



## **TRADITIONAL KNOWLEDGE DIGITAL LIBRARY: AN IMITATIVE TO PROTECT INDIA'S TRADITIONAL KNOWLEDGE**

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### **Abstract:**

Traditional knowledge is an important element of the intellectual and cultural heritage of indigenous peoples. It reflects their social and historical identity and significantly contributes to the future well-being and sustainable development. This paper analyses the features of indigenous knowledge, protection of traditional knowledge in India and its benefits, biopiracy issues, and Indian experience. It further discusses the national and international initiatives and Traditional Knowledge Digital Library, its benefits and outcomes against biopiracy.

**Key Words:** Traditional Knowledge, Indigenous Knowledge, Biopiracy, Traditional Knowledge Digital Library & Intellectual Property Rights

### **Introduction:**

Traditional Knowledge Digital Library (TKDL) is a pioneer initiative of India to prevent misappropriation of country's traditional medicinal knowledge at International Patent Offices on which healthcare needs of more than 70% population and livelihood of millions of people in India is dependent. Its genesis dates back to the Indian effort on revocation of patent on wound healing properties of turmeric at the USPTO. Besides, in 2005, the TKDL expert group estimated that about 2000 wrong patents concerning Indian systems of medicine were being granted every year at international level, mainly due to the fact that India's traditional medicinal knowledge which exists in local languages such as Sanskrit, Hindi, Arabic, Urdu, Tamil etc. is neither accessible nor comprehensible for patent examiners at the international patent offices.

Traditional Knowledge Digital Library has overcome the language and format barrier by scientifically converting and structuring the available contents (till date 0.29 million medicinal formulations) of the ancient texts on Indian Systems of Medicines i.e. Ayurveda, Siddha, Unani and Yoga, into five international languages, namely, English, Japanese, French, German and Spanish, with the help of information technology tools and an innovative classification system - Traditional Knowledge Resource Classification (TKRC).

TKRC has structured and classified the Indian Traditional Medicine System in approximately 25,000 subgroups for Ayurveda, Unani, Siddha and Yoga. TKRC has enabled incorporation of about 200 sub-groups under A61K 36/00 in International Patent Classification instead of few sub-groups earlier available on medicinal plants under A61K 35/00 thus enhancing the quality of search and examination of prior-art with respect to patent applications field in the area of traditional knowledge.

TKDL has also been able to set international specifications and standards for setting up of TK databases based on TKDL specifications. This was adopted in 2003 by the Committee in fifth session of the Intergovernmental Committee (IGC) of WIPO on Intellectual Property and Genetic Resources, Traditional Knowledge and Expression of folklore.

### **Agreements of TKDL:**

The TKDL Access Agreements are unique and would have long-term implications on the protection of traditional knowledge and global intellectual property systems. The impact of TKDL Access agreement with EPO may be appreciated due to the fact that generally, a patent opposition process involves an average time of 10-12 years and expenses running into millions of US dollars. For example, the opposition process in the cases of Neem Patent (EP436257), Enola beans patent (US Patent No. 5894079) and Monsanto Soybean patent (EP301749) took 10 years in each of the first two cases and 13 years in the third case, when the final decision on rejection could arrive.

On the other hand, with the help of TKDL, opposition communicated in the form of 'Third party observation' against patent applications filed on India's traditional knowledge at EPO, shows the impact in few weeks of time without any cost implications. In fact now cancellation happens at international patent office based on e-mail from TKDL, unit CSIR For example, based on the examination carried out by the TKDL team on the patent applications filed at the EPO and the TKDL database, CSIR had submitted 'Third party observations' in 36 cases where patent applications were filed on India's TK, giving evidences from TKDL for the misappropriation. In response, EPO has set aside intention to grant patent in two of the cases, whereas six patent applications have been withdrawn by the applicants on receiving details of prior art available in TKDL, from EPO. Similar results are expected at USPTO and other patent offices where CSIR has been able to conclude the Access Agreement.

**TKDL and Ayurveda:**

TKDL has not only saved Ayurveda but also helped many other fields like Agriculture etc. from getting victimized. Many Developed countries and some developing countries are using Ayurveda for their daily needs, starting from their diet to the medications. That signifies the globalization of Ayurveda which once was confined to India only. Promoting Ayurveda globally or domestically is definitely a necessary thing for every single person in this field but, at the same time, making a shield against any sort of misuse has to be made. After all, this is our traditional system of medicine, we are the major worshipers. India had been invaded and ruled by more than one foreign dynasties as well as countries. These countries headed India for their own benefits. There was hardly any positive feedback from Indians about the rulers. They had exploited India in every aspect they could, including the oldest medical science of India, Ayurveda. Since then, unrestricted exploitation of Ayurveda has already issued a huge loss in Indian Economy and it will soon result devaluation of the qualification of Ayurvedic Doctors, Pharmacists etc. if not tackled now. Ayurvedic texts, theories, advices etc. have suffered unhealthy usage by the entire world. Somehow, our devotion for Ayurveda lacked when it becomes a question of safeguarding Ayurveda from exploiters. Being an easily accessible treasure, Traditional Knowledge has always been a desire for exploiters. These people have developed an idea in their mind that the Traditional Knowledge is not a property of an individual person, but a property of all. So, if they exploit it in any ground, there will be practically nobody for claiming for the mass. But in reality, the scenario differs from the imaginative ideas of the exploiters. In case of 1994 Neem Biopiracy Case , a group of International NGOs and Representatives of Indian Farmers came together to file legal cases against EPO (European Patent Office). The exact year of beginning of Biopiracy.

**Biopiracy Cases in India:**

The exact year of beginning of Biopiracy is unclear but India has faced tremendous exploitation of her Traditional Knowledge after 1990. Biopiracy have exploited the Ayurvedic plants, herbs that are frequently used in Ayurvedic treatment, it can be summarized by the Table below:

Subject	Scientific Name	Year of Granting Patent	Patent Holder(s)	Patent Office	Revocation	Opposition
Haridra, Turmeric (wound healing property)	Curcuma longa Linn.	1995	Two expatriate Indians at the University of Mississippi Medical Centre namely Suman Kumar Das and Hari Har P. Cohly	US PTO (no. 5, 401,54)	1997	CSIR
Neem (Controlling fungi on plants by neem extracts)	Azadirachta indica A. Juss.	1994	US Corporation W.R. Grace Company US Department of Agriculture	EPO	2006	A group of International NGOs and representative of Indian Farmers
Godhuma, Indian wheat (claims to have invented wheat plants derived from a traditional Indian variety)	Triticum aestivum	2000	Monsanto	EPO	2005	Opposed by GREENPEACE and others
Basmati Rice (crossing a strain of Indian Basmati with an American variety)	Oryza sativa Linn	1997	Rice Tec. Inc.	US PTO (5663484)	2000	India and Pakistan jointly tackled the case

**Important Features of TKDL:**

- It had been set up by an experienced taskforce that included IT experts, experts in the field of Ayurveda, Unani, Yoga, Siddha and Homeopathy, Patent Examiners, Technical officers, Language experts etc.
- It has estimated around 2000 unethical patents have been granted all over the world which are directly or indirectly related to Indian Medicinal System.
- TKDL is based on 359 books of Indian System of Medicine that actually costs around US\$ 1000. All the information written in these books are accessible by the Patent Officers.
- It is a bridge between Patent Officers and Traditional Knowledge. It can also be defined as a nightmare of unethical patent holders.
- Presently, TKDL accessibility is restricted to IPOs (International Patent Office) only. These are- European Patent Office (EPO), United State Patent & Trademark Office, Japan Patent Office, United Kingdom Patent Office, Canadian Intellectual Property Office, German Patent Office, Intellectual Property Australia, Indian Patent Office and Chile Patent Office.
- TKDL can be accessed in 5 different languages. These are- Spanish, German, English, French and Japanese. This initiative has been taken to remove the unreachability of the India’s Traditional

Medicinal Knowledge because, most of the texts were written in local languages like Sanskrit, Hindi, Tamil, Urdu etc.

- The TKDL database contains 1200 formulations selected from numerous texts of Ayurveda (500), Unani (500) and Siddha (200) system of medicine.
- All the formulation listed in TKDL database consists around 291 plants as ingredients or raw materials of animal or mineral origin.
- A distinct random search option is also available at the homepage to search about variety of things by 4 different searching options. These are Simple Search, Advance Search, TKRC Search, IPC (International Patent Classification) Search.
- The 'search' option of TKDL is unique in nature. It provides two types of searches by clicking on the images of 'Ayurveda', 'Unani' and 'Siddha' at the homepage. Even for assistance in searching keywords, 'Tip for Searching' is also there in the search page.
- TKDL search features include complex Boolean Expressions, field search, phase search etc.
- The TKDL listed formulations are used by medical practitioners for the treatment of 186 diseases.
- The entire database is searchable and can be searched by any Patent Officers, anytime at absolutely no cost. Access of TKDL to Patent Officers is under TKDL Access Agreement which do not permit disclosure of the content to any third party.
- Original Slokas are mentioned in TKDL that are readable and are convertible to other languages for the purpose of pre-grant.
- The software also covers traditional terminologies into moderns.

#### **TKDL Benefits to India:**

Once the traditional knowledge is recorded in TKDL, legally, it becomes public domain knowledge. Under the patent law, this means that it is considered to be prior art and hence, is not patentable. Such a written record, in a form easily accessible to patent offices around the world, would provide all such offices with a record of India's prior art. Patent examiners could easily check this database and reject any patent application that might be a mere copy of traditional knowledge. Thus, it helps in preventing cases of biopiracy. The TKDL has a rich database of information and proved to be extremely useful to research and industry, both in India and abroad, providing an impetus to invention, and the development of products such as medicines, which would be of immense value to all of mankind. The TKDL serves the purpose of integrating the various documents related to traditional knowledge in a common language and in an easy retrieval form. It is of enormous benefit in developing the traditional knowledge further.

#### **Conclusion:**

Traditional knowledge is not something new or innovative but the distillation of practices or knowledge in the society. India has experienced various initiatives regarding the protection of traditional knowledge under intellectual property rights, including the TKDL, which is a major step to curb biopiracy and in many of these cases the country had to fight for revocation of the granted patents which involved huge costs and time. India has taken misappropriations of its traditional knowledge by developed countries through patenting system.

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