THE ROLE OF INDIGENOUS KNOWLEDGE IN THE IPR SYSTEM

Dr. SUMAN SAHAI

The importance of indigenous knowledge can not be understood when one realises that there are no rice or wheat plants nor did cotton or mustard find lying around in the forest. What are found in the forest are wild plants out of which communities of men and women over generations have bred races of several food and cash crops. These communities have bred out of the wild plants of the forests, the thousands of land races which are the basis of the world's agriculture. The land races bred by farming communities are the foundation material of modern plant breeding and global food security. These land races are the self-same varieties that plant breeders use to breed other varieties and for which they seek special and exclusive privileges like Plant Breeders Rights.

It needs to be remembered that farm women and men have not only created several thousand races of food and cash crops, they have also identified valuable genes and traits in these crops and maintained them over generations through a highly sophisticated system of crossing and selection. Communities have not only developed complex systems of pest management and biological control, they have identified and managed a series of genes conferring valuable traits for commercial and domestic needs. So it is that genes for traits as diverse as disease resistance, high salt tolerance, resistance to water logging and drought tolerance have been maintained in the repertoire of communities. Along with these commercial traits, characteristics like cooking time, taste, digestibility, milling and husking characteristics like how much grain breaks during milling operations are recognised and maintained. Women who have been the traditional custodians of the seed and responsible for its selection, are the repositories of this knowledge and in the true sense owners of this complex seed technology and know-how .This work of genetic selection, maintenance and cross breeding is the result of innovative and creative scientific experimentation in the field. This work is in no way less than the scientific experimentation conducted by scientists in the experimental plots of agricultural research stations.

The fact is that there would be no modern plant breeders if there were no indigenous knowledge. For example, faced with the threat of global warming and climate changes across agricultural zones, scientists are on the look out for crop varieties that are more heat tolerant.They acquire this information by going to deserts and hot regions and asking local farming communities about the varieties that grow in that region and that can withstand extreme heat. Armed with the benefit of indigenous knowledge, these scientists return to there labs and their experimental farms and engage in a breeding and selection program that will result in the combination of traits that they seek to achieve in the new variety that is to be designed for post global warming agriculture.

One could say quite easily 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. It stands to reason therefore that credit, reward and

recognition for a new variety should be similarly shared. That is the reason why the claim to place Farmers Rights on par with Breeders Rights is such a natural claim. Farmers have a greater and more innovative share in the creation of new plant varieties than scientists. Their contribution must be recognised with atleast the same degree of enthusiasm, if not more than that accorded to scientists.

The role of indigenous knowledge in the realm of medicinal plants is even more obvious than in the case of crop varieties. Knowledge about the characteristics of a particular plant and its properties as a healing substance, or stated differently, the technology of its use, is what gives medicinal plants their social and economic value. This technology of use has been acquired through a few thousand years of experience, trial and error and incremental refinement. As a result of this, communities have developed the knowledge of the plant, animal and mineral world to a mature and scientifically sound technology which exists in several traditions like Ayurveda and Siddha. In addition to this, tribal communities, island communities and others have developed their own knowledge base about the flora, fauna and mineral wealth of their region

It stands to reason that the technology pertaining to the medicinal uses of plants and animals belongs to indigenous communities and must be considered their property. It must be considered to be their property in the same way that a technology for making high grade chrome steel is considered the property of the Japanese company that developed it. It stands equally to reason that when someone wants to use indigenous technology to produce medicines from medicinal plants, they must first ask for permission and then agree on terms of payment for the use of this technology. When a company like Dabur or Baidyanath commercialises community knowledge and benefits financially from it, it should certainly pay royalty or make an arrangement for profit sharing. This would be even more the case if foreign companies wanted the use of this technology.

If a pharmaceutical giant like Merck were to show interest in the production of medicines based on Ayurvedic or tribal knowledge, it would explore the forest wealth of regions like India and Costa Rica with the help of local vaids or shamams. The scientist from Merck cannot make head or tail of medicinal flora if he does not have information from the vaid or the tribal ojha. Merck will begin to look for a cure for headaches in plants that are used to treat headaches and not in plants that local communities use for treating skin disorders .The scientist from Merck could not enter a tropical forest on his own and choose random plants to start his search for particular kinds of drugs. The plants in the forest, have value only because people have the special knowledge about their characteristics and the range of their utility. It is clear that Merck must pay for this technological know-how. Biological resources have a value only when accompanied by the technology of their use .Now that bioresources are becoming a highly sought after raw material in the era of biotechnology. We must create a framework for the just and proper use and appropriate payment for indigenous technology.

We need to address ourselves to a few important aspects in order to lay down a comprehensive national policy in this regard. These can be listed as follows.

Documentation of the location of biological resources at the regional and national level. Along with the documentation of the bioresources, we must **document the local/ community knowledge** that exists about the various uses of these resources. This documentation which should be compiled as a **National Bioresource Register** will serve several functions.

a. The first is that of a data bank for people seeking access to information. This access should be made available for a fee accompanied by the conditions governing the use of this information. This is the normal practice with data banks every where.

The fee for bioprospecting must be levied and be paid into a **Community Gene / Technology Fund** in the dispensation of which, representatives of communities will have a say. It would be advisable to have a basic fee for the right to prospect irrespective of whether a viable product emerges from this exploration. A profit sharing formula should be worked out in addition, if a commercial product is developed, to pay for the use of Indian raw material and Indian / Indigenous technology.

b. The documentation can be used to stake the claim of communities or individuals for royalty payments for the transfer of indigenous technology. This data base can also be used to identify communities which should be included in the National Authority that will govern the use of bioresources and implement conditions of the Convention on Biological Diversity (CBD) like Prior Informed Consent and Material/ Information Transfer Agreements.

c. Finally, this data bank will serve the important function of establishing community knowledge firmly in the public domain .This will provide the technical basis for rejecting patent claims that derive from indigenous knowledge. Patents like the one granted on the wound healing properties of Haldi or the American patent on a liver drug derived from Phyllanthus nirurii used taditionally to cure liver disorders, should be challenged on grounds of theft of indigenous knowledge.

If India is to protect its interests, and the interests of its indigenous communities, it will have to be aggressive and proactive in laying down the guidelines governing the use of bioresources. It will then have to act resolutely to challenge any infringements. Apart from challenging the grant of patents in other countries, it would be advisable for Indian legislation to include clauses barring the grant of patents on any products or processes derived from indigenous knowledge. The knowledge of communities must remain in communities and not be privatised.

d. We must ensure that the information that is documented is banked in a government owned repository and is legally admissible in a court of law as evidence for prior knowledge. In order to strengthen the claim of indigenous communities over their knowledge base, our laws must admit Oral Tradition as documentation of use. This will be of importance when dealing with knowledge other than that documented

in Ayurveda, like tribal knowledge or the knowledge existing in far flung island or hill populations.

2. **Drafting of national legislation.** New laws should be drafted quickly to deal with all aspects of bioresouces and policy governing their use. These laws are to be drafted primarily in the context of the Biodiversity Convention.

   The new law that has to be formulated for the CBD must have three components. These are
   (i) to establish ownership rights over the biological resources found in the sovereign territory of India.
   (ii) To formulate the guidelines and structures for Prior Informed Consent according to which user parties will have to seek permission for the use of bioresources.
   (iii) The conditions for Material and Information Transfer Agreements will have to be laid down so that the use of biological resources is just, equitable and sustainable . This law would seek to ensure that indigenous communities are not denied their share of the profits that accrue from the commercial exploitation of the genetic resources that they have conserved.