

# CAPITALISING THE BENEFITS OF TRADITIONAL KNOWLEDGE DIGITAL LIBRARY (TKDL) IN FAVOUR OF INDIGENOUS COMMUNITIES

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*The purpose of preserving Traditional Knowledge of indigenous communities is to allow its usage, but not monopolising it through patents. In light of this purpose, Traditional Knowledge Digital Library (TKDL) was recently developed by India with the view of protecting knowledge of indigenous communities of India and preventing others from unlawfully enriching from its usage. TKDL digitally codifies all possible known indigenous community knowledge of India that cannot be patented. To prevent instances of bi-piracy, TKDL enters into agreements with various Patent Offices, so as to intervene in patent applications involving Indian TK. Unfortunately, in the current scenario the functioning of TKDL is devoid of commercial benefits. It is neither designed to commercially benefit the indigenous communities, nor to allow proper use of the knowledge through monetary payment. In this paper, TKDL will be analysed based on its functioning in light of commercial aspects. Then it shall critique the flaws that emanate from features like 'Free Access Agreements', not financially benefiting indigenous communities, and treating TKDL as a part of the freely available the 'Public Domain'. And finally this paper shall also put forth viable solutions in the form of access and benefit sharing agreement, paying public domain and an approach similar to Patentleft, which can commercially protect TK under TKDL.*

## I. INTRODUCTION

Traditional knowledge is the scared information possessed and created by tribal communities, consisting medicinal, agricultural and environmental knowledge, which is transferred from generation to generation, within the community.<sup>1</sup> This knowledge, due to its *sui generis* nature requires protection because it is forms a part of the communities' identity and is susceptible to exploitation by companies and individuals, who may patent this knowledge

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<sup>1</sup> CHRISTOPH ANTONS, TRADITIONAL KNOWLEDGE, TRADITIONAL CULTURAL EXPRESSIONS AND INTELLECTUAL PROPERTY LAW IN THE ASIA-PACIFIC REGION 2 (2009).

without accruing any benefits to the communities. Traditional knowledge is of a unique nature because it is a cross between intellectual property and public domain, exhibiting features and being exposed to the limitations of both. Since exclusive intellectual property rights ('IPR') cannot be exercised over such knowledge, due to lack of characteristics like innovation, identifiable owner etc., it becomes a part of public domain, wherein it is capable of being exploited. Thus, protection of traditional knowledge has proven to be an arduous task.

India, a nation rich in traditional knowledge, has in several prior instances suffered a similar fate of commercial exploitation of the knowledge.<sup>2</sup> Thus, to prevent future bitter disputes over biopiracy of the traditional knowledge, India devised the Traditional Knowledge Digital Library ('TKDL' or 'the Digital Library') as a tool. The TKDL was primarily developed by Council of Scientific and Industrial Research ('CSIR') as a defence mechanism to prevent the Indian traditional knowledge from being commercially exploited. It is essentially a database of traditional knowledge that has been collected by researchers through various sources, and provided to Patent Offices on an agreement.<sup>3</sup> The information in the database cannot be used to patent products based on it. The launch and functioning of the TKDL has been analysed in Part II of the paper.

TKDL received enormous resources from the Government since it was developed with the idea of benefiting indigenous communities. As promising as it may sound, it presently functions as merely a protective tool, because it does not perform the other functions of an IPR regime. An IPR regime typically performs a dual function wherein it acts as a protectorate of the intellectual work and provides monetary benefits towards it. The present TKDL framework merely performs one of the functions of providing protection to the knowledge, but does not accrue benefits to its holders. In Part III of the paper, TKDL is criticised on three grounds from a financial and economic viewpoint. First, TKDL does not grant access to third parties, due to which there is no form of financial benefit that can accrue from a contractual relationship. A contractual relationship exists only between the CSIR and Patent Offices, which enter into the 'Free Access Agreements'. Second, it fails to benefit the original traditional knowledge holders, indigenous communities as the true beneficiaries. Third, TKDL does not recognise traditional knowledge as a part of the public domain that is not freely accessible.

<sup>2</sup> See discussion *infra* Part II; The Trade and Environment Database, *Basmati*, available at <http://www1.american.edu/ted/basmati.htm> (Last visited on October 2, 2015); Traditional Knowledge Digital Library, available at <http://www.tkdil.res.in/tkdil/Langdefault/common/BioPiracy.asp?GL> (Last visited on October 22, 2015).

<sup>3</sup> R. Lakshmi Poorna et al, *Preservation and protection of traditional knowledge – diverse documentation initiatives across the globe*, 107(8) CURRENT SCIENCE 1240, 1241 (2014); Deekshitha Ganesan, *Sui generis is the answer: positive protection of traditional knowledge in India*, 11(1) JOURNAL OF INTELLECTUAL PROPERTY LAW & PRACTICE 49 (2016).

Thus, to rectify the flaws in the present TKDL framework, its commercialisation is suggested as a solution and the effects of it have been discussed in Part IV. The primary purpose of knowledge is its dissemination and in this part, we provide a philosophical basis for the commercialisation of traditional knowledge to third parties. Further, commercialisation would guarantee protection of the traditional knowledge, whilst accruing financial benefits to the indigenous communities.

In Part V, a model for commercialisation of the knowledge is proposed such that it allows third parties to enter into ‘Access Benefit Sharing’, ‘Material Transfer Agreement’ or ‘Traditional Knowledge Commons License’ form of contract with CSIR. This form of contract would ensure adequate protection, consent of the indigenous communities and financial benefits. Such contracts may have commercialisation taking place on two levels; paying public domain and the patentleft approach. First, under the paying public domain, traditional knowledge is recognised as a work that requires a monetary fee for accessing. Second, under the patentleft or copyleft approach, third parties are required to enter into future agreements on similar terms for the patent they may develop.

The administration of the proposed model and the establishment of the ‘Traditional Knowledge Fund’, that collects the revenues from the contracts, are proposed to be overseen by the National Biodiversity Authority of India (‘NBA’). Developing a database for traditional knowledge is listed as one of the general functions of the NBA under the Biological Diversity Act, 2002 (‘BD Act’). Therefore allowing NBA to manage the commercialisation of TKDL is the only viable solution.

Commercialisation of traditional knowledge has been previously discussed, but was never investigated due to the absence of a procedure and a concrete database. But today, with the existence of guidelines under various conventions for access benefit sharing and the BD Act and the TKDL, commercialisation of traditional knowledge under TKDL can be perceived as a possibility. Commercialisation of the knowledge under TKDL would result in the accrual of financial benefit, which can be used towards the welfare of the indigenous communities.

## II. A BRIEF HISTORY OF TRADITIONAL KNOWLEDGE DIGITAL LIBRARY

### A. THREATS TO TRADITIONAL KNOWLEDGE

Traditional knowledge or knowledge which has been passed down from one generation to the next, by its very nature has a precarious position

today. The major source of threat to traditional knowledge is from individuals as well as companies who seek to misuse it. In the context of traditional knowledge, the unauthorised use of common or indigenous traditional knowledge is referred to as biopiracy.<sup>4</sup> Typically biopiracy while exploiting the knowledge itself, also exploits the natural resources of the country where this knowledge is found, as well as those countries which produce the natural ingredient required. A majority of drugs that monopolise the pharmaceutical industry today use compounds from biological diversity of which at least one compound is proven to be of medicinal use for the local or indigenous community.<sup>5</sup> This usage by the indigenous community is often attributed to their traditional knowledge.<sup>6</sup> Biopiracy as a problem emerged as a result of an Intellectual Property Rights Regime ('IPR Regime') that could not include within its scope, the branch of traditional knowledge. Therefore, traditional knowledge as well as the required resources continues to be severely misused.

The second major problem that plagues the usage of traditional knowledge is its inaccessibility. A large part of this knowledge has become inaccessible owing first, to its oral nature and second, to the language barrier involved. Most books on traditional medicine have been written in languages known only to a fraction of the population today.<sup>7</sup> The inaccessibility of traditional knowledge texts prevents their optimum usage; and therefore, renders them useless. It is of primary importance therefore, that texts get translated to make traditional knowledge for all intents and purposes, accessible and thus, useful. It is agreed amongst scholars that traditional knowledge forms an inimitable component of research for drugs and therefore, its importance in the Indian macrocosm is colossal. For traditional knowledge to move out of the parochial and into the global, it is imperative that the language barrier is dissolved.

The other major concern, as is with any resource commonly available to the public, is the tragedy of the commons. In the context of traditional

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<sup>4</sup> Graham Dutfield, *Protecting Traditional Knowledge: Pathways to the future*, INTERNATIONAL CENTRE FOR TRADE AND SUSTAINABLE DEVELOPMENT, available at [http://www.ictsd.org/downloads/2008/12/protecting-traditional-knowledge\\_pathways-to-the-future.pdf](http://www.ictsd.org/downloads/2008/12/protecting-traditional-knowledge_pathways-to-the-future.pdf) (Last visited on October 22, 2015).

<sup>5</sup> Manuel Ruiz, *The International Debate on Traditional Knowledge as Prior Art in the Patent System: Issues and Options for Developing Countries*, CENTRE FOR INTERNATIONAL ENVIRONMENT LAW (2002), available at [http://www.ciel.org/Publications/PriorArt\\_ManuelRuiz\\_Oct02.pdf](http://www.ciel.org/Publications/PriorArt_ManuelRuiz_Oct02.pdf) (Last visited on October 22, 2015).

<sup>6</sup> World Intellectual Property Organization, *Traditional Knowledge*, available at <http://www.wipo.int/tk/en/tk/> (Last visited on October 22, 2015) (According to WIPO no specific definition has been given at the international level. The definition evolved by WIPO therefore is - "Traditional knowledge (TK) is knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity").

<sup>7</sup> Traditional Knowledge Digital Library, *About TKDL* available at <http://www.tkdil.res.in/tkdil/langdefault/common/Abouttkdl.asp?GL=Eng> (Last visited on October 22, 2015).

knowledge, the resource to be shared is knowledge itself, and therefore, holds additional significance. Traditional knowledge is viewed as a common resource, and thus its protection is viewed as common duty, conveniently ignored by individual conscience. Therefore, the need to protect, although felt, becomes a duty for 'others' to perform.<sup>8</sup> This serves as a big threat to the conservation and protection of traditional knowledge as it is the individual short sightedness that leads ultimately to the destruction of such knowledge.

Triggered by the fear of biopiracy, inaccessibility, and the tragedy of the commons, India's experiment with protecting traditional knowledge gained momentum in the early nineties. This eventually culminated into India's TKDL endeavour, which can be traced back to 1995 when two expatriate Indians at the University of Mississippi Medical Centre sought a patent for the wound healing properties of turmeric. Once the patent was granted, CSIR successfully challenged it with the argument that this information was part of India's traditional knowledge and thus any patent sought for it would be an act of biopiracy.<sup>9</sup> The patent so granted was thus withdrawn.

A second patent case was fought along similar lines against the United States Patent Office, by the Agricultural and Processed Food Exports Development Authority in the matter of a patent to the United States Company, RiceTec, which had filed an application to call its brand of rice 'Texmati', after the famous Indian Basmati.<sup>10</sup> A patent for this variety of rice, under the banner of 'America's Basmati' was filed. The claims of RiceTec were successfully opposed by documents collected by the Indian Agricultural Research Institute, which proved the Basmati variety to be part of India's traditional knowledge.<sup>11</sup> Besides these, several other biopiracy cases, which sought to misappropriate India's traditional knowledge and served as severe economic threats, were fought during the same time.<sup>12</sup>

<sup>8</sup> Edson Beas Rodrigues Jr., *Property Rights, biocultural resources and two tragedies: Some lesson from Brazil* in GENETIC RESOURCES AND TRADITIONAL KNOWLEDGE: CASE STUDIES AND CONFLICTING INTERESTS, 132 (1<sup>st</sup> ed., 2012).

<sup>9</sup> *Supra* note 7 (To support this argument, the Centre brought forth documentary evidence in the form of Sanskrit texts as well as a 1953 paper published in the Journal of the Indian Medical Association which established their case).

<sup>10</sup> *Supra* note 7 (This had grave implications for the Indian agricultural industry as it put the 45,000 tonne US import market at risk and other markets such as the European Union, the United Kingdom were bound to be affected).

<sup>11</sup> *Supra* note 7.

<sup>12</sup> *Supra* note 7 (Some of them include the Neem patent case; the plant *Phyllanthus amarus* Schum. et Thonn. is used for Ayurvedic treatment for jaundice, a US patent has been taken for use against Hepatitis B; The plant *Piper nigrum* Linn. is used for Ayurvedic treatment for vitiligo (a skin pigmentation disorder). A patent has been taken in UK for the application of a molecule from *Piper nigrum* Linn. for use in treatment of vitiligo. The patents on *neem* amounting to over 150 patents across the globe. The legal opposition to this patent was lodged by the New Delhi-based Research Foundation for Science, Technology and Ecology (RFSTE), in co-operation with the International Federation of Organic Agriculture Movements (IFOAM) and Magda Aelvoet, former green Member of the European Parliament (MEP); Monsanto's

## B. CREATING THE DATABASE

In order to ensure the traditional knowledge is not misappropriated, CSIR under the chairmanship of Dr. V.K. Gupta entered into a MoU with the Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy ('AYUSH') under the Ministry of Health and Family Welfare of the Govt. of India.<sup>13</sup> According to the Eleventh Five Year Plan,<sup>14</sup> CSIR has been given the responsibility of systematically documenting traditional knowledge using books on Unani, Ayurveda and other medicine systems available in the public domain in the form of existing literature.<sup>15</sup> CSIR has begun work and a major portion of the traditional knowledge has been meticulously compiled into a digital library in five popular languages including Arabic, English, Spanish, Japanese and German.<sup>16</sup>

For digitisation, CSIR uses a system called Traditional Knowledge Resource Classification ('TKRC'), which includes around 5000 subgroups pertaining to medicinal plants. This information is structured under section, class, subclass, group and subgroup according to the International Patent Classification ('IPC'). Each verse of the ancient text is translated into the selected languages before being classified, using the TKRC.<sup>17</sup> CSIR thereafter enters into MoUs with the patent offices of various nations in order to give them access to the digital library. Subsequently, when patents are applied for in the foreign patent offices, they get screened through the TKDL. Patent examiners use TKDL to ensure that the applications that use the same information are not

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infamous patent on Indian wheat (EP0445929B1) claims to have "invented" wheat plants derived from a traditional Indian variety, and products made with the soft milling traits that the traditional Indian wheat provides).

<sup>13</sup> CSIR was established in 1942 and is mainly funded by the Ministry of Science and Technology although it considers itself to be an autonomous body registered under the Registration of Societies Act of 1860. Despite this autonomy, CSIR has represented the State and has been a signatory to various MoUs with patent offices across the globe. The 11<sup>th</sup> Five Year Plan also makes it clear that CSIR has been controlled by the State.

<sup>14</sup> Planning Commission, *11th Five Year Plan (2012-2017)*, available at [http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11\\_v2/11th\\_vol2.pdf](http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11_v2/11th_vol2.pdf) (Last visited on October 22, 2015).

<sup>15</sup> *Supra* note 7.

<sup>16</sup> Manuel Ruiz, *The International Debate on Traditional Knowledge as Prior Art in the Patent System: Issues and Options for Developing Countries*, CENTRE FOR INTERNATIONAL ENVIRONMENT LAW (2002) available at [http://www.ciel.org/Publications/PriorArt\\_ManuelRuiz\\_Oct02.pdf](http://www.ciel.org/Publications/PriorArt_ManuelRuiz_Oct02.pdf) (Last visited on October 22, 2015) (In order to establish the digital database, internationally recognised specifications were used with the help of an expert committee from China, Philippines and India).

<sup>17</sup> Traditional Knowledge Digital Library, *Bio-piracy of Traditional Knowledge*, available at <http://www.tkdil.res.in/tkdil/Langdefault/common/BioPiracy.asp?GL=> (Last visited on October 22, 2015) ("The translated version of all the TKRC codes is ported in the database. The abstraction is done by the subject experts. The codes once saved in meta data directory are converted in different languages based on Unicode technology").

granted patents.<sup>18</sup> Thus, attempts at biopiracy whether deliberate or otherwise, are curbed. Therefore, if the patent so applied for is already part of traditional knowledge in the TKDL or in other words considered to be prior art, the patent application is rejected. All applications are run through the TKDL in order to ensure that they do not misappropriate traditional knowledge of India, in any fashion.

### C. PRESENT STATUS

Currently TKDL consists 34 million pages in a patent application format on 270 thousand medicinal formations.<sup>19</sup> The number of foreign patent attempts CSIR has thwarted is often cited as proof of this initiative's success. CSIR has claimed to have identified five thousand patent applications in International Patent Offices ('IPO') which seek to misappropriate India's traditional knowledge and<sup>20</sup> has filed evidences for one thousand and seventy three of these applications at the pre-grant stage while claiming that it has resulted in the withdrawal/cancellation of one hundred and thirty seven patent applications.<sup>21</sup> Sources within CSIR have revealed that over one-lakh formulations are yet to be added to the library as more of India's traditional knowledge becomes digitalised.<sup>22</sup> It is also believed that CSIR desires to make the database available to publicly funded research organisations for further research in the field.<sup>23</sup>

Despite these successes, several scholars have criticised the current functioning of the MoUs as well as the Library itself. These criticisms include the inefficiency in the functioning of the library, its availability (or lack thereof) to the public, as well as the free access agreements signed by the patent offices of various countries.

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<sup>18</sup> Traditional Knowledge Digital Library, *International Conference on Utilization of the Traditional Knowledge Digital Library (TKDL) as a Model for Protection of Traditional Knowledge*, available at [http://www.tkd.l.res.in/TKDL/Conference/pdf\\_files/Report\\_of\\_Conference.pdf](http://www.tkd.l.res.in/TKDL/Conference/pdf_files/Report_of_Conference.pdf) (Last visited on October 22, 2015). (Agreements have been signed between CSIR and the Indian Patent Office (July 2009), European Patent Office (February 2009), United States Patent and Trademark Office (September 2010), Canadian Intellectual Property Office (September 2010), German Patent Office (October 2009), United Kingdom Patent Office (February 2010), Intellectual Property Australia (January 2011) and Japan Patent Office (April 2011). Currently, CSIR seeks to sign these agreements with other patent offices of countries such as New Zealand and Mongolia. Other countries are enthusiastic to sign this agreement as was evident by the response to the TKDL Conference held in New Delhi in 2011).

<sup>19</sup> United Nations Environment Programme [UNEP], *Ad Hoc Open-Ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity*, ¶40, UNEP/CBD/WG8J/8/INF/5 (October 7, 2013).

<sup>20</sup> Traditional Knowledge Digital Library, available at <http://www.tkd.l.res.in/tkd.l/langdefault/common/milestones.asp?GL=Eng> (Last visited on October 22, 2015).

<sup>21</sup> Joseph Alexander, *TKDL to sign agreements with more countries, add one lakh more formulations*, July 18, 2013, available at <http://www.pharmabiz.com/NewsDetails.aspx?aid=76536&sid=1> (Last visited on October 22, 2015).

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

## 1. Inefficiency

The first criticism is rooted in the inefficiency of TKDL. It was in the case of patent application number EP1520585 that CSIR had mistranslated one of the main ingredients.<sup>24</sup> Mistranslation is a blunder on the part of CSIR as it would defeat the very purpose of digital library and provide a loophole for patent applications to exploit. Mistranslation of ingredients may be used as a defence as well as prevent research and thus patenting, of the mistranslated item.

## 2. Public Access

According to some, the TKDL ought to be made public and accessible to all, in order to prevent the oft-used defence of ignorance of a particular formulation's 'prior art' status.<sup>25</sup> In some instances the defence has argued that the literature used by TKDL was unavailable in the public domain, and therefore the application ought not be rejected. The concern that emerges out of such arguments is the lack of awareness about traditional knowledge systems of India. In order to prevent patent applications in the first place instead of fighting each one of them, these indigenous knowledge systems need to be so publicised, that patents cannot possibly be applied for the conspicuous lack of novelty.<sup>26</sup> The databases created by China for instance are available to the public at the payment of a fee and therefore prevents biopiracy.<sup>27</sup> This essentially ensures that the idea of such usurpation does not mature into a patent application in the first place.

## 3. Free Access Agreements

Admittedly, there is scope for improvement in the implementation of the MoUs signed by CSIR. The biggest defect in the functioning of TKDL has been the concept of 'free access' agreements, which essentially allows international patent offices to exploit the database created by CSIR without paying.

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<sup>24</sup> This case was regarding the cancer healing properties of the pistachio plant. According to the digital library one of the ingredients was pistachio nut whereas in the original source (I'laaj – al – Amraaz by Mohd.Shareef Khan) it was in fact a plant, which was grown *beside* the pistachio nut plant. This plant could not be identified by scholars at the Rajasthan Unani Medical College. See SpicyIP, *TKDL: A success- Really?* available at <http://spicyip.com/2012/04/guest-post-tkdl-success-really.html> (Last visited on October 22, 2015).

<sup>25</sup> See *supra* note 17 ("Accessibility of prior art is considered to be one of the basic concepts of patent law and compliance of the same ought to be ensured").

<sup>26</sup> Feji Jiao, CENTRE FOR ADVANCED STUDY & RESEARCH ON INNOVATION POLICY NEWSLETTER, *Recommendations on How to Protect Traditional Chinese Medicine Knowledge* 2007 (Vol. 14, Issue 4), available at <https://www.law.washington.edu/Casrip/Newsletter/default.aspx?year=2007&article=newsv14i4China> (Last visited on May 25, 2016). ("This may apply, for instance, to TCMK which has already entered the public domain...").

<sup>27</sup> *Id.*



The argument against such a system stems from the fact that by allowing international patent offices access to TKDL, CSIR is substantially improving the quality of patents in these countries by advancing the quality of examination itself.<sup>28</sup> Provided with extensive databases of what constitutes traditional knowledge, patent offices across the world can now easily reject unworthy patent applications, and thus reward the truly deserving claimants. The other important factor for consideration is the financial burden on the Government of India in creating this database. The Government has spent close to seven crore rupees (as of 2010) to establish this library and therefore, logically must expect some returns to this investment.<sup>29</sup> Other countries such as China have developed such a mechanism and have made it available to the public by charging a hefty fee for access.

TKDL's success therefore is yet to be measured in real terms- it needs to be swiftly improved upon, after a careful scrutiny of the critiques provided by academicians and users alike. It holds vast potential to improve the lives of many and if used appropriately, may in fact possibly solve the tragedy of the commons.

### III. CRITIQUING THE COMMERCIAL ASPECTS OF THE PRESENT TKDL FRAMEWORK

TKDL was developed primarily with the view that Indian traditional knowledge should be protected from wrongful appropriation, even overseas.<sup>30</sup> Yet from the functioning that has been elaborated upon in the previous Part of the paper, it is evident that this model is flawed mainly with respect to the commercial aspects. In the present model, foreign patent offices have access to the TKDL based on a non-disclosure agreement that is devoid of any monetary benefits. Due to the lack of monetary benefits, the model compromises on other benefits besides protection of Indian traditional knowledge that it could have guaranteed. These are mostly in the form of commercial benefits towards the indigenous communities and further research for the TKDL. But prior to recognising the possible commercial benefits of TKDL, the flaws in its present model need to be addressed. These flaws are primarily: the lack of monetary benefits due to no third party access; absence of financial benefits to the indigenous communities who are the true beneficiaries of traditional knowledge; and the fact that TKDL fails to distinguish traditional knowledge as 'Publicly Accessible or Available' and 'Public Domain'. In this part of the paper, these criticisms of the commercial aspects of TKDL shall be analysed.

<sup>28</sup> World Intellectual Property Organization, *Meeting of International Authorities under the Patent Cooperation Treaty*, February 4, 2015, available at [http://www.wipo.int/edocs/mdocs/pct/en/pct\\_mia\\_22/pct\\_mia\\_22\\_8.pdf](http://www.wipo.int/edocs/mdocs/pct/en/pct_mia_22/pct_mia_22_8.pdf),3 (Last visited on October 22, 2015).

<sup>29</sup> The Assam Tribune, *India sets bio-diversity agenda*, January 5, 2010 available at <http://www.assamtribune.com/scripts/details.asp?id=jan0510/at01> (Last visited on October 22, 2015).

<sup>30</sup> Ministry of Ayush, *Traditional Knowledge Digital Library*, available at <http://ayush.gov.in/sites/default/files/tkdl.pdf> (Last visited on October 22, 2015).

A. *LACK OF MONETARY BENEFITS DUE TO THE  
'NON-DISCLOSURE AGREEMENT'*

In the present TKDL framework, the exchange of traditional knowledge information is only between CSIR and the IPO, with which it enters into a non-disclosure agreement.<sup>31</sup> Traditionally non-disclosure agreements are of a secretive and confidential nature because they are intended to keep only the parties to the agreement aware of the subject matter, since making it available to third persons might affect the interests of the parties involved or it might be against the general public interest.<sup>32</sup> In the current scenario, CSIR is relying on the reasoning that non-disclosure agreements are imperative since they can curb the possibility of Indian traditional knowledge being commercially exploited.<sup>33</sup> This essentially means that the Digital Library that was built with enormous amount of financial and labour input is meant to act only as a protective tool. Unfortunately, by effectuating only the protective aspect of TKDL, any form of possible usage of the codified traditional knowledge is prevented (including useful usage involving health benefits).

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But why is the denial of access to third parties perceived as a flaw in the TKDL framework? To answer this, the framework must be viewed from a financial aspect, and more specifically from the requirement of consideration for an effective agreement. When CSIR enters into an agreement with patent offices, the fact that the patent offices are engaging in preventing the unlawful usage of Indian traditional knowledge is considered to be in the 'consideration' in the agreement. In light of the fact that CSIR spent an enormous amount of the taxpayers' money for the TKDL project, this consideration is not equivalent to the monetary value of the project.

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<sup>31</sup> See *supra* note 17.

<sup>32</sup> John Kiernan, *Confidentiality Agreements that work*, 20(3) LITIGATION 18, 21 (1994).

<sup>33</sup> WIPO Intergovernmental Committee, *Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data*, Third Session, Geneva, June 13-21, 2002, WIPO Doc. No. WIPO/GRTKF/IC/3/6 (May 10, 2002).

<sup>34</sup> Kiernan, *supra* note 32, 18.

<sup>35</sup> K.P. Prabhakaran Nair, *Safeguarding India's Ancient Wisdom*, THE HINDU (New Delhi) December 9, 2012.

Contractual law thus requires a consideration to be adequate.<sup>36</sup> Such a requirement is based on the idea of ‘Bargain Theory of Consideration’.<sup>37</sup> Bargain Theory states that there is an exchange of promises, i.e. bargain of consideration against bargain of performance.<sup>38</sup> The bargain on each side of the equation is required to be equal for a valid contract. In case of TKDL agreements, the element of bargain of consideration is not equal, since besides protection, there is no monetary benefit arising out of the project. In fact, TKDL agreements are more along the lines of ‘free-gift’ contracts suggested by Thomas Hobbes. Hobbes had argued that in the absence of economic exchange (or anything of similar value), the contract would be unilateral and be termed as ‘free-gift’.<sup>39</sup> These unilateral contracts are often not effective in encouraging ‘mutual inducement’ between parties, such that both perform their obligations.<sup>40</sup> To prevent TKDL agreements from being unilateral, it is necessary to incorporate the element of ‘adequate consideration’ to the agreements. Making the access to TKDL available to third parties on a monetary contractual basis can do this.

Ordinarily the problem with making traditional knowledge available to third parties is that there is possibility of biopiracy taking place.<sup>41</sup> But it is important to note that biopiracy is pertinent to commercial exploitation, rather than commercial access. Commercial exploitation would imply that the indigenous communities’ property is being used, without their permission. But commercial access to traditional knowledge in exchange of monetary consideration would allow even the indigenous communities to benefit from such a transaction. Therefore, providing access to TKDL, to third parties would ensure a commercial gain on behalf of the indigenous communities for their knowledge.

## B. NO FINANCIAL BENEFIT TO TRUE BENEFICIARIES

Article 29 of the Constitution of India recognises the significance of cultural rights and functions to protect these rights. This also includes the right of the indigenous communities to not have their sacred property used by corporates or individuals for their own commercial gains.<sup>42</sup> The sanctity and

<sup>36</sup> Peter Benson, *The Idea Of Consideration*, (61) 2 THE UNIVERSITY OF TORONTO LAW JOURNAL 241 (2011).

<sup>37</sup> Todd Lowry, *Bargain and Contract Theory in Law and Economics*, 10(1) JOURNAL OF ECONOMIC ISSUES 1 (1976).

<sup>38</sup> *Id.*

<sup>39</sup> BENSON, *supra* note 36; THOMAS HOBBS, *LEVIATHAN* 117 (first published in 1651, 1985).

<sup>40</sup> BENSON, *supra* note 36.

<sup>41</sup> Anupam Chander & Madhvi Sunder, *The Romance of Public Domain*, 92 CALIFORNIA L. REV. 1331, 1345 (2004).

<sup>42</sup> KOEN BYTTEBIER, KIM VAN DER BORGHT, *WTO OBLIGATIONS AND OPPORTUNITIES: CHALLENGES OF IMPLEMENTATION* 356 (2007); See World Intellectual Property Organisation, *National Experiences With The Protection Of Expressions Of Folklore/Traditional Cultural Expressions*

the sacredness, and the intrinsic nature of traditional knowledge towards the tribes, are the reasons that the laws, whether codified or not,<sup>43</sup> work towards the protection of such knowledge.<sup>44</sup> One such law is the Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006 ('RFR Act'). This particular legislation recognises that the access to traditional knowledge related to biodiversity and cultural diversity is a right of the indigenous communities.<sup>45</sup> The right of the indigenous communities is suggestive of the fact that they are indeed the true beneficiaries<sup>46</sup> of any usage of traditional knowledge. Georg Hegel and Margaret Jane Radin through their theories on personhood in a property have recognised the vested moral rights of an individual vested.<sup>47</sup> Debunking their theories, it is realised that the reason for granting rights is because the individual in question has imbibed his/her personality in the property, such that now the property is intrinsically linked with the person.<sup>48</sup> And a separation of the individual and the property would lead to the loss of the unique characteristic of the property.<sup>49</sup>

When TKDL requires non-disclosure agreements with patent offices, it is merely engaging in the protection of the right of the indigenous communities, but not allowing these communities to benefit from this protection. This is due to the lack of financial benefits involved in the access to TKDL. With the present framework of TKDL, CSIR, which enters into agreements with patent offices, can only aim at ensuring that the Indian traditional knowledge is not wrongfully embezzled. It merely acts as a pre-emptive defence mechanism. By protecting the traditional knowledge, TKDL does recognise the indigenous communities as the true beneficiaries and their rights over the knowledge. But it fails to provide them with any kind of financial benefit due to this recognition.

A solution to this aspect of TKDL would be making the access to it, subject to a monetary consideration. And this can be done by allowing access to third parties to the information in exchange of a chargeable sum. Further if

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available at [http://www.wipo.int/edocs/pubdocs/en/tk/912/wipo\\_pub\\_912.pdf](http://www.wipo.int/edocs/pubdocs/en/tk/912/wipo_pub_912.pdf) (Last visited on September 20, 2016).

<sup>43</sup> ANTONS, *supra* note 1, 39.

<sup>44</sup> Prakruthi Gowda & Ushasi Khan, *Sacred But Vulnerable: A Critical Examination of the Adequacy of the Current Legal Framework for Protection of Tribal Sacred Traditional Knowledge*, 1(1) NUJS L. REV. 109, 113 (2008).

<sup>45</sup> The Scheduled Tribe and other Forest Dwellers (Recognition of Forest Rights) Act, 2006, § 3(1)(k).

<sup>46</sup> The term 'beneficiary' has been used for the purpose of this paper. It is similar to the term 'claimants' used in §2(c) of the Recognition of Forest Rights.

<sup>47</sup> Margaret Jane Radin, *Property and Personhood*, 34 STAN L. REV. 957 (1982); G.W.F. HEGEL, HEGEL'S PHILOSOPHY OF MIND 382 (1971).

<sup>48</sup> GREGORY S. ALEXANDER & EDUARDO M. PEÑALVER, AN INTRODUCTION TO PROPERTY THEORY 57 (2012).

<sup>49</sup> *Id.*

this sum is used towards the benefit of the indigenous communities then they are recognised as the true beneficiaries of the TKDL framework.<sup>50</sup>

### C. FAILS TO DISTINGUISH BETWEEN 'PUBLIC DOMAIN' AND 'PUBLICLY ACCESSIBLE OR AVAILABLE'

The main problem suffered by traditional knowledge is the fact that it is recognised as a part of the public domain, free for anyone to appropriate and obtain rights over, for his or her own usage.<sup>51</sup> So ideally to protect it, traditional knowledge should either be removed from the public domain or conditions should be placed on the usage of the public domain. Both of these options present an unavoidable conundrum regarding the definition of public domain. Public domain does not have a singular concrete definition. Instead, it is known by various definitions in the Intellectual Property Regime.

These definitions primarily focus and differ from each other on three grounds: accessibility, freedom to appropriate, and the legal status of the material.<sup>52</sup> One such definition is that anything that is not legally protected by legislations, is considered to be a part of the public domain. In another words a material that does not have any intellectual property rights over it, is public domain.<sup>53</sup> Another definition is, any material that is so common, known, and lacks any form of novelty or innovativeness, is a part of the public domain. Such a material is ineligible to be treated as private property, and therefore treated as public domain.<sup>54</sup> From these several definitions, two characteristics relevant for the definition of public domain come to light. These are accessibility or availability and legal protection under the public domain.

Most legal scholars have argued that if a material is unprotected, then it is accessible and falls within the ambit of public domain.<sup>55</sup> This is an incorrect notion of public domain. Material like traditional knowledge that is in the public domain, can be accessible but unprotected by law or inaccessible and

<sup>50</sup> A similar practice has been followed in Sri Lanka, which is traditional knowledge rich nation, see World Intellectual Property Organisation, *A Legal Framework for the Protection of Traditional Knowledge in Sri Lanka*, available at <http://www.wipo.int/edocs/lexdocs/laws/en/lk/lk011en.pdf> (Last visited on September 20, 2016); See generally Thomas Greaves, *Tribal Rights in VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLES AND INTELLECTUAL PROPERTY RIGHTS* 25 (1996).

<sup>51</sup> R.A. Mashelkar, *Intellectual Property Rights and the Third World*, 12, available at [http://sustsci.harvard.edu/ists/TWAS\\_0202/mashelkar\\_undated.pdf](http://sustsci.harvard.edu/ists/TWAS_0202/mashelkar_undated.pdf) (Last visited on October 17, 2015).

<sup>52</sup> World Intellectual Property Organisation (WIPO), *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore*, November 24, 2010, available at [http://www.wipo.int/edocs/mdocs/tk/en/wipo\\_grtkf\\_ic\\_17/wipo\\_grtkf\\_ic\\_17\\_inf\\_8.pdf](http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_17/wipo_grtkf_ic_17_inf_8.pdf) (Last visited on October 17, 2015).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> Chander & Sunder, *supra* note 41.

protected by law. Therefore, for traditional knowledge, the definition of public domain is viewed from the point of accessibility or availability, rather than protection through intellectual property rights. It is at this point that distinguishing between 'public domain' and 'publicly accessible or available' becomes relevant. Ideally, when a material is said to be publicly available, the common misunderstanding is that it is 'freely available'.<sup>56</sup> When traditional knowledge is said to be publicly available it means that it is a part of the public domain, but conditions have been imposed on its accessibility.<sup>57</sup> And due to these conditions the material pertinent to traditional knowledge is incapable of being used by others. Therefore, in case of traditional knowledge, the definition of public domain in terms of publicly accessible or available is more relevant than the normative definition of public domain.

But in the present TKDL scheme, traditional knowledge is treated as a part of the public domain, rather than publicly accessible or available. When non-disclosure agreements are entered into only with patent offices, for the protection of traditional knowledge, it suggests that such a technique for protection is used because traditional knowledge is being assumed as a part of the normative definition of public domain. By digitally codifying traditional knowledge and restricting its access, it is part of the public domain, but not freely available, as the information under TKDL cannot be obtained without research. Therefore a normative definition of public domain used under the TKDL framework should be expanded, by making the traditional knowledge in TKDL, publicly accessible.<sup>58</sup> This recognition of traditional knowledge as publicly accessible or available, allows for it to be conditionally accessed by third parties, based on the contractual terms and monetary basis.

Therefore, the current TKDL framework is criticised on three grounds. First, the denial of access to third parties, by engaging in non-disclosure agreements only with patent offices for the purpose of protection. Second, the lack of monetary benefits being given to indigenous communities, who are indeed recognised as the true beneficiaries of the TKDL framework, through Article 29 of the Constitution of India and the Scheduled Tribes and other Forest Dwellers (Recognition of Forest Rights) Act, 2006. Third, the recognition of traditional knowledge contained in TKDL, as a part of public domain rather, than publicly accessible or available.

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<sup>56</sup> World Intellectual Property Organisation (WIPO), *Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore*, November 24, 2010, available at [http://www.wipo.int/edocs/mdocs/tk/en/wipo\\_grtkf\\_ic\\_17/wipo\\_grtkf\\_ic\\_17\\_inf\\_8.pdf](http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_17/wipo_grtkf_ic_17_inf_8.pdf) (Last visited on October 17, 2015).

<sup>57</sup> World Intellectual Property Organization, *Meeting of International Authorities under the Patent Cooperation Treaty*, February 4, 2015, available at [http://www.wipo.int/edocs/mdocs/pct/en/pct\\_mia\\_22/pct\\_mia\\_22\\_8.pdf](http://www.wipo.int/edocs/mdocs/pct/en/pct_mia_22/pct_mia_22_8.pdf),3 (Last visited on October 22, 2015).

<sup>58</sup> Chander & Sunder, *supra* note 41.

#### IV. BENEFITS OF COMMERCIALISING TRADITIONAL KNOWLEDGE UNDER TKDL

Arguments for protection of traditional knowledge have inherently been based on the possibility of commercial exploitation, if protection is not given.<sup>59</sup> Although, through means of commercialisation, such protection towards traditional knowledge can be ensured. In this part of the paper we argue for the benefits of commercialising traditional knowledge under the TKDL scheme, on three grounds. First, the dissemination of valuable knowledge that takes place through commercialisation. Second, the protection that can be guaranteed by limiting the access to traditional knowledge. Third, the monetary benefits that may accrue through such commercialisation. We shall argue for these three grounds as being the benefits and needs for commercialising traditional knowledge under the TKDL framework.

##### A. DISSEMINATION OF KNOWLEDGE

The need for dissemination of knowledge is evident from the Lockean Proviso,<sup>60</sup> that is a component of the Labour Theory. It states that an individual can have ownership or property rights only when it will not result in the wastage of that property.<sup>61</sup> In case of traditional knowledge, if not disseminated to third party will lead to mere wastage, disobeying the Lockean Proviso.<sup>62</sup> Juxtaposing this proviso with traditional knowledge, it is suggested that if the knowledge were not used for beneficial purposes, then it would lead to the consequent wastage of such knowledge. But this problem with this line of reasoning arises due to the unique nature of traditional knowledge.

Traditional knowledge is recognised as a part of the sacred and intrinsic identity of the indigenous communities.<sup>63</sup> And because of this intrinsic nature of the knowledge, its exploitation or commodification is argued against. In ordinary practice, commodification of knowledge started with the advent of technology and the access to knowledge movement ('A2K movement').<sup>64</sup> This movement aimed at receiving access to knowledge as a part of the fundamental human rights that are based on the principle of justice, freedom and economic

<sup>59</sup> World Intellectual Property Law, *Traditional Knowledge and Intellectual Property: Brief Background* available at [http://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](http://www.wipo.int/pressroom/en/briefs/tk_ip.html) (Last visited on October 22, 2015).

<sup>60</sup> JOHN LOCKE, SECOND TREATISE OF CIVIL GOVERNMENT § 25 (6<sup>th</sup> ed., 1764) (The adapted version of this edition is available in the public domain).

<sup>61</sup> *Id.*; Karen Vaughn, *John Locke and Labour Theory of Value*, 2(4) JOURNAL OF LIBERTARIAN STUDIES 311 (1978).

<sup>62</sup> *Id.*

<sup>63</sup> Daniel J. Gervais, *Spiritual but Not Intellectual? : The Protection of Sacred Intangible Traditional Knowledge*, 11 CARDOZO J. INT'L. & COMP. L. 467 (2003).

<sup>64</sup> ANTONS, *supra* note 1, 241.

development.<sup>65</sup> These principles were considered to be closely linked to the access to knowledge. With the A2K movement, the idea of ‘knowledge commons’ also became popular. Knowledge commons refers to the data or content that is managed collectively by individuals and accessible to the community, especially through the Internet.<sup>66</sup> These were some of the ways that marked the incipience of dissemination of knowledge.

Yet for all the possible roots in which dissemination of knowledge took place, the primary premises were that knowledge is collectively owned and that dissemination is due to a lack of application of intellectual property regime or privatisation of knowledge.<sup>67</sup> These two premises are closely linked in the sense that since collective ownership over the knowledge is possible due to lack of privatisation of the knowledge. These two premises for the dissemination of knowledge can also be applied to traditional knowledge. Although, since traditional knowledge is of a unique nature, its dissemination is done more cautiously and with additional conditions.

The first premise assumes that those having access to it collectively own the knowledge. In case of traditional knowledge it is recognised as a *res communes* property<sup>68</sup> that is owned collectively by the indigenous communities.<sup>69</sup> This recognition of ownership by the indigenous communities is also evinced through RFR Act, which states that the usage of traditional knowledge should be limited only to such communities.<sup>70</sup> Branding traditional knowledge the ‘*res communes*’ would effectively mean that only indigenous communities collectively own it and the rest of the population would still not have access it.<sup>71</sup> This situation leads to the question of whether dissemination of traditional knowledge can take place in light of indigenous communities being its col-

<sup>65</sup> *Id.*, 242.

<sup>66</sup> Mariana A.L. Miller, *Tragedy for the Commons: Enclosure and Commodification of Knowledge* in THE INTERNATIONAL POLITICAL ECONOMY OF THE ENVIRONMENT: CRITICAL PERSPECTIVES 111-113 (2001); Uma Suthersanen, A2K and the WIPO Development Agenda: Time to List the “Public Domain”, available at [http://www.ictsd.org/downloads/2009/02/uma\\_final2.pdf](http://www.ictsd.org/downloads/2009/02/uma_final2.pdf) (Last visited on September 20, 2016) (This document looks into the purpose of A2K movement and its importance).

<sup>67</sup> Sophia Twarog & Promila Kapoor, United Nations Conference on Trade and Development, *Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions* 299, available at <https://www.cbd.int/doc/books/2004/B-02561.pdf> (Last visited November 10, 2015).

<sup>68</sup> Erin Clancy, *The Tragedy of Global Commons*, 2 INDIANA JOURNAL OF GLOBAL STUDIES 5 (1998) (‘*Res communes*’ was a term given to property that was owned collectively by a community, in ancient Roman law. In present time this term is used in the context of International Law to refer to common resources like seas, land, space, etc., owned by mankind).

<sup>69</sup> Prakruthi Gowda & Ushasi Khan, *Sacred But Vulnerable: A Critical Examination of the Adequacy of the Current Legal Framework for Protection of Tribal Sacred Traditional Knowledge*, 1(1) NUJS L. REV. 109, 113 (2008).

<sup>70</sup> The Scheduled Tribe and other Forest Dwellers (Recognition of Forest Rights) Act, 2006, § 3(1)(k).

<sup>71</sup> See generally Daniel J. Gervais, *Spiritual but Not Intellectual? : The Protection of Sacred Intangible Traditional Knowledge*, 11 CARDOZO J. INT’L. & COMP. L. 467 (2003).



lectively owners. Essentially does this ownership of knowledge bar its possible dissemination. To obtain a solution for this, the second premise for dissemination is referred to.

The second premise suggests that there are no Intellectual Property Rights over the knowledge due to which it can be disseminated. The main problem with protecting traditional knowledge is that it does not fall within the Intellectual Property Rights regime, due to which there is neither a discernible owner of the knowledge, nor is the knowledge protected from its usage by others. Intellectual Property is protected because rights are granted over it based on Locke's Labour Theory ('Labour Theory'). The Labour Theory states that when an individual puts his effort into a freely available resource, by virtue of the fact that the individual has put in his labour into the property, he has changed its form and should therefore be rewarded with property rights.<sup>72</sup> The rationale for granting rights over intellectual property is that there is a modicum of novelty or innovativeness that needs to be rewarded as well as protected.<sup>73</sup> In the context of traditional knowledge, there is a lack of innovativeness or even labour since the knowledge is merely passed down from generation to generation. Therefore as per Labour Theory, rights cannot be granted over that property which does not involve labour.

Evidently, a conflict is presented, wherein on one hand, the traditional knowledge is not collectively owned by the all, but only by the indigenous communities; and on the other hand there is a lack of intellectual property rights over this traditional knowledge. Thus, for dissemination of knowledge, the first premise is satisfied whereas the second premise is not. Hence to qualify traditional knowledge under TKDL for dissemination, stricter conditions should be imposed than those used ordinarily for dissemination of knowledge. This would also be to make the dissemination in line with the concept of 'Publicly Accessible' rather than 'Public Domain' as was discussed previously in the paper.<sup>74</sup>

To strike a compromise between the satisfaction of one premise and the non-satisfaction of the other, a theory based on Ostrom's law is employed. 'Ostrom's law',<sup>75</sup> was developed by Elinor Ostrom as a counter to Garrett Hardin's, "The Tragedy of Commons."<sup>76</sup> Ostrom states that useful re-

<sup>72</sup> JOHN LOCKE, SECOND TREATISE OF CIVIL GOVERNMENT § 25 (6<sup>th</sup> ed., 1764) (The adapted version of this edition is available in the public domain).

<sup>73</sup> See Justin Hughes, *The Philosophy of Intellectual Property*, 77 GEO. L.J. 20 (1988).

<sup>74</sup> *Supra* Part III; WIPO Intergovernmental Committee, *Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data*, Third Session, Geneva, June 13-21, 2002, WIPO Doc. No. WIPO/GTRKF/IC/3/6 (May 10, 2002).

<sup>75</sup> Lee Anne Fennell, *Ostrom's Law: Property Rights In The Commons*, 5(1) INTERNATIONAL JOURNAL OF THE COMMONS 9 (2011).

<sup>76</sup> Garrett Hardin, *The Tragedy of Commons*, 162(3859) SCIENCE 1243 (Garrett Harden in his magnum opus, *The Tragedy of Commons*, had stated that common resources available to mankind

sources need to be shared among individuals, but in order to prevent their inevitable depletion, conditions need to be imposed on the usage of resources.<sup>77</sup> This is in fact also in tune with WIPO's discussion on Public Domain, wherein it recognised traditional knowledge should be classified as publicly available but not free of cost.<sup>78</sup> This would mean that to access such traditional knowledge under the TKDL framework, conditions in the form of monetary cost and the appropriate usage of the knowledge thereafter, need to be imposed.

The reason that the first premise is imposed for dissemination of knowledge is so that a third party cannot benefit unlawfully by using another's property.<sup>79</sup> Yet today even Intellectual Property Rights can be sold, and thus there ought not to be a bar on access to traditional knowledge based on conditions, monetary or otherwise. This is because when access to being given to third parties it is essentially being ensured that there is no biopiracy or usage of the traditional knowledge without the permission of the traditional knowledge holders. Further if the TKDL framework is being used as a means for granting permission to third party for the usage of traditional knowledge, then it can ensure that the indigenous communities receive a fair monetary value for their knowledge and resources.

Besides these reasons for dissemination of traditional knowledge, the most important one is that if such knowledge is not allowed to be accessed and used beneficially, then it is basically being allowed to waste away. This line of reasoning is developed from another one of Locke's theories on property rights, 'The Value Added Theory'. This theory recognises that when an individual is capable of making good use of his labour such that the product will be valuable to the rest of the society, then such an individual should be rewarded with property rights. An interpretation of this theory would imply that products or ideas that can be considered valuable and useful by the society should be promoted. In order to ensure that the valuable products and ideas do not stem from illegal means like biopiracy, the conditions for commercialisation of traditional knowledge under the TKDL framework should be applied.

Therefore, the dissemination of knowledge based on several reasons including the application of various facets of the Labour Theory and Ostrom's Law, is considered as a benefit of commercialisation traditional knowledge under the TKDL scheme.

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would eventually perish and cease to existence, due to their nature of freely availability).

<sup>77</sup> FENNEL, *supra* note 75, 10.

<sup>78</sup> WIPO Intergovernmental Committee, *Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data*, Third Session, Geneva, June 13-21, 2002, WIPO Doc. No. WIPO/GRTKF/IC/3/6 (May 10, 2002).

<sup>79</sup> John Reid, *Biopiracy: The Struggle for Traditional Knowledge Rights*, 34(1) AMERICAN INDIAN L. REV. 77, 81 (2009).

## B. PROTECTION OF TRADITIONAL KNOWLEDGE

Although the need for protection of traditional knowledge is itself largely undisputed, the method of such protection creates a divide amongst experts. While on one hand it is argued that traditional knowledge can be best protected by commercialisation; another view states the diametric opposite that, commercialisation, will result in the erosion of the indigenous communities as well as their natural resources. The argument against commercialisation stems from the belief that commercialisation goes hand in hand with commercial exploitation, and therefore is not viable. It is believed that resources are overexploited, and even indigenous groups, by virtue of their backwardness, often face exploitative conditions. Further, the resources involved may gradually become inaccessible to the indigenous community itself as multinational firms as well as individuals exploit resources for commercial gains.<sup>80</sup> Gradually, the natural resources become overused, and the indigenous communities become sidelined from their dominant position.

Yet, according to others,<sup>81</sup> commercialising traditional knowledge would pave the way for India's success in the global market and also preserve the traditional knowledge systems of indigenous communities which are often lost due to lack of proper usage.<sup>82</sup> Experts advocating this view use the Theory of the Anticommons ('Anticommons Theory') to buttress their argument.<sup>83</sup> A regime of permission and stringent licensed usage of resources could produce inefficiency. In such situations, the group holding the common resource has the power to improve the status quo of others by granting a license.<sup>84</sup> In the context of traditional knowledge, the Anticommons Theory translates to under usage of knowledge such that there is no benefit accruing from it. This is an acute threat to traditional knowledge, as an intangible resource it may in fact be lost due to lack of popular usage. The most dangerous aspect of the tragedy of the anticommons is the invisibility of it – there are almost no signs of anticommons as opposed to tragedy of the commons.<sup>85</sup> Moreover commercialisation of traditional knowledge creates awareness about the existence of such knowledge systems

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<sup>80</sup> Aparna Bagirathy, *Intellectual Property Rights: Options Assessment* in ECONOMIC STUDIES OF INDIGENOUS AND TRADITIONAL KNOWLEDGE 189 (1<sup>st</sup> ed., 2007).

<sup>81</sup> Dheeraj Awasthy *et al.*, *Commercialization Of Traditional Knowledge Based Technologies By Small Entrepreneurs: An Exploration Of Strategic And Policy Options*, 11, available at <http://www.iimahd.ernet.in/publications/data/2003-02-02RakeshBasant.pdf> (Last visited on November 4, 2015).

<sup>82</sup> *Id.* (The author cites the example of Cuban cigars to further his argument. He states that just the way Cuba has become almost synonymous with cigars, India ought to be synonymous with herbal medicines and alternate medical systems).

<sup>83</sup> Edson, *supra* note 8.

<sup>84</sup> Lee Anne Fennell, *Commons, Anticommons, Semicommons* 10 (John M. Olin Law and Economics Working Paper No. 4572D Series, 2009).

<sup>85</sup> See Michael Heller, *The Gridlock Economy: How Too Much Ownership Wrecks Markets, Stops Innovation, and Costs Lives* (2010).

and thereafter provides for an increased rate of innovation and employment creation by researchers.

## 1. Arguments against Commercialisation

With respect to the TKDL database, commercialising essentially implies the granting of access to third parties on payment of consideration. As aforementioned, traditional knowledge databases created in other countries in addition to giving access to patent offices, also grant access to third parties for a certain fee.<sup>86</sup> Therefore, anybody able and willing to pay the fee may access the database so created. Currently, TKDL can be accessed only by international patent offices upon signing a MoU with CSIR, and is not available to third parties.

The main problem with commercialising traditional knowledge lies in the very fact that for most indigenous communities, intellectual property rights regime ought to protect their ‘right not to sell’ their resources. Yet at the heart of intellectual property rights lies the concept that intellectual activity and inventions ought to be rewarded.<sup>87</sup> The incentive to an inventor or an innovator thus is a product’s commercial or market value. Therefore, the assumption on which the entire structure of intellectual property rights is built upon, is that commercialisation itself is the ultimate incentive for invention. Ergo, the indigenous people’s world view is severely at odds with the jurisprudence behind intellectual property rights. According to the indigenous groups, the intellectual property rights system by its very nature, does not protect their right not to sell. Moreover, resources (of which knowledge too is a part) are to be used by everyone, access to natural resources as well as the knowledge to use them, is available freely for the conscionable usage of all members of the community. However, according to the intellectual property rights regime, knowledge, although usable by all, must be paid for. The TKDL database somewhere attempts to reconcile this deep-rooted conflict by avoiding the ‘Tragedy of the Anticommons’ (which could possibly have resulted by a strictly local usage of knowledge) while simultaneously protecting indigenous rights by including them as beneficiaries of the TKDL Fund.

A majority of indigenous communities as well as scholars are reluctant to allow the commercialisation of traditional knowledge since the owners of traditional knowledge very often lack the financial resources as well as the awareness to file patent or copyright applications and therefore, impliedly cannot possibly exercise their right to do so.<sup>88</sup> This problem is accentuated by

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<sup>86</sup> *Supra* Part I.

<sup>87</sup> Steven Shavell & Tanguay Van Ypersele, *Rewards versus Intellectual Property Rights*, 44 THE JOURNAL OF LAW AND ECONOMICS 525 (2011).

<sup>88</sup> INSTITUTE FOR POLICY INNOVATION, *Commercialization and Benefit Sharing from Traditional Knowledge: Case Studies from the United States*, 4-5, (April 2011), available at <http://www>.

the tragedy of the commons, where individuals feel the responsibility to protect their traditional knowledge is shared, and therefore do not act to conserve it. The idea of shared responsibility results in the ultimate over exploitation of resources. This situation is exploited by foreign firms and multinational corporations as they have experience in filing for patents and need not get disadvantaged by the tragedy of the commons, unlike most indigenous communities.<sup>89</sup>

The other major concern is with respect to lack of adequate credit being given to the community which conceived of the traditional knowledge. There is a strong moral claim made by communities on the revenues generated by firms using traditional knowledge as well as the resources of a particular community.<sup>90</sup> Other concerns include monopolising industry to such an extent as to exclude the indigenous community from accessing their resources and commercial exploitation of these resources which very often negate the conservation activities of the indigenous communities carried out up till that point.

## 2. Proposals for Commercialisation

In order to rebut the aforementioned criticisms effectively, it is of primary importance to recognise the unique nature of TKDL. Remarkably, the TKDL database does not seek the patenting or copyrighting of traditional knowledge. Instead, it provides a list of all the traditional knowledge of various indigenous communities in order to prevent its commercial exploitation, by publicising such knowledge. It is thus argued by scholars that when TKDL publicises and creates much needed awareness regarding the traditional knowledge itself, so as to curb biopiracy; it essentially establishes the authorship of traditional knowledge systems. Thus, it proclaims to the world at large, a list of traditional knowledge information that others may not seek patents for.

The main benefit of commercialising traditional knowledge is therefore, giving due credit to the indigenous community while simultaneously ensuring acts of biopiracy are punished. It thus solves the two pronged problem of the inability of the indigenous community to file for patents as well as the recognition of the indigenous communities' contribution. By commercialising traditional knowledge the contribution of the indigenous community, with respect to conception of information, as well as conservation of the required natural resources; traditional knowledge is recognised in the global platform. The National Knowledge Commission ('NKC') in its recommendations argues for commercialisation of TKDL so that the efforts and ingenuity of indigenous communities and their knowledge systems is recognised by

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[ipi.org/docLib/20120517\\_Traditional\\_Knowledge.pdf](http://ipi.org/docLib/20120517_Traditional_Knowledge.pdf) (Last visited on November 4, 2015).

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

all.<sup>91</sup> Commercialisation also solves the tragedy of the commons, as the onus of protection of natural resources has been undertaken by the Government which therefore ensures that resources are not over exploited. Moreover, any inventions or innovations arising out of TKDL would require a sharing of revenues with the government which would thereafter use these funds to promote research within the field of traditional knowledge.<sup>92</sup> The NKC further suggests that investments in traditional knowledge ought to be encouraged by the Government in order to fully realise its potential.<sup>93</sup> Thus, once TKDL incorporates the NKC's recommendations, it would be a system which not only recognises the traditional knowledge systems of indigenous communities at a global level, but also includes them as beneficiaries in the commercialisation process of such knowledge. Funds are thus used to better protect the required natural resources, as well as the upliftment of the indigenous communities themselves.

Aside from this obvious benefit, there is also the advantage of using traditional medicine systems to cure a wide variety of diseases using natural resources and minimal synthetic materials. Once the success of the traditional knowledge is tested and proven, the commercial benefits to the community or the country where the traditional knowledge emanated, are infinite. Commercialisation also permits innovation using traditional knowledge which would be vastly beneficial to the world at large.<sup>94</sup> Commercialisation is therefore markedly different from commercial exploitation, i.e. over use of natural resources to the point of making them scarce or unavailable to the indigenous community. To summarise, if done properly, commercialisation is advantageous to all; as biopiracy is curbed, the claims of indigenous communities are recognised and benefits of commercialising the traditional knowledge are shared with them.

### C. MONETARY BENEFITS

The indigenous communities typically occupy a position of low bargaining power in the society and lack of upliftment due to their historical background.<sup>95</sup> Emanating from their low status in the society is also their lack of financial means.<sup>96</sup> One of the significant benefits of commercialising traditional

<sup>91</sup> NATIONAL KNOWLEDGE COMMISSION, *Report to the Nation 2006-2009*, ¶ 7.3, available at <http://www.aicte-india.org/downloads/nkc.pdf> (Last visited on November 4, 2015).

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> SHAHID ALIKHAN & R.A. MASHELKAR, *INTELLECTUAL PROPERTY AND COMPETITIVE STRATEGIES IN THE 21ST CENTURY* 170, available at [https://books.google.co.in/books?hl=en&lr=&id=2uANY70zLW8C&oi=fnd&pg=PR9&dq=Intellectual+Property+and+Competitive+Strategies+in+the+21st+Century&ots=a4\\_a5K5Rer&sig=jy7WVaruhDUG761pHATLFUqDcS4#v=onepage&q=commercialisation&f=false](https://books.google.co.in/books?hl=en&lr=&id=2uANY70zLW8C&oi=fnd&pg=PR9&dq=Intellectual+Property+and+Competitive+Strategies+in+the+21st+Century&ots=a4_a5K5Rer&sig=jy7WVaruhDUG761pHATLFUqDcS4#v=onepage&q=commercialisation&f=false) (Last visited on November 4, 2015).

<sup>95</sup> P. Rameshan, *WTO, India, and Emerging Areas of Trade: Challenges and Strategies* 261 (2008).

<sup>96</sup> *Id.*, 262.

knowledge under the TKDL scheme is that it will lead to monetary benefits being granted to the indigenous communities who are the original traditional knowledge holders.<sup>97</sup> When access to traditional knowledge under TKDL is allowed to third parties on the basis of commercialisation, the condition to be imposed is ‘consideration’.<sup>98</sup> Such a consideration is required to be in the form of monetary fees that are adequate in value. And thus the monetary proceeds that are collected from the commercialisation can be used on a two-fold basis: one, towards the development and harnessing of the TKDL database, and two, towards a fund that can be utilised for the benefit of indigenous communities and acts as a compensation for the usage of their traditional knowledge.<sup>99</sup>

Therefore, based on the three broad grounds of benefits of commercialising traditional knowledge under the TKDL framework, that can be achieved are, the dissemination of the knowledge, protection of traditional knowledge and the monetary benefits that may accrue in the process. These benefits can be witnessed through the means of a proposed model for commercialisation within the TKDL framework, which has been discussed in the following part of the paper.

## V. MODEL FOR COMMERCIALISATION OF TRADITIONAL KNOWLEDGE UNDER TKDL

After discussing the present TKDL framework, its criticisms and the need for commercialising the collected traditional knowledge under it, it is imperative that the model for such a commercialisation also be proposed. The proposed model (‘The Model’) derives a lot of its basis and characteristics from the existent models of ‘Access Benefit Sharing Agreements’, present in various nations. It further incorporates certain principles of the ‘Material Transfer Agreement’ and the ‘Traditional Commons License’. Based on the features and the thematic principles of these established models, a skeletal structure for the commercialising of traditional knowledge under TKDL is proposed. In the Model, there are two levels of commercialisation that takes place; first at the primary level of ‘paying public domain’ and at the second level of ‘patentleft approach’. To ensure that this Model is overseen by a capable administrative body, it is proposed that the NBA be in charge of the management, as per the Biological Diversity Act, 2002 (‘BD Act’), the Protection Conservation and Effective Management of Traditional Knowledge Relating to Biological Diversity, 2009 (‘BD Rules, 2009’) and the Biological Diversity Rules, 2004 (‘BD Rules, 2004’).

<sup>97</sup> R.A. Mashelkar, Intellectual Property Rights and the Third World 12, at [http://sustsci.harvard.edu/ists/TWAS\\_0202/mashelkar\\_undated.pdf](http://sustsci.harvard.edu/ists/TWAS_0202/mashelkar_undated.pdf).

<sup>98</sup> *Supra* Part III.

<sup>99</sup> See Jeremy de Beer, *The Public-Private Dichotomy of Intellectual Property: Recommendations* in IMPLEMENTING THE WORLD INTELLECTUAL PROPERTY ORGANIZATION’S DEVELOPMENT AGENDA 137 (2009).

## A. CONTRACTS SIMILAR TO ACCESS AND BENEFIT SHARING AGREEMENTS

### 1. Access and Benefit Sharing Agreements

The international community began focusing on traditional knowledge in the last three decades. Signatories to the 1992 Convention on Biological Diversity ('The Convention') committed themselves to conserve biological diversity and share the benefits arising out of commercialising these resources in a just and equitable manner. The Convention essentially regulates the use of natural resources of sovereign states by third parties such that there exists an incentive for the provider country to preserve its resources. The provisions of the Convention came into effect in 1993, although it was only in October 2001 under the Bonn Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising Out of Their Utilization ('Bonn Guidelines') that its provisions gained full force.<sup>100</sup> In April 2002, in its sixth meeting, the Conference of the Parties to the Convention finally adopted the first draft of the Bonn Guidelines along with amendments. They elaborate on various aspects pertaining to access and benefit sharing agreements by 'identifying the steps involved in the process of obtaining access to benefit sharing'; and cover the mandatory requirement of 'prior informed consent', incentives to share benefits equitably, monetary and non-monetary benefits, etc.<sup>101</sup>

The Jeevani drug case study has often been used to understand Access and Benefit Sharing Agreements ('ABSA'). When three Kani tribal members revealed the components of a medicine plant<sup>102</sup> to scientists at the Tropical Botanical Garden and Research Institute ('TBGRI'), the Arya Vaidya Pharmacy Ltd. ('AVPL') got the license to commercialise it.<sup>103</sup> The ABSA between the AVPL and the Kani tribals was engineered in a manner so as to ensure fifty percent of the profit goes to the Kani tribesmen.<sup>104</sup> Several prob-

<sup>100</sup> United Nations Environment Programme [UNEP], Secretariat of the Convention on Biological Diversity, Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of Their Utilization, *Introduction*, available at <https://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf> (Last visited on November 24, 2015).

<sup>101</sup> *Id.*

<sup>102</sup> The arogyapaacha medicinal plant.

<sup>103</sup> The Kanis used the fruit of the plant *Trichopuszeylanicustravancoricus*. The right to transfer and practice medicinal knowledge is held by the tribal healers, called Plathis.

<sup>104</sup> Value addition to local Kani tribal knowledge: patenting, licensing and benefit-sharing, World Bank Resources, 106, 111, available at <http://siteresources.worldbank.org/EXTINDKNOWLEDGE/Resources/kani.pdf> (Last visited on December 4, 2015) (The underlying principle behind benefit sharing despite the fact that although the tribesmen used the fruit of the plant whereas the scientists used its leaves, is that the plant itself was being used for the same purpose as used by the tribesmen. "After all if the local communities had not conserved the biodiversity, the probability of scientists making any selection at all will be remote or nil." This benefit sharing was done according to the guidelines of CSIR).



lems related to ABSA came out in this case study. First, multi stakeholder frameworks were considered to be a better fit and more equitable, the need to distinguish the rights of the informant from those of the community was established, and the requirement of a more democratic functioning of the trust fund was recognised. Second, patent applications need to be necessarily filed and licensed to a commercial entrepreneur; whether a local body such as the AVPL in this case, or a more profitable private yet global company. Third, sustainable cultivation of the resource is questioned, as this case study shows demand rose far more than the supply of the good.<sup>105</sup>

The idea of ABSA was discussed in the Nagoya Protocol held in October 2010 in Japan.<sup>106</sup> The purpose of ABSA is to supervise the use of genetic resources and traditional knowledge and to control the benefit sharing terms in accordance with the Convention. They contain mutually agreed upon terms, which are to be followed, by the user and provider of a genetic resource. Users may research on the genetic resource in order to innovate as well as to commercialise the resource to make it more accessible. As already enshrined in the Bonn Guidelines, usage of the resource requires the full consent of the provider country. These agreements also dictate the terms by which benefits arising out of such usage ought to be shared so that it is done in an equitable manner. The benefit arising out of usage may be shared in the form of royalties, joint ventures, city-building and in a multitude of other ways.<sup>107</sup>

Therefore, this model of functioning creates a symbiotic relationship between the user and provider of genetic resource, while the former contributes to sustainable development using natural resources; the latter aids the furtherance of research in science and technology.<sup>108</sup> The terms of the ABSAs according to the Nagoya Protocol are similar to the model under BD Act The BD Act recognises the different issues concerning sharing of genetic resources, access to traditional knowledge by companies, individuals, for research or commercialisation.

Similar to these agreements is the Australian Access and Benefit Sharing Agreements with third parties, which was designed to ensure a fair mechanism of benefit sharing. The agreement in question therefore also mandates the user to obtain the prior informed consent of the indigenous owner or provider. The ownership of resources depends predominantly on where it is found; if it is “found in Commonwealth, State or Territory government lands or

<sup>105</sup> *Id.*

<sup>106</sup> United Nations Convention on Biological Diversity, Secretariat of the Convention on Biological Diversity, Montreal Convention on Biological Diversity United Nations, Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising From Their Utilization to the Convention on Biological Diversity, available at <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf> (Last visited on December 4, 2015).

<sup>107</sup> *Id.*

<sup>108</sup> *Id.*

waters [...] freehold or leasehold lands.”<sup>109</sup> In 2002 the Australian governments reached an agreement called the ‘Nationally Consistent Approach for Access to and the Utilisation of Australia’s Native Genetic and Biochemical Resources’, an agreement wholly consistent with the Bonn Guidelines.<sup>110</sup> An important characteristic of this nationally consistent approach to traditional knowledge is its consistency with the National Competition Policy, the Trade Practices Act of 1974 and several other Acts.<sup>111</sup> The purpose of the nationally consistent approach is to ensure the fair and equitable sharing of benefits of arising out of the use of Australia’s genetic and biochemical resources.

## 2. Material Transfer Agreement

Material Transfer Agreements (‘MTA’), “guide transactions involving transfer of biological material from a provider to a user, with restrictions being imposed on how the recipient uses the material.”<sup>112</sup> Specifically, MTA provide information for research and therefore the most transferred materials include the ones most difficult to replicate; cell lines, plasmids, etc. Although exchange of genetic material between research organisations has been regular, an MTA formalises this transaction, thereby providing legal rights to the parties. For instance, the provider of the genetic material can control the terms of usage of the material,<sup>113</sup> and also access the research so conducted. The provider may, in some cases be entitled to ‘outright ownership or [...] license’ too.<sup>114</sup> The user may on the other hand limit his liability using the MTA and also address the issue of further transfer of the genetic material. The Biotechnology Industry Organization has suggested a model MTA in order to clear certain ambiguities regarding transfer of genetic material. The model agreement was conceived as a solution to the problem of ‘inconsistent manner of handling the transfer of genetic resources’ and is also consistent with the Bonn Guidelines.<sup>115</sup>

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<sup>109</sup> Australian Government Response to Notification, *Access to Genetic Resources and Benefit-sharing* Ref.: SCBD/ABS/VN/SG/74553, available at <https://www.cbd.int/abs/doc/protocol/icnp-1/australia-en.pdf> (Last visited on December 5, 2015).

<sup>110</sup> Natural Resource Management Ministerial Council, *Nationally Consistent Approach For Access to and the Utilisation of Australian’s Native and Genetic and Biochemical Resources*, October 2002, 5, available at <https://www.environment.gov.au/system/files/resources/bbf-bde06-d13a-4061-b2f9-c115d994de2d/files/nca.pdf> (Last visited on December 6, 2015).

<sup>111</sup> *Id.*

<sup>112</sup> BIOTECHNOLOGY INDUSTRY ORGANIZATION, *Suggested Model Material Transfer Agreement*, 1, available at [https://www.bio.org/sites/default/files/BIO\\_Model\\_MTA.pdf](https://www.bio.org/sites/default/files/BIO_Model_MTA.pdf) (Last visited on December 6, 2015).

<sup>113</sup> For instance, the provider can restrict commercialisation or limit its usage to research alone.

<sup>114</sup> Australian Law Commission Reforms, *Technology Transfer: Material Transfer Agreements* available at <http://www.alrc.gov.au/publications/17-technology-transfer/materials-transfer-agreements> (Last visited on December 16, 2015).

<sup>115</sup> Biotechnology Industry organization, *Suggested Model Material Transfer Agreement*, 1, available at [https://www.bio.org/sites/default/files/BIO\\_Model\\_MTA.pdf](https://www.bio.org/sites/default/files/BIO_Model_MTA.pdf) (Last visited on December 6, 2015).

### 3. Traditional Knowledge Commons

Knowledge commons refers to information or knowledge owned by a community or a group of individuals over the Internet.<sup>116</sup> Multiple users therefore can consume these resources without reducing its quantity or quality. In case of traditional knowledge this system has been suggested to work for the benefit of indigenous and local communities as it is practically easier and gives more control to these communities to decide the terms of use of their resources and knowledge. Therefore, it provides a solution different from access and benefit sharing in its traditional form by recognising non-traditional utilisation of knowledge where a user is willing to comply with the biospiritual values of the provider community.<sup>117</sup>

Rules for how to and how not to use the resource(s) guide the commons. Commercialising knowledge in a manner to provide license to only one company or institution<sup>118</sup> limits the sharing of knowledge.<sup>119</sup> In the commons system, knowledge moves in a circular fashion so that communities contribute to the existing knowledge. Therefore, an indigenous community benefits from sharing its knowledge as other communities ‘add on to it.’<sup>120</sup> The users typically include students, researchers, and archivists.

#### *B. PAYING PUBLIC DOMAIN APPROACH*

Commercialisation of the TKDL framework through contracts works on two levels. On the primary level, the commercialisation will require the exchange of traditional knowledge between two parties. This primary level of commercialisation adopts the concept of the ‘Paying Public Domain’ approach. As per this approach, traditional knowledge is recognised as information that is available in the public domain in exchange of monetary value. There are two types of ‘Public Domain’ that are recognised, namely; the public domain that is freely accessible and the public domain that requires a monetary value for accessing.<sup>121</sup> Traditional knowledge is considered to be a part of the

<sup>116</sup> YOCHAI BENKLER, *THE WEALTH OF NETWORKS* 24 (2006).

<sup>117</sup> International Development Law Organization, *Imagining a Traditional Knowledge Commons*, 14-20, October 2009, available at <http://www.idlo.org/publications/TraditionalKnowledge.pdf> (Last visited on December 6, 2015).

<sup>118</sup> As was witnessed in the Jeevani drug case and several other cases.

<sup>119</sup> *Supra* note 117.

<sup>120</sup> General rules include guidelines such as- all licensees must continuously recognise the origin of the traditional knowledge; subsequent users of the knowledge comply with the rules; etc. For further information, please refer to <http://www.idlo.org/publications/TraditionalKnowledge.pdf>.

<sup>121</sup> WIPO Intergovernmental Committee, *Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data*, Third Session, Geneva, June 13-21, 2002, WIPO Doc. No. WIPO/GRTKF/IC/3/6 (May 10, 2002).

public domain that is not freely accessible, but available based on financial consideration.<sup>122</sup> Thus, the paying public domain concept can be applied to it.

‘Paying Public Domain’ or ‘*Domaine Public Payant*’ was first introduced as a concept in copyright, by the French author, Victor Hugo.<sup>123</sup> This was done so as to encourage benefits to creators of a work after the copyright had expired.<sup>124</sup> Another incipient instance of paying public domain was witnessed when the United Nations Educational, Social and Cultural Organisation (‘UNESCO’) in a 1949 session, discussed the concept.<sup>125</sup> From the document that evidenced the session, it is proven that the concept of paying public domain existed as a legislative mandate in various jurisprudences, in some form or the other. It did not define the works or information to which this approach would apply, but imposed the condition that the work should be such that its period of protection has expired and it is not considered to be normal free public domain, thereafter. Further, the basic features of the functioning of the approach were also discussed. These features primarily included; the works, the fees and the beneficiaries. But the discussion of such an approach was only rudimentary at the time and its application to traditional knowledge had not even been explored.

Soon the usefulness of this approach towards traditional knowledge and traditional cultural expressions was also realised in 1989, when the WIPO and the UNESCO entertained the idea.<sup>126</sup> Further, even the Public Domain Commission in its ninth session discussed the proposal suggesting a *domaine public payant* approach for various commons. The most landmark instance of the paying public domain approach occurred when governmental experts committee met at Tunis in 1976, consisting of UNESCO and WIPO as well, adopted the Tunis Model of Law on copyright.<sup>127</sup> The Tunis Model of Law *prima facie* pertains to copyright as public domain, but certain provisions in the model discuss ‘works of national folklore’ that can also employ the paying public domain concept. This Model Law was discussed in the interest of

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<sup>122</sup> *Supra* Part IV; WIPO Intergovernmental Committee, *Inventory of Existing Online Databases Containing Traditional Knowledge Documentation Data*, Third Session, Geneva, June 13-21, 2002, WIPO Doc. No. WIPO/GRTKF/IC/3/6 (May 10, 2002).

<sup>123</sup> CHRISTOPH BEAT GARBER, KAROLINA KUPRECHT & JESSICA LAI, INTERNATIONAL TRADE IN INDIGENOUS CULTURAL HERITAGE: LEGAL AND POLICY ISSUES 214 (2012); United Nations Educational, Scientific and Cultural Organisation, *Domaine Public Payant* available at <http://unesdoc.unesco.org/images/0014/001439/143960eb.pdf> (Last visited on December 5, 2015).

<sup>124</sup> GARBER, KUPRECHT & LAI, *id.*

<sup>125</sup> United Nations Educational, Scientific and Cultural Organisation, *Domaine Public Payant* available at <http://unesdoc.unesco.org/images/0014/001439/143960eb.pdf> (Last visited on December 5, 2015).

<sup>126</sup> *Supra* note 123.

<sup>127</sup> TUNIS MODEL ON COPYRIGHT WITH A COMMENTARY DRAFTED BY SECRETARIAT OF UNESCO AND THE INTERNATIONAL BUREAU OF WIPO, COPYRIGHT 1976, 165; SILKE VON LEWINSKI, INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY: GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE 340 (2004).

developing nations, so that they could inculcate in their municipal legislations, an institution like paying public domain.<sup>128</sup> Developing nations as opposed to developed nations, possess the majority of the traditional knowledge available because of their rich cultural heritage. Therefore the Tunis Model of Law aimed at being the stepping-stone for developing nations in the pre-existent international conventions, on the subject.

The provisions of Tunis Model of Law for paying public domain address various issues like the parties involved, type of work that can be considered to be public domain, the fees to be paid, distribution of the fees collected, etc. But the main principle that perpetuates in the provisions of the Model Law is that the term of protection granted to the work has expired, due to which it is available in the public domain for a fee. This principle can also be extended to traditional knowledge on the rationale that it never received exclusive intellectual property protection, but since it is valuable work, it demands protection while being within the public domain through chargeable fees for accessing it.

Several countries have incorporated the Tunis Model of Law with the paid public domain approach.<sup>129</sup> But the problem that most countries that have inducted a paid public domain approach face is regarding the administrative aspect. Administrative problems mainly pertain to matters of how the revenue that is generated through paying public domain, is utilised and the position of the administrative body.<sup>130</sup> The idea of paid public domain is that original creators be rewarded even after the protection over the work has expired.<sup>131</sup> Therefore even in case of traditional knowledge, the original holders, the indigenous communities should be rewarded, by using the revenue collected towards their welfare. Certain countries still face lacunae in the proper procedure and functioning of the paying public domain approach.

Presently, India could also be considered as one of the countries facing similar lacunae. This is because impliedly India does have a Paying Public Domain approach under the BD Act, which provides for individuals to access traditional knowledge, based on a fee and requires permissions. But in India this aspect of the BD Act has been widely misused due to corruption and ineffective management of the procedure by the Biodiversity Authorities, and meagre fees charged in exchange of the information. Thus to improve the efficiency of the traditional knowledge and ensure the benefits to the indigenous communities, the exchange of information can take place through TKDL as a platform. TKDL already has traditional knowledge collected in the form of

<sup>128</sup> TUNIS MODEL ON COPYRIGHT WITH A COMMENTARY DRAFTED BY SECRETARIAT OF UNESCO AND THE INTERNATIONAL BUREAU OF WIPO, COPYRIGHT 1976, 165.

<sup>129</sup> SILKE VON LEWINSKI, INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY: GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE 341 (2004).

<sup>130</sup> *Id.*

<sup>131</sup> *Supra* note 125.

a database that can be used for the purpose of providing contractual access to third parties in exchange of an adequate fee. Therefore the paying public domain is the first level of commercialisation in the Proposed Model, wherein the contract based on which the traditional knowledge from TKDL is being provided, is for a chargeable fee.

### C. PATENTLEFT APPROACH

We analyse Patentleft or Copyleft as an approach for the second level of commercialisation in the proposed model. Patentleft<sup>132</sup> and Copyleft<sup>133</sup> are concepts that are antithetical to the idea of intellectual property right protection. In case of patentleft, the traditional sense in which they function is that, there is a royalty free licensing for certain patents.<sup>134</sup> When changes or improvements are made to the patent, the same terms as the previous licence are perpetuated in the licensees for others who want to use the patent.<sup>135</sup> Essentially, this means that once an individual receives access to certain royalty free patent and uses it, he must further provide the new patent on similar terms on which he got it. The purpose of such an approach is to spread knowledge and to develop the best possible use of it. This is quite similar to the Traditional Knowledge Commons, where the purpose of creating an online data exchange of knowledge, is to increase the amount of existent knowledge, such that it can benefit the society overall.

To this day the patentleft or copyleft approach has not been applied in the sphere of traditional knowledge, probably because this approach requires a work that previously had intellectual property protection. But since traditional knowledge is a *sui generis* form of work, that is present in the public domain but not free of cost, it can to some extent qualify as work for which a patentleft or copyleft approach can be employed. Therefore, assuming that the approach can be applied, under the proposed model, the third party who receives access to the TKDL information, will consequently have to enter into similar agreements with others for access to the traditional knowledge that have been used.

The second level of commercialisation should ideally be left optional at the incipient stages of commercialisation. Since the administrative authority in charge of the functioning of the proposed model may not be capable

<sup>132</sup> Patent left is normally used in synthetic biotechnology; Gabriel Ben-Dor, *Ethics of Gene Patenting: Moral, Legal, and Practical Perspectives*, available at [http://2012.igem.org/wiki/images/d/dc/Gene\\_Ethics.pdf](http://2012.igem.org/wiki/images/d/dc/Gene_Ethics.pdf) (Last visited on December 5, 2015).

<sup>133</sup> Applies to work that is capable of being copyrighted.

<sup>134</sup> Guillaume Ménage & Yann Dietrich, *Do We See The Emergence Of "Patent Left"?*, LES NOUVELLES 42 (2010) available at <http://web.archive.org/web/20110716225054/http://www.lesi.org/images/60d5b196-0941-407d-a3d0-8c79d678c6bf.pdf> (Last visited on December 5, 2015).

<sup>135</sup> *Id.*

of overseeing the terms of such consequent agreements, the third parties might commercially exploit the access granted to them in the first place. Therefore, in the present scenario, the second level of commercialisation may not be feasible. Only when the Government brings stronger laws into force to manage the TKDL database, the patentleft or copyleft approach should be employed.

#### D. ESTABLISHING THE TRADITIONAL KNOWLEDGE FUND

For the proper functioning of the TKDL, it is essential that a Traditional Knowledge Fund ('TKF') be established as part of the National Biodiversity Fund.<sup>136</sup> As mandated by the BD Act and the BD Rules, 2009 a fund is to be established to account for all the proceeds arising from royalties, benefit sharing, charges and fees that the NBA of India receives.<sup>137</sup> This fund is to be used for the benefit of the provider indigenous community. For the purpose of legitimacy and non-confliction with the duties of the NBA it would be a part of the National Biodiversity Fund. It is to be used for the benefit of the provider indigenous community as an incentive to share traditional knowledge and commercialise it.

According to the BD Act<sup>138</sup> 'benefit claimers' are the providers of biological resources, i.e the indigenous community that has conserved natural resources and used them traditionally for their healing powers.<sup>139</sup> For instance, in the Jeevani drug case, the Kani tribals were the beneficiaries or providers of biological resources. Similarly, in the RFR Act, 'forest dwelling scheduled tribes' are recognised as the beneficiaries. It defines 'forest dwelling scheduled

<sup>136</sup> Marianne Guerin-McManus, Kent C Nnadozie and Sarah A Laird, *Sharing financial benefits: trust funds for biodiversity prospecting* in BIODIVERSITY AND TRADITIONAL KNOWLEDGE: EQUITABLE PARTNERSHIPS IN PRACTICE, 337, (Sarah A Laird, 2002) available at <https://books.google.co.in/books?id=x58OL4nnCrkC&pg=PA337&lpg=PA337&dq=Establishing+the+traditional+Knowledge+fund&source=bl&ots=4yVbvniwT&sig=DQPSCI-yJ4YAhoTc2jmu4cApAXA&hl=en&sa=X&ved=0ahUKEwj5y43Y68TJAhVXI14KHcmmAXsQ6AEIODAD#v=onepage&q=Establishing%20the%20traditional%20Knowledge%20fund&f=false> (Last visited on December 5, 2015) (The establishment of trust funds has been a regular occurrence when it comes to the rights of indigenous or forest peoples. For instance, in Suriname, the Suriname's Forest People's Fund, Nigeria's Fund for Integrated Rural development and Traditional medicine are a few of many more).

<sup>137</sup> The Protection Conservation and Effective Management of Traditional Knowledge Relating to Biological Diversity, 2009, §3, available at [http://nbaindia.in/uploaded/docs/tk\\_rules2009.pdf](http://nbaindia.in/uploaded/docs/tk_rules2009.pdf) (Last visited on December 1, 2015) ("The National Biodiversity Authority shall set up a fund called the Traditional Knowledge Fund under Section 27 of the Act and there shall be credited thereto all charges, fees, royalties and all sums received by the National Biodiversity Authority in the administration of these Rules").

<sup>138</sup> The National Biodiversity Act, 2002, §2(a).

<sup>139</sup> The National Biodiversity Act, 2002, §2(a) ("benefit claimers" means the conservers of biological resources, their byproducts, creators and holders of knowledge and information relating to the use of such biological resources, innovations and practices associated with such use and application).

tribes' as "members of a community of Scheduled tribes who depend on the forest and forest lands for bonafide livelihood needs and includes Scheduled Tribes pastoralist communities."<sup>140</sup> We propose that the TKF recognise these groups as the potential beneficiaries of profits arising out of commercialising their traditional knowledge.

### *E. NBA AS THE ADMINISTRATIVE BODY FOR THE PROPOSED MODEL*

The BD Act has several provisions that pertain to the implementation of ABSA and its features like prior informed consent, paying public domain, etc., to some extent. The ABSA provisions are dealt with in §§3, 4, and 6 of the BD Act and in Rules 14 to 20 of the BD Rules, 2004. The Act necessitates that the users first submit an application to the NBA and thereafter obtain its prior informed consent by signing the ABSA. This essentially refers to obtaining the permission from the NBA, to access traditional knowledge. Thereafter the amounts are to be deposited in the 'National Biodiversity Fund' for exchange of information as per the permissions granted. This Fund is thereafter used towards the welfare of the indigenous communities, technology transfer, education activities, product development, etc., as the NBA may decide.

The BD Act provides for a three-tier system consisting of the National Biodiversity Authority, the State Biodiversity Board, and the Biological Management Committees.<sup>141</sup> At the national level the Authority grants access to genetic resources and the associated traditional knowledge to foreign individuals, institutions and handles all issues relating to transfer of benefits arising thereof.<sup>142</sup> The State Biodiversity Board deals with matters pertaining to 'access to bioresources by Indians for commercial purposes and restrict any activity which violates the objectives of conservation, sustainable use and equitable sharing of benefits'<sup>143</sup>. Finally, each Biological Management Committee is required to collect traditional knowledge within its jurisdiction and document it accordingly.

This structure may prima facie suggest that the ABSA framework in the BD Act is comprehensive and flawless. But the main problem with the present framework under the BD Act goes to the crux of the nature of ABSA regarding the requirement of 'Prior Informed Consent'. Since the Act provides

<sup>140</sup> The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, §2(c).

<sup>141</sup> K. Venkataraman, *Access and Benefit Sharing and the Biological Diversity Act of India: A Progress Report*, 69-80, 3 *Asian Biotechnology and Development Review* 10 available at [http://www.ris.org.in/images/RIS\\_images/pdf/article5\\_v10n3.pdf](http://www.ris.org.in/images/RIS_images/pdf/article5_v10n3.pdf) (Last visited on December 15, 2015).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.*



for the existence of a National Biodiversity Fund, the assumption is that the indigenous communities merely have the capacity to receive certain benefits derived from the access granted to traditional knowledge. But besides this, the other standards of prior informed consent that require the indigenous communities to participate in the decision making process, have not been followed or provided for in the Act. This is because the indigenous communities are not the ones to grant permissions for access to third parties and neither do they get to decide the manner and purposes for which the National Biodiversity Fund can be used.<sup>144</sup> Thus, the provisions for prior informed consent and the involvement of indigenous community are weak under the present BD Act.

Commercialising the traditional knowledge under TKDL would require the strict compliance with the standards provided under ABSA. This can be administered by the NBA since although it has a flawed functioning; it has the administrative expertise whereas the present manager of TKDL, the CSIR has the requisite research capability. Therefore there are two ways in which the proposed model for commercialisation can be implemented. Either by treating the model suggested as *sui generis* that is overseen by the NBA; or by making TKDL available under the BD Act itself, in consonance with the recommendations that had been proposed by the National Knowledge Commission.

The BD Rules, 2004, under Rule 12(xiii) enumerates compilation and setting up of a database for the traditional knowledge as one of the general functions of the NBA.<sup>145</sup> But to this day no effort has been made by the NBA to create a database like TKDL. Even the National Knowledge Commission of India, recognised the importance of this function of the NBA.<sup>146</sup> The Commission discussed the significance of traditional knowledge in a country like India, which has a rich cultural heritage.<sup>147</sup> During the time of this discussion, TKDL was about to be launched, and the National Knowledge Commission had recognised the scope for commercialising traditional knowledge by providing access to third parties through TKDL.<sup>148</sup> But it did not discuss the nuances of the process, and neither did it discuss the administration aspect

<sup>144</sup> ANTONS, *supra* note 1, 335.

<sup>145</sup> The Biological Diversity Rules, 2004, Rule 12(xiii).

<sup>146</sup> The National Knowledge Commission, *Report to the Nation: 2006-2009*, March 2009 7.1, available at <http://www.aicte-india.org/downloads/nkc.pdf> (Last visited December 13, 2015); *Letter sent by Sam Pitroda & addressed to the Prime Minister on Traditional Knowledge, Recommendations on Traditional Knowledge*, National Knowledge Commission Blog, November 20, 2008, available <https://nationalknowledgecommission.wordpress.com/2008/11/20/recommendations-on-traditional-knowledge/> (Last visited December 13, 2015).

<sup>147</sup> The Biological Diversity Act, 2002, Preamble.

<sup>148</sup> The National Knowledge Commission, *Report to the Nation: 2006-2009*, March 2009, available at <http://www.aicte-india.org/downloads/nkc.pdf> (Last visited December 13, 2015) (Discussed the establishment of 'Traditional Knowledge Development Fund' by commercializing TKDL).

of commercialising TKDL. The Proposed Model to a certain extent is in consonance with the recommendations of the National Knowledge Commission that TKDL should be commercialised so as to generate income that would benefit the indigenous community and the nation as a whole.

Commercialisation of traditional knowledge through the extant BD Act or Rules is not particularly viable since there will primarily be a problem of governance. The question that arises in this scenario is whether the CSIR or the NBA is more capable to pioneer this. In order to resolve this, the most feasible is to implement a *sui generis* model as proposed on the basis of ABSA, that can be managed by both CSIR and NBA, by effectuating an MoU between the two. Originally, as per Rule 12(xiii) of the BD Rules, 2004, the NBA was required to create the database. Since the NBA failed to perform this function due to its lack of research capability, the CSIR and Department of AYUSH had to step in. Although, by effectuating an MoU between the NBA and the CSIR, the proposed model can be implemented, that will allow commercialisation of traditional knowledge under TKDL.

## VI. CONCLUSION

The TKDL endeavour seeks to solve several problems that currently plague the traditional knowledge systems of the indigenous communities. The inevitable interaction of traditional knowledge with IPR Regime has often resulted in the destruction of natural resources, and lamentably, the exploitation of indigenous communities. Such exploitation has resulted in the common distrust of commercialisation, as it is believed that a necessary concomitant of commercialisation is, commercial exploitation. In this background, the successes of TKDL become more pronounced, and its failures, merely an inspiration to improve. TKDL has today become the solace of several countries, which seek to protect their traditional knowledge by publicising it and thus creating awareness about it in the global forum.

The main concern regarding its current mode of functioning is of financial nature. It is vehemently argued by many that access to the TKDL should be given through commercialisation. Moreover, access to the database ought to necessarily be given to third parties in order to create awareness as well as to publicise indigenous knowledge systems. Giving access to third parties is thus, decidedly financially advantageous. Towards this end, we have argued for the creation of a TKDL Fund, which will be for the benefit of various indigenous communities. The Fund would result in monetary benefits arising out of giving access; to be shared with indigenous communities, and thereafter be used for their development as a method of recognising them for their contribution in the form of traditional knowledge.

Conspicuously, the benefits of commercialisation are varied and numerous. By commercialisation, indigenous communities have been recognised as the true authors of traditional knowledge- a recognition that would otherwise be difficult to establish. More significantly, traditional knowledge may in fact be used by individuals to cure and heal several diseases. Such sharing of knowledge can lead a decisive improvement in the quality of life itself. Aside from these benefits, the culture of research and development is further incentivised and truly novel ideas may be adequately rewarded. The final benefit of commercialisation is the protection of traditional knowledge itself; under usage, according to the Anticommons theory in the context of traditional knowledge, may in fact lead to the loss of knowledge itself. Commercialisation thus, protects traditional knowledge, and combined with the creation of a traditional knowledge fund, may to a large extent solve the problems plaguing the interaction of indigenous communities with the intellectual property rights system.

Thus, we suggest an understanding between the CSIR and the NBA, wherein each body performs the functions that it is capable of in order to rectify the flaws suffered by TKDL. The potential of TKDL is immense, and it is possibly the greatest initiative of the Indian Government towards the protection of its traditional knowledge. It is capable of being the adhesive, which reconciles the indigenous people's belief systems with the ideals of the IPR Regime, thereby creating a mechanism that is sufficiently suitable to all.

