example of in built conservation mechanism. Only those who are in urgent need collect the beetle.

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**Gene Campaign**

**COMPILED BY**  
Raghu Velankar

This e-newsletter is part of Gene Campaign's efforts to develop an understanding of how best to provide protection to Indigenous knowledge.

Gene Campaign is a grass root level organization with a presence in 17 states of India. It was launched in December 1993 by Dr. Suman Sahai and a group of people who were alarmed by the impact of international development like WTO/TRIPS on the genetic resources of the developing world and the food and livelihood security of rural and tribal communities that depend on them. It is dedicated to protecting the genetic resources of the Developing Nations, and the rights of farming and tribal communities. It works to strengthen self - reliance in agriculture and the basis of sustainable food security.

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Comments to enrich the contents and format of the newsletter would be highly appreciated. If you want to contribute to the newsletter or to unsubscribe, please send a mail to Raghu Velankar on [raghu@genecampaign.org](mailto:raghu@genecampaign.org)

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