Value of TK in global economy

There is considerable controversy over the value of traditional knowledge. The valuation of the subset of traditional medicinal knowledge has attracted the most attention. This subset requires plant genetic resources to be valued together with intangible assets in the form of local knowledge. It is true that local communities and countries, with few notable exceptions, have not earned much from their plant genetic resources. It is also widely believed that controlling access is neither desirable, nor effective. Estimates made in developed countries have assumed that the methods of drug discovery are largely technology driven and that the value of fragments of biodiversity hotspots in pharmacological research is not much more than a few cents per hectare (Simpson, 1997).

With the advent of blue gene genomic technologies, advances in proteomics, combinatorial cytochemistry, and the expansion of patent protection and plant varieties protection, the valuation of plant genetic resources tied to traditional knowledge deserves to be reexamined. Prior informed consent cannot be operationalized without valuation because resources cannot be found, let alone allocated, without a priori estimation of trade potential.

The EU Trade Commissioner Pascal Lamy, in his conversation with me during the course of a consultative meeting between EU and India in New Delhi on January 19, 2004 publicly acknowledged that traditional knowledge has high potential whose magnitude is unknown, but the EU's commitment of resources for valuation of traditional knowledge and estimation of trade potential has not been forthcoming.

There is hesitation to reopen Article 27.3 (b) of TRIPS to introduce CBD obligations and restore balance in the asymmetry of information, bargaining power and resources between traditional knowledge holders and patent applicants. It appears that the US and EU are unwilling to jeopardize their Uruguay round gains from TRIPS by reopening its provisions for negotiations. Both are in a comfortable position to consolidate the gains through protection-enhancing technologies and take recourse to the dispute settlement process of WTO as a more effective means of perpetuating the imbalances. Assessments, estimations and valuations of traditional knowledge by developing countries are therefore even more important to increase awareness and mobilize support for resource allocation into competitive biotechnology skills, biodiversity conservation and sui generis protection for traditional knowledge. India and Brazil have demanded the institution of sui generis protection for traditional knowledge at the WTO.

Traditional knowledge can have value also as undisclosed information which is protected in certain national jurisdictions or covered by civil law rights or common law provisions. Such protection has limitations that arise from hindrances in cross-border commercial exploitation through trade in services except through foreign

commercial presence (feasible, only with scale) or the movement of natural persons (providers and recipients), and the known hazards of independent disclosure and leakages.

There are enormous difficulties associated with the marketing of unfamiliar knowledge and skills about which people are ignorant. Foreign authorities may not sanction the practice of a trade or a profession, where standards, benchmarks, norms do not yet exist.Copyrights and related rights are limited to expressions. Unarticulated or tacit traditional knowledge cannot be so protected. Similarly, while commoditized products of artisans or craftsmen may be protected under trademarks or geographical indications and as designs, services (skill-based and knowledge-based) cannot be protected against imitation. There is no bar to their production by others, as long as a specific trademark or a geographical indication is not infringed. New products and services sourced from TK can easily be swamped by branded imitations offering the same benefits. Among the most significant features of traditional knowledge are pattern-recognition skills and the logic underlying such skills which are not easily amenable to protection under conventional forms of formal IPRs. Textile designs and their combinations which are expressible can be in wide circulation. It is problematic to protect these under copyright or design IPRs in first-to-file systems that accord no priority to first-to- invent or first-to-use. In film media, loss-making movies are released in the pirate market to recover costs. TK piracy offers similar static gains to owners and conduits who take advantage of informal porosity.

The economic analysis of costs and benefits of IPRs has attracted some research attention (Maskus, 2000). Questions of economic valuation of intangibles inextricable from tangibles in cases where the divergence between ex-ante and ex-poste calculations is predicated on as-yet-unformulated access and benefit sharing regimes in missing markets have remained an enigma. Curiously, valuation is a basic condition for the practical design and application of incentive measures in the valuation of TK and genetic resources, including biodiversity. Valuation would enable new markets to be created and existing markets to function better. It is also a way to secure sustainable development of long term tangible and intangible benefits and reduce uncertainties for investment and trade.

The valuation of TK needs to address the following aspects:

- Direct use value observed in the pursuit of static efficiency.
- Indirect use that supports economic activity and sustains livelihoods in the locality, and elsewhere. (c) Discounted present value of future uses, subject to uncertainty, future demand or availability (including the question of exhaustibility).
- Non-use value which is the existence value or bequest value in economic, social,

cultural, aesthetic, intrinsic, ethical or spiritual terms.

- Positive and negative externalities, spillover effects for knowledge, innovation, organization, partnerships, supply side adjustments etc.

Valuation of traditional knowledge and plant genetic resources is the key to structuring access and benefit-sharing regimes. The discussion on valuation continues in the next section contextualizing it for the purpose of constructing access regimes and benefit sharing.

Role of Government to harness TK in India

India is a diverse country in all senses. It is counted among the 'mega diverse' countries under the CBD due to its innumerable genetic resources (GRs) and associated TK. With advancements in technology around the world, GRs and associated TK are vulnerable to bio- piracy and similar threats. With a view to protecting biodiversity, the Biodiversity Act was enacted in 2002.

The act governs conservation and use of bio- resources (BRs) and associated knowledge for commercial and research purposes as well as for bio-survey and bio-utilization.

To implement the act, the National Biodiversity Authority (NBA), an autonomous body that performs facilitative, advisory and regulatory functions for the government of India, was established in 2003.

The NBA has supported the creation of State Biodiversity Boards (SBBs) in 28 states and over 32,000 Biodiversity Management Committees (BMCs).

Under the act, Indians and Indian institutions (excluding non-resident Indians) do not need the authorization of the NBA to conduct research or work; however, they need to inform the relevant SBB of the activity. International institutions need the authorization of the NBA. The NBA gives approval after consultation with the relevant SBB and after establishing mutually- agreed terms for sharing the benefits

India has a rich history of traditional medicinal practices that date back to thousands of years. These techniques and components have come into the light during recent times mainly due to the interest shown by multinationals to exploit the knowledge and benefit from the profits. In order to protect the knowledge from being patented, the government has indeed been striving hard.

Steps taken by GOI to protect traditional knowledge from patent

- **Traditional Knowledge Digital Library**

The government has established a digital library, which contains all the information about traditional medicine, the methods and techniques. This acts as a repository of all existing traditional methods and plays an important role in proving authenticity.

This library has prevented thousands of patens from being filed internationally and it also gives access to various patent agencies of the world so that they can cross check the genuineness of the patent.

- **Direct funding**

  The government has stopped funding states and other agencies for carrying out research in traditional knowledge. It has instead made CSIR the sole responsible institution to carry out such research. The funding is directly provided to CSIR. This will prevent research from being leaked to private pharma companies.

- **UNESCO intangible cultural heritage**

  The government has been successful in obtaining UNESCO recognition to traditional medicinal knowledge such as Ayurveda, Yoga, Sowa Rigpa, Unani etc. This has allowed India to establish link with the country of origin and prevent patenting by multinational pharma companies.

- **Strengthening IPR**

  IPR laws in India have been upgraded to include all type of property rights. The new form will have provisions for protecting traditional knowledge of cultural groups. The main aim will be to protect economic interests of such groups from being exploited by third party.

Way ahead

A uniform global law must be framed that will prevent such malpractices from taking place. This can help in saving traditional knowledge from extinction.
Thus, the steps taken by the government are indeed successful in preventing misuse by multinational companies. Protecting this knowledge is beneficial on economic as well as cultural front. It keeps the culture and traditions intact.