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TRADITIONAL KNOWLEDGE DIGITAL LIBRARY: "A SILVER BULLET" IN THE WAR AGAINST BIOPIRACY?

SEEMANTANI SHARMA

ABSTRACT

India has long been a victim of the emotionally expulsive wrong of biopiracy at the behest of Western corporations. Traditional Knowledge Digital Library (TKDL), a digital repository of traditional medicinal knowledge was a reaction to this act of “unjust enrichment”. While there is ample scholarly discourse on the biopiracy of Indian traditional knowledge (TK), there is scant literature critically evaluating TKDL as a tool for the protection of TK. This paper attempts to highlight some of the defects and inadequacies pervading TKDL, which inhibits its characterisation as a “silver bullet” in the war against biopiracy. Though laudatory, TKDL with its bona fide objective of preventing biopiracy of Indian TK has unfortunately succumbed to its inherent flaws, deterring its characterisation as a “silver bullet” in the war against biopiracy. Even if these inadequacies are addressed, it will not prove to be a miraculous tool in the crusade against ‘biocolonialism’; for there is wide international consensus that defensive protection strategies play a miniscule role in the wider governance of traditional knowledge.

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“Basically biopiracy is completely addressed. As far as India is concerned we have solved the problem of biopiracy 100 percent.”¹

I. INTRODUCTION

India is one of the recognized mega diverse countries of the world, harboring nearly seven to eight percent of the globally recorded species and representing four of the thirty-four identified hotspots of the world.² This makes it a vast repository of traditional knowledge (TK) associated with biological resources. As a storehouse of TK, it has been victimized by the emotionally expulsive wrong of biopiracy³ at the behest of Western corporations.

The patenting of products and processes derived from biological resources on the basis of TK became a deep concern to India. It was estimated that annually approximately 2000 patents relating to Indian medicinal formulations were being erroneously granted by the various international patent offices around the world.⁴

With this backdrop, as a nationalistic pride preservation measure, the Traditional Knowledge Digital Library (TKDL) was conceived by the Indian government.⁵ Its chief architect, Dr. VK Gupta, has characterized it to be a “silver bullet”⁶ in the crusade against biopiracy.⁷ Its sound mechanism for the protection of TK makes its appeal on paper promising.⁸ However, on a perusal of literature spanning cultural anthropology, library science and indigenous theories of property

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¹ Achal Mehra, *Biopiracy Killer App?*, LITTLE INDIA (Mar. 8, 2010, 6:26 AM).

² *Information Country Profiles*, CONVENTION ON BIOLOGICAL DIVERSITY, www.cbd.int/countries/profile/?country=in (last visited Aug. 17, 2016).

³ *The Issues*, ETC GROUP, <http://www.etcgroup.org/content/issues> (last visited Nov. 4, 2016).

⁴ *Protecting India's Traditional Knowledge*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, http://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html (last visited Dec. 18, 2016).

⁵ *About TKDL*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, www.tkdil.res.in/tkdil/langdefault/Common/Abouttkdl.asp?GL=Eng (last visited Nov. 17, 2017).

⁶ *Supra* note 1.

⁷ *Id.*

⁸ Swaraj Paul Barooah, *Guest Post: Questioning the Fallacy of a Closed – Access TKDL*, SPICY IP (Jan. 5, 2015), <http://spicyip.com/2015/01/guest-post-questioning-the-fallacy-of-a-closed-access-tkdil.html>.

indicate that there are systemic defects which undermine TKDL's model in combating biopiracy. Further, there are other structural and legal inadequacies which hinder its characterization as a "one-stop solution" to biopiracy. This sentiment has also been expressed by notable anti-globalization scholar Dr. Vandana Shiva⁹ and environmentalist Patrick Roy Mooney.¹⁰ In this vein, this paper attempts to critically evaluate TKDL's mechanism and efficacy in preventing misappropriation of Indian TK.

Part II of the paper briefly explores the biopiracy of Indian TK. Part III of the paper examines the conception and functionality of the TKDL. From Part IV onwards till Part VI, the inherent structural defects, legal inadequacies and other drawbacks of the TKDL have respectively been explored at length. After this analysis, Part VII of the paper concludes that even if systemic measures for reforming the TKDL are adopted, it will prove to be a limited measure to protect Indian TK from the preying eyes of biopirates.

II. BIOPIRACY OF INDIAN TK

Patent granted by the USPTO to the wound healing properties of turmeric and by the EPO to the antifungal properties of neem respectively was successfully revoked. However, with an international patent revocation process taking five to seven years to complete,¹¹ and the average cost ranging between \$0.2-\$0.6 million,¹² need for alternative mechanisms was felt.

Rather than waiting till the last stage of opposition, systematic documentation of publicly available TK and making it available to IPOs in languages comprehensible by their patent examiners was considered desirable. With this backdrop the TKDL, a revolutionary mechanism for combating biopiracy of Indian TK was conceived.

III. WHAT IS THE TKDL?

The TKDL is a collaborative project between the CSIR, Ministry of Science and Technology and the Department of AYUSH, Ministry of Health & Family Welfare. It is implemented by the CSIR.¹³ It provides information on Indian TK which was otherwise existent in languages and format incomprehensible by patent examiners at the IPOs. Hence, it acts as a bridge between TK which existed in local languages and patent examiners at the IPOs.¹⁴ Its objective is to thwart attempts made by

⁹ *Supra* note 1.

¹⁰ *Id.*

¹¹ Kounteya Sinha, *India foils Swiss MNC's bio-piracy bid*, TIMES OF INDIA (Mar. 3, 2012, 06:25 AM), www.timesofindia.indiatimes.com/business/india-business/India-foils-Swiss-MNCs-bio-piracy-bid/articleshow/12118637.cms.

¹² *Id.*

¹³ *About TKDL*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, www.tkdil.res.in/tkdil/langdefault/Common/Abouttkdl.asp?GL=Eng (last visited Jul. 31, 2016).

¹⁴ *Supra* note 11.

transnational corporations to patent existing Indian traditional medicinal formulations.

Even with the advent of TKDL, attempts to patent Indian TK never stopped though, incidence of biopiracy went down since its launch.¹⁵ Recent examples of initial grant of patent by the EPO to Monsanto for Closterovirus Resistant Melon Plants and its subsequent revocation¹⁶ not at TKDL's behest¹⁷ testifies its failure in preventing biopiracy of Indian TK. It was reported that the patent was based on traits taken from Indian indigenous, melon varieties.¹⁸ Not all biopiracy bids based on Indian TK have been foiled due to TKDL. Hence, any attempt to solely credit it is preposterous.

This is because TKDL's mechanism is not bereft of defects, inadequacies or drawbacks which undermine its effectiveness in preventing biopiracy of Indian TK.

IV. INHERENT STRUCTURAL DEFECTS

A. Issue of basic premise

1. Property rights regime for protection of TK

The TKDL is based upon an intellectual property framework (patents) for the protection of TK. An interpretation of theories of property by legal scholars makes a case that a property rights framework for the protection of TK is flawed. There is wide consensus that the related concepts of property rights and ownership are in conflict with TK and holders of such knowledge.¹⁹ This is because conventional intellectual property regimes, which are based on the protection of individual property rights, do not take into account the collective nature of TK.²⁰ In fact,

¹⁵ *Id.*

¹⁶ On March 2nd, 2016, a communication on the revocation of the patent was dispatched; see *About This File: EP 1962578*, EUROPEAN PATENT REGISTER, <https://register.epo.org/application?number=EP06835672&lng=en&tab=main>, (last visited Aug. 21, 2016).

¹⁷ A survey of the prosecution file of EP 1962578 shows that a third party observation pursuant to Article 115 of the European Patent Convention was filed by the National Biodiversity Authority of India. It took objections on grounds of the patent being based on an Indian biological resource and non-compliance with the Biological Diversity Act, 2002. See *All Documents: EP 1962578*, EUROPEAN PATENT REGISTER, <https://register.epo.org/application?documentId=EYIWRP1E6020DSU&number=EP06835672&lng=en&npl=false> (last visited Aug. 21, 2016). The opposition proceedings were initiated by Nunhems B.V. and C. Then/R.Tippe et al. TKDL had no role to play in preventing biopiracy of this formulation.

¹⁸ *Navdanya*, NO PATENTS ON SEED, http://no-patents-on-seeds.org/sites/default/files/patente/einspruch/oppo_melon_vandana_shiva.pdf (last visited Nov. 21, 2016).

¹⁹ Graham Dutfield, *The Public and Private Domains: Intellectual Property Rights in Traditional Knowledge*, SCIENCE COMMUNICATION, 21(3): 274-295, 281 (Mar. 2000).

²⁰ *Meeting Document: UNEP/CBD/WG&J/1/2*, CONVENTION ON BIOLOGICAL DIVERSITY, <https://www.cbd.int/doc/meetings/tk/wg&j-01/official/wg&j-01-02-en.pdf> (last visited Dec. 18 2016);

indigenous communities themselves, hesitate to use the term “property” for their knowledge and resources.²¹ This is because a property regime in general and an intellectual property regime in particular, being Western legal concepts, are deemed inadequate for the recognition, protection and enforcement of TK belonging to them.²² This is especially true for traditional biocultural contributions.²³ Hence, when TK holders do not consider TK as property, then taking recourse to TKDL for protection of TK, which is premised on property structures is grossly misplaced.

Further, jurisprudentially TKDL’s foundation is on shaky grounds. This is because the *raison de’ etre* of a patent system²⁴ is the protection of scientific innovations and technology, which is closely linked to industrialization.²⁵ TK is not the original intended target audience of an intellectual property framework.²⁶ Thus, TKDL’s reliance on an alien country’s patent regime for the protection of Indian TK is a mismatched framework for its protection.²⁷

Due to the absence of an accepted definition of novelty at an international level, TKDL is dependent for its efficacy on the whims and fancies of a country’s patent system.²⁸ In jurisdictions where the patent examination process is not as rigorous (for instance where there are too few examiners examining a patent application), there is a high likelihood of bad or unethical patents based on Indian TK being granted.²⁹ The USPTO is one such patent office, whose patent examination process came under serious flak in the aftermath of the turmeric patent controversy.³⁰ In fact, the USPTO has not been as proactive in adopting the TKDL as compared to the

Tesh Dagne, *Protecting Traditional Knowledge in International Intellectual Property Law: Imperatives for Protection and Choice of Modalities*, 14 J. MARSHALL REV. INTELL. PROP. L. 25, 38 (2014).

²¹ *International Workshop on Traditional Knowledge*, UNITED NATIONS DEPARTMENT OF ECONOMIC & SOCIAL AFFAIRS, http://www.un.org/esa/socdev/unpfii/documents/workshop_TK_taulicorpuz.pdf (last visited Dec. 18, 2016).

²² Michael A. Gollin and Sarah A. Laird, *Global Policies, Local Actions: The Role of National Legislation in Sustainable Biodiversity Prospecting*, 2 B. U. J. SCI. & TECH. L 16.

²³ Craig D. Jacoby and Charles Weiss, *Recognizing Property Rights in Traditional Biocultural Contributions*, 16 STAN. ENVTL. L. J., 74, 123 (1997).

²⁴ Lin Peng, *Striking a Balance Between Intellectual Property Protection of Traditional Chinese Medicine and Access to Knowledge*, 7 TSINGHUA CHINA L. REV. 271, 288-289 (2014-2015).

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ Different jurisdictions have varying cultural conceptions of novelty; see Graham Dutfield, *Protecting Traditional Knowledge and Folklore: A review of progress in diplomacy and policy formulation*, ICTSD-UNCTAD, <https://www.iprsonline.org/resources/docs/Dutfield%20-%20Protecting%20TK%20and%20Folklore%20-%20Blue%201.pdf> (last visited Dec. 18, 2016).

²⁹ *Id.* See also David R. Downes, *How Intellectual Property Could be a Tool to Protect Traditional Knowledge*, 25 COLUM. J. ENVTL. L. 253, 264 (2000).

³⁰ For the shortcomings of the practices and the procedures of the USPTO, see Ryan Levy and Spencer Green, *Pharmaceuticals and Biopiracy: How the America Invents Act May Reduce the Misappropriation of Traditional Medicine*, 23 U. MIAMI BUS. L. REV. 401, 420 – 421 (2014-2015); Rosemary J. Coombe, *The Recognition of Indigenous Peoples and Community Traditional Knowledge in International Law*, 14 ST. THOMAS L. REV. 275, 281 (2001-2002).

EPO.³¹ It is perhaps for this reason that with the creation of the TKDL, the number of patent filings based on Indian herbal patents did not go down at the USPTO.³²

This leads to a different, but related issue of TKDL's dependency upon the discretion and competency of patent examiners for its success.

B. Dependency upon patent examiners

TKDL with its prior art approach to combat biopiracy relies heavily for its success on the discretion and competency of patent examiners at the IPOs.

1. Issue of discretion

At the USPTO, even though the patent examination procedure is relatively uniform, patent examiners have substantial discretion to deal with patent applications.³³ This discretion varies substantially across examiners. For instance, studies indicate that, "more experienced examiners; occupying higher positions in patent office cite less prior art, have a higher grant rate,³⁴ and are likely to grant the patent on the first office action".³⁵

This becomes all the more relevant considering that patent examiners at the USPTO may have an incentive to grant bad patents since their pay depends upon the number of patent applications disposed of.³⁶ Moreover, a patent applicant is less likely to search for relevant prior art, leaving the job to patent examiners.³⁷ This leaves the acceptance of codified formulations in TKDL as prior art at the disposition of patent examiners. What may be acceptable and cited as prior art by one patent examiner may not be by another.

³¹ Prithwiraj Choudhury and Tarun Khanna, Working Paper, *Ex-ante Information Provision and Innovation: Natural Experiment of Herbal Patent Prior Art Adoption at the USPTO and EPO*, 14-079, http://www.hbs.edu/faculty/Publication%20Files/14-079_2fb4af35-dc4e-467d-8f25-512398286391.pdf (last visited Dec. 18, 2016).

³² *Id.*

³³ Iain M. Cockburn and Samuel Kortum and Scott Stern, *Are All Patent Examiners Equal? The Impact of Characteristics on Patent Statistics and Litigation Outcomes*, NATIONAL BUREAU OF ECONOMIC RESEARCH, <http://www.nber.org/papers/w8980.pdf> (last visited Dec. 18, 2016).

³⁴ Generally, the USPTO is posited to grant a patent (by narrowing claims), rather than rejecting a patent application, see Mark A. Lemley and Bhaven N. Sampat, *Examiner Characteristics and Patent Office Outcomes*, 94(3) THE REVIEW OF ECONOMICS AND STATISTICS 817, 818 (2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1329091.

³⁵ *Id.*

³⁶ Paul H. Jensen et al., *Disharmony in International Patent Office Decisions*, 15 FED. CIR. B. J. 680, 685. This may contrast with the practice at the EPO, where the patent examiners may not be as inclined to award as many patents as possible. See Catherine Saez, *WIPO: Databases to Protect GRs, TK, Useful But Some Controversy*, INTELLECTUAL PROPERTY WATCH (Jun. 29, 2016), <http://www.ip-watch.org/2015/06/29/wipo-databases-to-protect-grs-tk-useful-but-some-controversy/>. This is reinforced by the fact that many patents granted by the USPTO are not granted in other jurisdictions particularly the EPO and the JPO. See Paul H. Jensen et al., *Disharmony in International Patent Office Decisions*, at 698.

³⁷ Bhaven N. Sampat, *When Do Applicants Search for Prior Art?*, 43 J. L. & ECON. 399, 412 (2010).

Further, even though the USPTO gives examples of information that may be required from a patent applicant, an examiner is not limited by those examples.³⁸ Proposals for extending this rule to disclosure of geographical origin of source of invention and TK searches conducted by the applicant including orally transmitted TK have been made.³⁹ To date, the rule has not been amended to reflect these proposals. In this event, an applicant is not legally bound to disclose TK related information in the application. Whether a patent examiner would require him to do so is dependent upon his discretion. Lastly, patent examiners at the USPTO have a preference for citing patented prior art references and not publications.⁴⁰ Since, codified formulations in TKDL are publications and not patented prior art references makes them to be factored in less likely for destroying non-novel claims.

2. Issue of competency

Given that the best patent applications are drafted keeping the prior art in mind,⁴¹ places an onerous responsibility on the patent examiners to spot unscrupulous claims. Where cosmetic improvements to the manufacturing process based on existing TK have been made, TKDL is dependent upon the competency of the patent examiners for its success. The grant of patent⁴² to aloe vera for treating dry eyes even though the only novelty added to the original formula (as prescribed by the Ayurvedic texts) was the use of chlorinated water instead of clean water indicates the laxity of the patent examiners at the USPTO for evaluating prior art. Though, this is not the first time when a patent over subject matter that was broader than the actual invention has been granted by the USPTO.⁴³

³⁸ 37 C.F.R. § 1.105(a)(1) (2015) states,

In the course of examining or treating a matter in a pending or abandoned application, in a patent, or in a reexamination proceeding, including a reexamination proceeding ordered as a result of a supplemental examination proceeding, the examiner or other Office employee may require the submission, from individuals identified under § 1.56(c), or any assignee, of such information as may be reasonably necessary to properly examine or treat the matter, for example:

³⁹ Margo A. Bagley, *Patently Unconstitutional: The Geographical Limitation on Prior Art in a Small World*, 87 MINN. L. REV. 679, 737 (2003).

⁴⁰ Mark A. Lemley and Bhaven N. Sampat, *Examiner Characteristics and Patent Office Outcomes*, 94(3) THE REVIEW OF ECONOMICS AND STATISTICS 817, 818 (2012), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1329091.

⁴¹ *Public Hearings: Issues Related to the Identification of Prior Art During the Examination of a Patent Application – Transcript of Public Hearing July 14, 1999*, UNITED STATES PATENT & TRADEMARK OFFICE, <https://www.uspto.gov/web/offices/com/hearings/#native>.

⁴² *USPTO Patent Full Text and Image Database*, UNITED STATES PATENT & TRADEMARK OFFICE, <http://patft.uspto.gov/netacgi/nphParser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnethtml%2FPTO%2Fsearchbool.html&r=5&f=G&l=50&co1=AND&d=PTXT&s1=%22aloe+vera%22&OS=%22aloe+vera%22&RS=%22aloe+vera%22>.

⁴³ Manuel Ruiz, *The International Debate on Traditional Knowledge as Prior Art in the Patent System: Issues & Options for Developing Countries*, CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW (2002), http://www.ciel.org/Publications/PriorArt_ManuelRuiz_Oct02.pdf.

As per the TKDL Access Agreement, the CSIR is obligated to train patent examiners regarding TKDL's tools for search and examination purposes.⁴⁴ CSIR's endeavor to impart training to patent officers is laudatory. However, this mechanism is inadequate since "spotting unscrupulous claims" is based upon the skills and competency of the patent examiners; something which is not the agenda of these trainings.⁴⁵

C. Issue of modality

1. Database system for protection of TK

Legal scholar Graham, Dutfield, cultural anthropologist, Sita Reddy, political scientist, Arun Agarwal, and library and technology experts are skeptical about TK digital databases for the protection of TK.

Dutfield has opined about the limitations of a TK database in protecting all forms of TK against biopiracy.⁴⁶ Absent reforms to the patent system, a TK database can cater only to the most egregious cases of biopiracy, not all.⁴⁷ Even, Agarwal has questioned the rationale of a TK database. He noted "fundamental epistemological contradictions at the heart of TKDL and of indigenous knowledge database creation itself."⁴⁸ Elucidating, Agarwal remarks that the indigenous knowledge database creation process was in itself faulty as it stripped away "all the detailed, contextual, applied aspects of the knowledge," which was imperative for reaping the positive benefits of that particular indigenous knowledge.⁴⁹ Reddy extrapolates this stripping away in relation to ayurvedic medicines as, "This headlong rush towards digitizing knowledge transforms the very nature of medical specimen, specimens are turned into derivatives and practical knowledge is de-conceptualized, raising serious questions about the commensurability of indigenous knowledge with Western science."⁵⁰

Further, technocrats (library science and technology experts) have opined that digital media technologies are "fragile, prone to degradation and obsolescence than

⁴⁴ V.K Gupta, *The Functioning of the TKDL, Co-operation with International Patent Offices and Security & Access Consideration*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, http://www.tkdl.res.in/TKDL/Conference/pdf_files/VKGupta_INDIA_2.pdf.

⁴⁵ The trainings aim to train patent examiners on TKDL tools (basically on the interface of the database).

⁴⁶ Graham Dutfield, *Protecting Traditional Knowledge and Folklore: A review of progress in diplomacy and policy formulation*, ICTSD-UNCTAD, <https://www.iprsonline.org/resources/docs/Dutfield%20-%20Protecting%20TK%20and%20Folklore%20-%20Blue%201.pdf>.

⁴⁷ *Id.*

⁴⁸ Sita Reddy, *Making Heritage Legible: Who Owns Traditional Medical Knowledge*, INTERNATIONAL JOURNAL OF CULTURAL PROPERTY 161, 175 (2006).

⁴⁹ Arun Agarwal, *Indigenous Knowledge and the Politics of Classification*, UNIV. OF MICHIGAN, <http://www-personal.umich.edu/~arunagra/papers/Indigenous%20Knowledges.pdf>.

⁵⁰ In the context of medical heritage, similar sentiment has been expressed by critical development theorists; see *supra* note 48.

earlier thought.”⁵¹ Some experts have raised eyebrows whether the resources expended on creating the TKDL could have been better expended by the conservation and preservation of texts which served as the source for the codified formulations.⁵² This becomes all the more relevant considering its closed access model.⁵³

2. Closed Access Model

TKDL is based upon a closed access model⁵⁴ implying that it is not a publicly available database. It is available only to those IPOs that have signed a Non - Disclosure Access Agreement with the CSIR.⁵⁵ The knowledge in TKDL can be revealed to third parties only for the purposes of citation.⁵⁶ Presently, TKDL is available to the USPTO, the EPO, the JPO, Intellectual Property Australia (IP Australia), Canadian Intellectual Property Office (CIPO), the German Patent Office (DPMA), United Kingdom Intellectual Property Office (UKPTO), the Chile Patent Office (INAPI), and the Indian Patent Office (CGPDTM-India).⁵⁷

Not only has TKDL’s closed access model been attacked on legal grounds,⁵⁸ it has also been subject to an onslaught from other diverse quarters. Shiva questions the unjust deprivation of the contents of the database to Indians.⁵⁹ She argues as to why the general Indian population had been deprived of its own national heritage. Further, attacking TKDL’s closed access model on utilitarian value, Basheer questions the mammoth initiative undertaken to build the TKDL merely as a tool for preventing patents.⁶⁰

Shiva’s and Basheer’s contention becomes relevant considering that international best practices do not support the documentation and subsequent publication of TK which is not in public domain.⁶¹ Arguments have been made that an open TKDL would facilitate worldwide access to Indian TK which was otherwise inaccessible due to linguistic and cultural barriers.⁶² However, TKDL has merely

⁵¹ *Supra* note 48.

⁵² *Id.*

⁵³ *Supra* note 8.

⁵⁴ *Id.*

⁵⁵ *Patent Examiner’s View on TKDL References in Examination Report*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdl.res.in/tkdl/langdefault/common/ExaminerReport.asp> (last visited Dec. 18, 2016).

⁵⁶ *Traditional Knowledge Digital Library*, COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH, <http://www.csir.res.in/external/heads/TKDL/main.HTM> (last visited Dec. 18, 2016).

⁵⁷ *Supra* note 13.

⁵⁸ Prashant Reddy *Is the TKDL ‘a confidential database’ and is it compliant with Indian copyright law?* SPICY IP (Mar. 29, 2012), <http://spicyip.com/2012/03/is-tkdl-confidential-database-and-is-it.html>.

⁵⁹ *Supra* note 1.

⁶⁰ K. S. Jayaraman, *India Protects Traditional Medicines from Piracy*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, http://www.tkdl.res.in/tkdl/PressCoverage/important_news/nature%2010.02.2009.pdf. On TKDL’s closed access model, *see supra* note 8.

⁶¹ *Supra* note 43.

⁶² Shalini Bhutani, *Prized or Priced?* WORLD WIDE FUND (2012), http://re.indiaenvironmentportal.org.in/files/file/prized_or_priced.pdf.

aggregated and codified TK which was already in the public domain. Thus, this makes its closed access model highly irrational.

Further, two other reasons advanced for its closed access model are also without any merit. Firstly, TKDL's administrators have expressed security concerns over keeping it open.⁶³ A former director of the CSIR's National Botanic Research Institute has questioned whether formulations in TKDL would be kept intact by the EPO officers.⁶⁴ Given the contractual restrictions imposed by the TKDL Access Agreement,⁶⁵ leakage of information is very unlikely. Further, TKDL employs stringent security measures ranging from encryption to intrusion detection tools.⁶⁶ Hence, this subverts any security concerns. Secondly, fear of tweaking patent claims by astute patent lawyers is another reason extended for its closed access model.⁶⁷ However, even with the closed access model, instances of patent tweaking have been reported.⁶⁸ Hence, this negates any apprehensions emanating solely from a closed TKDL. Patent examiners are dutifully bound to spot any unscrupulous claims based on prior art and reject the same.

TKDL's closed access model conflicts with the conceptual framework of patent law which encourages inventors to undertake an extensive prior art search before embarking upon their own inventive endeavor.⁶⁹ Adelman succinctly describes this as "Libraries before Laboratories."⁷⁰ Due to TKDL's closed access model, inventors have no opportunity to scan the formulations codified by the database. Thus, often leading to inventions (whether intentional or unintentional) which are already the subject matter of codified formulations in the TKDL. Moreover, it suffers from the perils of a "self-pollinating system"⁷¹ due to its closed access model. It is designed by a small cohort of people, the CSIR and the Department of AYUSH and used by another select group, the patent examiners at the IPOs.⁷² Its restricted access model deters its scrutiny by third party experts, which is imperative for verifying the

⁶³ K.S. Jayaraman, *Biopiracy Fears Cloud Indian Database*, SCI. DEV. NET. (Dec. 5, 2012), <http://www.scidev.net/global/bioprospecting/news/biopiracy-fears-cloud-indian-database.html>

⁶⁴ *Id.*

⁶⁵ See *Traditional Knowledge Digital Library: Access Agreement*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdil.res.in/tkdil/langdefault/common/terms.pdf>.

⁶⁶ V.K. Gupta, *The Functioning of the TKDL, Co-operation with International Patent Offices and Security & Access Consideration*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, http://www.tkdil.res.in/TKDL/Conference/pdf_files/VKGupta_INDIA_2.pdf.

⁶⁷ Sumati Chandrasekharan, *Lawyers prevent open access to the TKDL*, SPICY IP (Apr. 5, 2011), <http://spicyip.com/2011/04/lawyers-prevent-open-access-to-tkdil.html>.

⁶⁸ A patent was granted to the use of aloe vera for treating dry eyes. The only novelty added to the original formula was the use of chlorinated water instead of clean water. The Ayurvedic texts prescribed the usage of clean water in the formulation. See Ranjit Devraj, *India's Digital Library Aids Biopirates – Activists*, LOBBYWATCH.ORG (July 4, 2002), <http://www.lobbywatch.org/archive2.asp?arcid=1088>.

⁶⁹ Martin J. Adelman et. al, A TEACHER'S MANUAL TO ACCOMPANY CASES AND MATERIALS ON PATENT LAW 117 (1998). See also Margo A. Bagley, *Patently Unconstitutional: The Geographical Limitation on Prior Art in a Small World*, 87 MINN. L. REV. 679, 717 (2002-2003).

⁷⁰ Martin J. Adelman et. al, A TEACHER'S MANUAL TO ACCOMPANY CASES AND MATERIALS ON PATENT LAW 117 (1998).

⁷¹ Murray Lee Eiland, *Patenting Traditional Medicine*, 89 J PAT. & TRADEMARK OFF SOC'Y 45, 67 (2007).

⁷² *Id.* at 89.

overall veracity of the codified content⁷³ (this becomes all the more important given the reported mistranslations⁷⁴ of formulations) and exaggerated claims⁷⁵ about its success in foiling biopiracy bids. This is dangerous from the point of view of accuracy and transparency. Further, a closed TKDL hinders in gauging its efficacy. Agarwal remarks that a database is dependent for its efficacy on the homogenization of elements that constitute it.⁷⁶ Due to its closed access model, it is difficult to ascertain whether the codified formulations are homogenized or not.

Lastly and most importantly, a closed TKDL restricts access to competent researchers and pharmaceutical companies desirous of either undertaking research or entering into benefit sharing agreements based on codified formulations. Not only does it mean loss of potential revenue to Indian TK holders,⁷⁷ it also hampers the advancement and subsequent commercialization of Indian TK.

An open TKDL is not only favored by Shiva⁷⁸ and legal scholars,⁷⁹ but even by the WIPO.⁸⁰ It is unfortunate that TKDL has been kept confidential despite a recommendation from an organization of the stature of WIPO to keep it open, which leaves CSIR much to answer.

D. Issue of participation

Internationally, indigenous communities have voiced an opinion that creation of a TKDL like database should be based upon the prior informed consent of TK holders.⁸¹ Even legal scholarship⁸² and international best practices⁸³ support the participatory role of TK holders in the database compilation process. This becomes particularly relevant for traditional medicinal knowledge, whose secrecy is valued by

⁷³ In Ethiopia, when a TKDL like national database was being created, many submitted inaccurate information. See Dr. Gerard Bodeker, *Traditional Medical Knowledge, Intellectual Property Rights & Benefit Sharing*, 11 CARDOZO J. INT'L & COMP. L. 785, 804 (2003-2004). However, this issue has limited applicability to TKDL since it is not based upon contributions made by TK holders.

⁷⁴ Prashant Reddy, *TKDL: A Success – Really?*, SPICY IP (Apr. 20, 2012), <https://spicyip.com/2012/04/guest-post-tkdl-success-really.html>.

⁷⁵ *Id.*

⁷⁶ Arun Agarwal, *Indigenous Knowledge and the Politics of Classification*, UNIV. OF MICHIGAN, <http://www-personal.umich.edu/~arunagra/papers/Indigenous%20Knowledges.pdf>.

⁷⁷ *Supra* note 24, at 298.

⁷⁸ *Supra* note 1.

⁷⁹ Rohaida Nordin et al., *Traditional knowledge documentation: Preventing or promoting biopiracy*, 20 (S) PERTANIKAJOURNAL OF SOCIAL SCIENCES AND HUMANITIES 11, 17 (2012).

⁸⁰ WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, *Traditional Knowledge & Folklore: Practical Mechanisms for the Defensive Protection of Traditional Knowledge & Genetic Resources within the Patent System*, WORLD INTELLECTUAL PROPERTY ORGANIZATION (May 14, 2003), http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_5/wipo_grtkf_ic_5_6.pdf.

⁸¹ *International Workshop on Traditional Knowledge*, UNITED NATIONS DEPARTMENT OF ECONOMIC & SOCIAL AFFAIRS, http://www.un.org/esa/socdev/unpfii/documents/workshop_TK_taulicorpuz.pdf.

⁸² *Supra* note 46.

⁸³ *Supra* note 43.

its holders.⁸⁴ In fact, Ayurvedic practitioners consider the compilation of traditional Ayurvedic medicine in TKDL as sacrilegious.⁸⁵ According to them, sacred Ayurvedic texts are defamed by exposing it to parties who are not scholarly Ayurvedic practitioners.⁸⁶ Similar sentiment has been expressed for TK, which is not strictly traditional medicinal knowledge.⁸⁷

In this vein, TKDL's administrators, by not involving the TK holders (Ayurvedic practitioners) in the creation of the database, violate an important tenet of heritage literature known as the "sacrilege or defamation grounds for exclusive use."⁸⁸ However, prior informed consent of TK holders of non-traditional medicinal knowledge is not *per se* an issue as TKDL merely aggregates TK which is in the public domain.

E. Issue of limited coverage

The TKDL only codifies Indian TK based on ancient medicinal formulations. Neither does it include non-codified traditional health knowledge nor Indian people's TK on agriculture, conservation and other areas.⁸⁹ Further, experts have opined that not all of the indigenous knowledge can be recorded or digitized.⁹⁰ This is especially true in the case of TK that cannot be traced due to its non - documentation in "formal outlets of knowledge"⁹¹ including orally transmitted knowledge.⁹² Moreover, many TK holders are hesitant to reveal their traditions.

Presently, TKDL codifies 2.97 lakh formulations which are based on 75 Ayurvedic texts, 10 Unani texts, 50 Siddha texts and 15 Yoga texts bringing the total number of ancient texts to 150 which is grossly inadequate considering India's vast repository of TK.⁹³

⁸⁴ Shubha Gosh, *Traditional Knowledge, Patents, and the New Mercantilism (Part II)*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 885, 916 (2003).

⁸⁵ *Supra* note 48, at 176.

⁸⁶ *Id.*

⁸⁷ Nancy Kremer, *Speaking with a Forked Tongue in the Global Debate on Traditional Knowledge and Genetic Resources: Is U.S. Intellectual Property Law and Policy Really Aimed at Meaningful Protection for Native American Cultures?*, 15 FORDHAM INTELL. PROP. MEDIA & ENT. L. J. 1, 24 (2004).

⁸⁸ *Supra* note 48, at 176.

⁸⁹ *Supra* note 62.

⁹⁰ *Id.*; See also Ajeet Kumar, *Missing Markets in World Trade: The Case for 'Sui Generis' Protection of Traditional Knowledge*, INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS (Aug. 2004), <http://icrier.org/pdf/wp141.pdf>.

⁹¹ Ikechi Mgbеoji, *Patents and Traditional Knowledge of the Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio Piracy?*, 9 IND. J. GLOBAL LEGAL STUD. 163, 177 (2001-2002).

⁹² Tracking down centuries of orally transmitted knowledge is practically impossible. See Apoorva Pathak, *Biopiracy and Protection of Traditional Knowledge*, RESEARCH HUB INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL (2015), <http://www.rhimrj.com/admin/upload/Apoorva%20Pathak.pdf>. On how oral TK may be susceptible to patenting in the US, see *infra* note 177; David R. Downes, *How Intellectual Property Could Be a Tool to Protect Traditional Knowledge*, 25 COLUM. J. ENVTL. L. 253 (2000); Maggie Kohls, *Blackbeard or Albert Schweitzer: Reconciling Biopiracy*, 6 CHI. – KENT L. REV. 108, 120 (2006-2007).

⁹³ *Source of Information*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdل.res.in/tkdل/langdefault/common/SourceInfo.asp?GL=Eng> (last visited Nov. 24, 2016).

The initial grant of patent to Monsanto for Closterovirus Resistant Melon Plants⁹⁴ exemplifies the gross inadequacy of the TKDL to fight against all forms of biopiracy. Had the indigenous melon variety been codified in the TKDL, it is plausible that no patent would have been granted to Monsanto, thus making an intervention by the National Biodiversity Authority redundant. Further, TKDL does not afford protection against all forms of intellectual property.⁹⁵ It is deficient in preventing utility patents for new uses not mentioned in it⁹⁶ and where copyright claims have been made.⁹⁷ Hence, the TKDL cannot be perceived as a tool for combating biopiracy on all forms of TK. Instead, it is a limited measure to protect TK based solely upon medicinal formulations.

V. LEGAL INADEQUACIES

A. Definition of prior art

TKDL's success lies in the recognition of its codified formulations as prior art in the major patent jurisdictions of the world. This is possible when the national patent laws of a country recognize databases in the nature of TKDL as prior art.⁹⁸ Based upon an interpretation of novelty requirements under the patent laws of the nine jurisdictions to which TKDL is available on a non-disclosure basis indicates that there may be limited legal basis for TKDL to be cited as prior art in the US.⁹⁹ This is because of the dualistic definition of prior art in the US.¹⁰⁰

⁹⁴ Patent Application EP 1962578 B1 was filed at the European Patent Office on December 21st, 2006. Patent was granted on May 4th, 2011. On March 2nd, 2016, a communication on the revocation of the patent was dispatched; *see About This File: EP 1962578*, EUROPEAN PATENT REGISTER, <https://register.epo.org/application?number=EP06835672&lng=en&tab=main> (last visited Aug. 21, 2016).

⁹⁵ K.S. Jayaraman, *Biopiracy Fears Cloud Indian Database*, SCI. DEV. NET. (Dec. 5, 2012), <http://www.scidev.net/global/bioprospecting/news/biopiracy-fears-cloud-indian-database.html>.

⁹⁶ *Supra* note 63.

⁹⁷ Krishna Ravi Srinivas, *Intellectual Property Rights and Traditional Knowledge: The Case of Yoga*, 42 ECONOMIC AND POLITICAL WEEKLY 2866, 2869 (Jul. 14-20 2007).

⁹⁸ Prashant Reddy, *Guest post : Barriers to Recognition and Unheeded Warnings : The TKDL Saga*, SPICY IP (Jan. 5, 2015), <http://spicyip.com/2015/01/guest-post-barriers-to-recognition-and-unheeded-warnings-the-tkdl-saga.html>.

⁹⁹ The author analyzed the definition of prior art under the patent law of European Union, United Kingdom, United States, Germany, Canada, Chile, India, Japan and Australia. The definition of prior art under the patent laws of all these jurisdictions except for the United States recognize formulations codified in TKDL as prior art as they are publicly available.

Article 54 (2) of the European Patent Convention defines prior art as 'everything made available to the public by means of a written or oral description, by use, or in any other way, before the date of filing of the European patent application. *See* Convention on the Grant of European Patents [1973], art. 54 (2).

Section 2 (2) of U.K's patent law defines state of the art as 'inclusive of all matter (whether a product, a process, information about either, or anything else) which was made available to the public (either in UK or elsewhere) by written or oral description or in any other way. *See* Patents Act, 1977 § 2 (2).

Under the pre-America Invents Act (AIA), formulations codified in the TKDL cannot be legally cited as prior art.¹⁰¹ This is because neither is the TK codified in the TKDL known in the US nor is it a printed publication given its closed access model. This inherent bias against foreign TK essentially means that even if TK dating back to antiquity was in widespread usage outside the US, it could still be patentable subject matter in the US. Under the AIA, formulations codified in the TKDL can be legally cited as prior art.¹⁰² Even then, it is not until at least March 15, 2034 that the geographical limitation to the definition of prior art (as existing under the pre-AIA) will be completely eliminated.¹⁰³ Thus, the TKDL will be of limited effect in combating biopiracy when patents under the pre-AIA regime are filed.

Section 3 of the German Patent Act defines prior art as 'inclusive of all knowledge that is available by written or oral description, by use or in any other way before the priority date of the application'. See Patent Law § 3, Bundesministerium der Justiz und für Verbraucherschutz, https://www.gesetze-im-internet.de/patg/_3.html (last visited Aug. 24, 2016).

Section 28.2 (1) (a) (b) of Canada's patent law defines prior art as something that must not have been disclosed (i) more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant, in such a manner that the subject-matter became available to the public in Canada or elsewhere; (ii) before the claim date by a person not mentioned in paragraph (a) in such a manner that the subject-matter became available to the public in Canada or elsewhere. See JUSTICE LAWS, <http://www.laws-lois.justice.gc.ca/eng/regulations/SOR-96-423/page-5.html#h-10> (last visited Dec. 13, 2016).

Article 33 of the Chilean patent law defines prior art as comprising "everything that has been disclosed or made available to the public, in any place of the world by means of a publication, sale or commercialization, use or any other means." See *Law No. 19.039 on Industrial Property*, 1 WIPO 18 (2006), <http://www.wipo.int/edocs/lexdocs/laws/en/cl/cl046en.pdf>.

Schedule 1 of the Australian patent law defines prior art (defined as prior art base) as information in a document that is publicly available or information made publicly available through doing an act, whether in or out of the patent area. See *Patents Act 1990*, No. 3 1990, FED. REG. OF LEGISLATION, available at <https://www.legislation.gov.au/Details/C2017C00045> (last visited Dec. 13, 2016).

Article 29 (1) of the Japanese Patent Act defines prior art as inventions that were publicly known or publicly worked or described in a distributed publication or made available to the public through electric telecommunication lines in Japan or a foreign country prior to the filing of the patent application. See Patent Act Article 29(1) and (2), *Novelty and Inventive Step*, JPO, http://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/files_guidelines_e/03_0201_e.pdf (last visited Dec. 13, 2016).

Section 2 (l) of the Indian Patent Act defines new invention as any invention or technology which has not been anticipated by publication in any document or used in the country or elsewhere in the world before the date of filing of patent application with complete specification. See Section 2 (l) The Patents Act, No. 39 of 1970, INDIA CODE (1970).

¹⁰⁰ Dualistic because of existence of two patent regimes in the US; one governed by the pre - America Invents Act and the other by the America Invents Act. See *Comparison of Selected Sections of Pre - AIA and AIA U.S. Patent Law*, INTELLECTUAL PROPERTY OWNERS ASSOCIATION, https://www.ipo.org/wp-content/uploads/2013/03/Patent_Reform_Chart_Comparison_of_AIA_and_Pre-AIA_Laws_FINAL.pdf (last visited Dec. 15, 2016).

¹⁰¹ Prashant Reddy, *Guest post: Barriers to Recognition and Unheeded Warnings : The TKDL Saga*, SPICY IP (Jan. 5, 2015), <http://spicyip.com/2015/01/guest-post-barriers-to-recognition-and-unheeded-warnings-the-tkdl-saga.html>.

¹⁰² Under AIA § 102(a)(1), prior art is inclusive of not only prior publications but also public disclosures which have been in public use, on sale, or otherwise available to the public anywhere in the world in any language prior to the effective filing date of the claimed invention.

¹⁰³ Thomas L. Irving, *Top Five Dangers for the AIA Unwary*, LANDSLIDE (May/June 2013), <https://www.finnegan.com/en/insights/top-five-dangers-for-the-aia-unwary.html>.

Similarly, though beyond the scope of this paper, TKDL has limited value (from a legal perspective) in combating biopiracy in jurisdictions transcribing a pre-AIA like definition of prior art. Thus, it is clear that TKDL's success is dependent upon the harmonization of the definition of prior art across major patent jurisdictions. While there is harmonization of definition of prior art under the IP5 offices;¹⁰⁴ same may not be true for other countries. In these countries, Indian TK is susceptible to biopiracy.

VI. OTHER DRAWBACKS

A. Issue of inflated claims

TKDL is a tale of vagueness, hyperbole and sensational claims. This criticism is attributable to a paper titled, "Protecting Indian Traditional Knowledge from Biopiracy,"¹⁰⁵ submitted by Gupta to the WIPO and CSIR's self-proclaimed outcomes on TKDL's success in foiling biopiracy bids.¹⁰⁶

1. On vagueness and hyperbole

In the paper, Gupta states, "the TKDL expert group estimated that, annually, some 2,000 patents relating to Indian medicinal systems were being erroneously granted by patent offices around the world."¹⁰⁷ Absence of these assertions backed by references made the author write to the current Head of the CSIR - TKDL Unit¹⁰⁸ on the following questions - (i) What was the constitution of this TKDL expert group?; (ii) In which year was the study conducted?; (iii) Were the findings of the expert group in public domain?;¹⁰⁹ and (iv) What was the ambit of the expression "patent offices around the world"?¹¹⁰ At the time of submission of the manuscript, there was no response from the CSIR – TKDL Unit, which prompted the author to file for a RTI, which is still pending. Since, there is no clarity on these issues till date, makes TKDL to be surrounded by a cloud of vagueness. Further, the paper states, "In one case the applicant modified the claims submitted and, in 33 other cases, the applicants themselves withdrew their four to five-year-old applications upon

¹⁰⁴ *About IP5 co-operation*, FIVE IP OFFICES, <http://www.fiveipoffices.org/about.html>, (last visited Dec. 14, 2016).

¹⁰⁵ VK Gupta, *Protecting Indian Traditional Knowledge from Biopiracy*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, http://www.wipo.int/export/sites/www/meetings/en/2011/wipo_tkdl_del_11/pdf/tkdl_gupta.pdf.

¹⁰⁶ *TKDL Outcomes against Biopiracy*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdl.res.in/tkdl/langdefault/common/OutcomeMain.asp?GL>.

¹⁰⁷ *Supra* note 101.

¹⁰⁸ In past, the author had directed these questions to the ex – head of the CSIR – TKDL unit but without any avail.

¹⁰⁹ The author was unable to locate these findings on the TKDL's website.

¹¹⁰ This made the author think whether this statement referred to only those IPOs with whom a non-disclosure agreement was signed or was it wider.

presentation of TKDL evidence, a tacit admission of biopiracy by the applicants themselves."¹¹¹

Equating withdrawal of patent applications to a "tacit admission of biopiracy"¹¹² without the backing of references is pure hyperbole to say the least. Though, it is possible that documentation of prior art may have put the applicants in a spot. However, considering TKDL's closed access model, it would have been improbable for the applicants to know whether the formulations sought to be patented were codified as prior art in the TKDL or not.

The very inception of TKDL has been premised on falsity. Some glaring misleading facts have been put forth by Government functionaries in charge of the TKDL in varying capacities.¹¹³ In the paper submitted to WIPO, Gupta opines that India was the only country till date to have a TKDL like mechanism in place.¹¹⁴ India being the sole country to have a mechanism in the nature of TKDL is fallacious. Even though the exact date of the paper is unknown, it can be traced back to somewhere in 2011.¹¹⁵ By this time, the China Traditional Chinese Medicine Patents Database and Korean TK Portal had come into being.¹¹⁶ Hence, this makes Gupta's statement erroneous.

Further, former Department of Industrial Policy and Promotion Secretary's statement that 140 patents on yoga asanas were granted by the USPTO¹¹⁷ prompted the author to peruse its veracity. Upon typing the word *yoga* in the patent database, the search engine rendered 100 results. While patents on yoga related merchandise have been granted, not even a single one pertained to yoga asanas or posture. Hence, this makes the revelations egregious.

2. On sensational claims: TKDL's success in foiling biopiracy bids

The TKDL website claims that after signing the access agreement with the EPO, "citation of TKDL references as prior art have led to significant strides towards

¹¹¹ *Supra* note 101.

¹¹² *Id.*

¹¹³ For some of these misleading facts, see *TKDL Outcomes against Biopiracy*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdl.res.in/tkdl/langdefault/common/OutcomeMain.asp?GL>; Madhulika Vishwanathan, *Evaluating the Veracity of CSIR-TKDL Claims*, SPICY IP (Aug. 12, 2015), www.spicyip.com/2015/08/evaluating-the-veracity-of-csir-tkdl-claims.html; Prashant Reddy, *Guest Post : The Traditional Knowledge Digital Library and the EPO*, SPICY IP (Mar. 19, 2012), <http://spicyip.com/2012/03/guest-post-traditional-knowledge.html>.

¹¹⁴ *Id.*

¹¹⁵ Based on the web link.

¹¹⁶ The China Traditional Chinese Medicine Patents Database dates back to June 17, 2002 while the Korean Traditional Knowledge Portal came into being in December 2007.

¹¹⁷ *India Prepares TKDL to Stop IP Theft*, THE ECONOMIC TIMES (Dec. 5, 2005), www.articles.economicstimes.indiatimes.com/2005-12-05/news/27497264_1_patent-examiners-traditional-knowledge-digital-library-patent-offices. Similar view has even been expressed by Gupta, see *India Documents 900 Yoga Poses to Block Patents*, VOA NEWS (Jun. 10, 2010, 8:00 PM), <http://www.voanews.com/a/india-documents-900-yoga-poses-to-block-yoga-related-patents--96142514/165828.html>.

achieving the goal of preventing misappropriation of Indian TK.”¹¹⁸ Based on a perusal of the statistics disclosed in the paper submitted by Gupta to the WIPO¹¹⁹ and the ones available on TKDL’s website, the author has noted some discrepancies. The paper highlights that the EPO’s TKDL team had identified 215 patent applications based on Indian medicinal formulations.¹²⁰ Withdrawal or rejection of some 179 cases was expected. However, as of date, only 130¹²¹ patent applications filed in the EPO have been refused, withdrawn, or amended on the basis of TKDL references. With withdrawals and rejections amounting to 94,¹²² the 179 figure quoted by Gupta is inflated. There have been several other instances of untrue assertions by CSIR on TKDL’s apparent success in subverting biopiracy bids.¹²³

Further, the author has observed that the exact figure on TKDL’s outcomes against biopiracy is not very clear. The TKDL website reports two different figures at two different places on its website.¹²⁴ This prompted the author to file a RTI with the Ministry of AYUSH. However, this was rejected on the grounds that it did not qualify as “information” within the meaning of Section 2(f) of the RTI Act.

These inflated claims, untrue assertions and discrepancy in figures about TKDL’s apparent success undermines its transparent evaluation as an effective biopiracy prevention mechanism. This becomes a particular concern considering that it has been financed by taxpayer’s money.¹²⁵ One can assume that substantial investment has been incurred on developing, maintaining and updating the database. The author had filed a RTI to get the exact figures, but at the time of the submission of the manuscript the application was still pending.

VII. CONCLUSION

Though laudatory, the TKDL with its bona fide objective of preventing biopiracy of Indian TK has unfortunately succumbed to its inherent flaws. The initial grant of patent to Closterovirus Resistant Melon variety and the claim of copyright over

¹¹⁸ *TKDL Outcomes against Biopiracy*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdل.res.in/tkdل/langdefault/common/Outcome.asp> (last visited Jun. 20, 2016).

¹¹⁹ *Supra* note 101.

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² As per the statistics available on TKDL’s website on its success in preventing biopiracy at EPO: 5 patent applications were refused or set aside for granting of patent, 89 applications were either withdrawn or were deemed to be withdrawn, bringing the total number of refusals and withdrawals to be 94. Further, claims of 36 applications were amended or modified by applicants due to TKDL Prior Art Evidence.

¹²³ Madhulika Vishwanathan, *Evaluating the Veracity of CSIR-TKDL Claims*, SPICY IP (Aug. 12, 2015), ww.spicyip.com/2015/08/evaluating-the-veracity-of-csir-tkdل-claims.html; Prashant Reddy, *Guest Post: The Traditional Knowledge Digital Library and the EPO*, SPICY IP (Mar. 19, 2012), <http://spicyip.com/2012/03/guest-post-traditional-knowledge.html>.

¹²⁴ The main section on TKDL’s website states that success had been achieved in 206 cases, *see TKDL Outcomes against Biopiracy*, TRADITIONAL KNOWLEDGE DIGITAL LIBRARY, <http://www.tkdل.res.in/tkdل/langdefault/Common/TKDLOutcome.asp?GL=Eng> (last visited Dec. 18, 2016). While at a different place, the figure quoted is 219, *see id.*

¹²⁵ Prashant Reddy, *The TKDL ‘free – access’ agreements with the EPO, JPO & the USPTO: Subsidizing foreign patent offices?*, SPICY IP (Feb. 22, 2012), <http://spicyip.com/2012/02/tkdل-free-access-agreements-with-epo.html>.

Bikram yoga¹²⁶ testifies its inadequacy in protecting all forms of Indian TK against biopiracy. This deters its characterization as a “silver bullet in the war against biopiracy”. Even if these inadequacies are addressed, it will not prove to be a miraculous tool in the crusade against “biocolonialism”; for there is wide international consensus that defensive protection strategies such as TK databases are just one part in the wider governance of TK.¹²⁷ Any systemic measure for the protection of TK has to come through an amalgamation of defensive and positive protection strategies; transcending the confines of patent law. However, this is a different issue and thus worthy of another paper.

¹²⁶ Founder of Bikram Yoga had claimed copyright protection over his yoga postures. However, his claims were rejected by the United States Court of Appeals for the Ninth Circuit.

¹²⁷ *The Role of Registers and Databases in the Protection of Traditional Knowledge: A Comparative Analysis*, UNITED NATIONS UNIV., <http://www.iapad.org/wp-content/uploads/2015/07/Protection-of-TK.pdf> (last visited Dec. 16, 2016); *Integrating Intellectual Property Rights and Development Policy*, COMMISSION ON INTELLECTUAL PROPERTY RIGHTS, http://www.iprcommission.org/papers/pdfs/final_report/ciprfullfinal.pdf (last visited Dec. 16, 2016); Cynthia M. Ho, *Biopiracy and Beyond : A Consideration of Socio – Cultural Conflicts with Global Patent Policies*, 39 UNIV. MICH. J. L. REFORM. 433, 441 (2005-2006).