

CORRESPONDENCE

The community should obtain control over its resources and affairs through controlling a key aspect of its development, viz. energy supply. It is essentially transferring power (or control) over power (electricity) to the people. There are several examples in India where the local communities have demonstrated their willingness and capacity to manage energy and forestry systems, such as the community biogas electricity in Pura⁵. If sustainable development is crucial for long-term development, sustainable management of natural resources is essential. Promotion of conservation and sustainable management of resources requires

the following conditions: communities living close to a resource, who have a long-term stake and dependence on the resource and who must have full control over the management of that resource.

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Banking on tissue banks for translational research: the first step

Translational research in health sciences depends on the detailed study of human tissue samples. Biomarker discoveries, gene polymorphism studies, target identification and validation are some of the platforms that require a large number of human specimens. Only then these bench results statistically qualify to be translated to be used at the bedside¹.

India, as a country, has moved from being 'affected by the population' to 'driven by the masses'. Setting up and flourishing of the clinical research organizations in the country is a standing testimonial to this fact. The principle of having a high recruitment aiding a successful clinical trial should be taken as a clue for tissue procurement and easing translational research. A national tissue bank bound by ethical, legal and medical guidelines is necessary to coordinate tissue collection and clinical data storage for use in biomedical research. Tissue

samples like serum, urine, ascitic fluid, saliva and skin scrapings can be procured by non-invasive methods, whereas solid tissue samples can be obtained during therapeutic/diagnostic interventions at the surgical and pathological departments. Standard workflows and operating procedures for the collection of fresh frozen tissue samples can be worked out². This will help to procure reliable samples for research. Such a source will soon turn out to be a goldmine in terms of population studies in translational research.

The initiative to set up such tissue banks vests with the government and the research organizations of developed countries carrying out clinical trials in India. Future researchers will primarily be benefited in the following ways: (i) less time would be spent in procuring the tissue samples; (ii) validated results are obtained sooner, and (iii) variation-based

studies could be easily analysed on retrospective samples. All these factors are independently essential for the accurate results to be used in translational research.

Tissue banks are the need of the hour and are crucial to make translational research 'statistically' significant in health sciences. Perhaps, these would be the only banks not affected by the global financial meltdown!

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Bio-piracy of Unani medicine at European Patent Office

Several assets of Unani medicine are available in different languages, including Urdu, Persian and Arabic. These literary assets are easily accessible and are thus susceptible to misappropriation. The Unani system of medicine is being exploited for bio-prospecting. It is often

misappropriated because it is assumed that being in public domain, communities have given up all claims over it.

Bio-piracy of classical Unani formulations for treatment of various diseases is a matter of concern for the last couple of decades. Because of the language barrier

the examiners in patent offices are unable to search this information as prior art. Bio-piracy is a negative term for the appropriation, generally by means of patents, of legal rights over indigenous knowledge – particularly indigenous biomedical knowledge – without compensa-

tion to the indigenous groups who originally developed the knowledge.

The European Patent Office (EPO) has been serving inventors and companies in Europe since 1977. Over nearly 30 years, EPO has received approximately 2.3 million patent applications and granted approximately 760,000 European patents. EPO was established to improve cooperation on the protection of inventions globally. Under the European Patent Convention, one can obtain patent protection in up to 36 countries by filing a single application in any of the three official languages – German, English and French. Nearly 200,000 filings received annually by EPO show that intellectual property protection is big business.

EPO has acted to revoke a patent granted to a fungicide derived from the Indian medicinal plant, neem (*Azadirachta indica officinale*). The patent was challenged at the Munich office of EPO by European Union Parliament's Green Party, Vandana Shiva (Research Foundation for Science, Technology and Ecology) and the International Federation of Organic Agriculture Movements. They demanded the invalidation of the patent on the ground that the fungicide qualities of neem and its use have been known in India for over 2000 years. After 10 years of struggle, EPO agreed that the patent is based on bio-piracy and that the process for which the patent had been granted has been in use in India from time immemorial. On the same ground the patent rights granted to other Indian plants like turmeric (*Curcuma longa*) and Basmati rice have been revoked. It took about three years to revoke the patent on turmeric.

The Traditional Knowledge Digital Library (TKDL) is a collaborative project of the Council for Scientific and Industrial Research and the Department

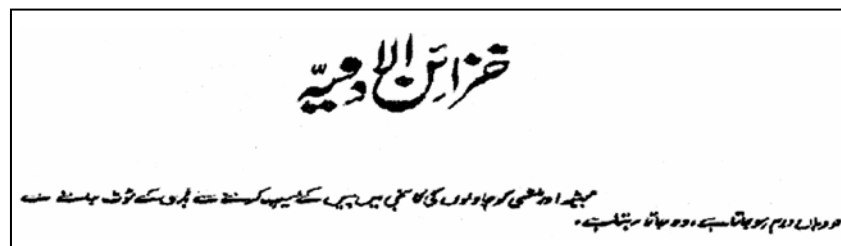


Figure 1.

of AYUSH, Government of India. An interdisciplinary team of traditional medicine (Ayurveda, Unani, Siddha and Yoga) experts, patent examiners, IT experts, scientists and technical officers are involved in the creation of TKDL for Indian systems of medicine. TKDL aims to monitor patent applications related to Indian medicinal plants filed under International Patent Classification (IPC) A61K 36/00 and related IPCs at various international patent offices, and also to prevent misappropriation of India's rich traditional knowledge. The role of TKDL in the prevention of bio-piracy and misappropriation of Indian medicinal plants in the concept of wrong patents is highly appreciated globally.

The EPO patent application number EP1859834, titled 'anti-inflammatory agent', was filed on 15 March 2005 by Maruzen Pharmaceuticals, a Japanese pharmaceutical company (established 1985). The applicant claimed that *Glycyrrhiza glabra* is useful for the treatment of inflammation. There are evidences that the same plant has been used for the treatment of inflammation/swelling for centuries generally in the Indian systems of medicine and particularly in the Unani system of medicine.

The prior art shown in Figure 1 is from a famous Unani book, written in Urdu a century ago. This is one of the reference

books of Unani medicine in the academic syllabus. The detailed bibliography of the citation is as follows: khazain ul advia by Hakim Mohd N. G. Khan; vol. VII; published by CCRUM, Dept of AYUSH, Ministry of Health and Family Welfare, Govt of India, 2010, p. 229. This prior art shows that Mulahti *G. glabra* is useful for the treatment of inflammation.

Bio-piracy of intellectual property has been in practice for long. The scenario has changed due to technological advancements and digital libraries. It has now become easy to monitor, observe and prevent any kind of misappropriation, nationally or internationally.

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