

# PROTECTION OF TRADITIONAL KNOWLEDGE ASSOCIATED WITH PLANT GENETIC RESOURCES: A COMPARATIVE STUDY OF THAI LAW AND INDIAN LAW\*

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## ABSTRACT

Traditional knowledge, specifically traditional knowledge associated with plant genetic resources, has been treated as public knowledge for free exploitation without due respect or concern for the effort taken by the indigenous and local communities to preserve and develop such knowledge. Globalization has caused its misuse which in turn, has led to bio-piracy and unsustainable use of such knowledge. Consequently, the protection of traditional knowledge has been a subject of increasing importance. In this regard, several countries have developed legal mechanisms for protecting their traditional knowledge and plant genetic resources either through intellectual property protection, a *sui generis* system, or a combination of both.

Thailand, as one of the countries rich in traditional knowledge and plant genetic resources, has opted for a *sui generis* system by enacting two major laws directly addressing the protection of traditional knowledge and plant genetic resources. First, the Thailand Plant Varieties Protection Act B.E. 2542 (1999) aims to protect rights of plant breeders in order to promote innovative plant breeding activities and to protect the rights of farmers and local communities including related knowledge in respect of their participation in improving, conserving and making use of plant genetic resources. Second, the Thai Traditional Medicine Intelligence Act B.E. 2542 (1999) aims to protect Thai traditional medicine and also to manage access to traditional knowledge and biological resources in herbal medicine. However, both laws provide neither a functional system nor an effective enforcement.

This thesis aims at studying the characteristics and related fundamental principles of traditional knowledge specifically on the legal measures for protection of traditional knowledge associated with plant genetic resources, analyzing the problems of the Thailand Plant Varieties Protection Act B.E. 2542 (1999), the Thai Traditional Medicine Intelligence Act B.E. 2542 (1999), and proposing suggestions in order to resolve the difficulties arising from both of the Acts. Furthermore, the study will provide recommendations to enhance the effective enforcement of the Acts and develop a practical system for the protection by comparing them with Indian laws and legal system which is considered to be one of the most effective laws and systems in protecting its traditional knowledge and plant genetic resources.

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Consequently, this thesis proposes new legislative solutions to amend the law concerning the management of access and benefit-sharing and the protection of farmers' rights and communities' rights. In addition, the establishment of a central database is suggested to collect and archive Thai traditional knowledge including Thai traditional medicine.

**Keywords:** Protection of Traditional Knowledge, Protection of Plant Genetic Resources

**บทคัดย่อ**

ภูมิปัญญาชาวบ้าน หรือภูมิปัญญาท้องถิ่นนั้นมีอยู่หลายแขนงทั่วโลก เช่น ภูมิปัญญาด้านการแพทย์แผนต่างๆ ด้านพันธุ์พืชสมุนไพร หรือด้านการใช้ประโยชน์จากพันธุ์พืชต่างๆ เป็นต้น ศาสตร์และภูมิปัญญาเหล่านี้ถือเป็นสิ่งที่ตกทอดจากรุ่นสู่รุ่น โดยมีชุมชนท้องถิ่นเป็นผู้ดูแลรักษาให้คงอยู่ หากแต่ด้วยความเจริญก้าวหน้าของเทคโนโลยี และความโลกาภิวัตน์ ทำให้การเข้าถึงภูมิปัญญาสามารถกระทำได้ง่ายขึ้น ส่งผลให้เกิดการรุกรานภูมิปัญญาท้องถิ่นหรือพันธุ์พืชเหล่านี้ รวมถึงการใช้ประโยชน์ในทางที่ผิดๆ ดังนั้นประเทศต่างๆ จึงพิจารณาให้มีการบัญญัติกฎหมายเพื่อคุ้มครองภูมิปัญญาท้องถิ่น และพันธุ์พืชขึ้น ทั้งในรูปแบบของระบบกฎหมายทรัพย์สินทางปัญญา และระบบกฎหมายเฉพาะ

สำหรับประเทศไทยนั้น นับได้ว่าเป็นประเทศที่อุดมด้วยพันธุ์พืช และศาสตร์ภูมิปัญญาชาวบ้าน แม้ว่าในปัจจุบันจะมีกฎหมายเฉพาะ 2 ฉบับ ได้แก่ พระราชบัญญัติคุ้มครองพันธุ์พืช พ.ศ. 2542 และพระราชบัญญัติคุ้มครองและส่งเสริมภูมิปัญญาการแพทย์แผนไทย พ.ศ. 2542 ซึ่งให้ความคุ้มครอง และดำรงรักษาภูมิปัญญาและพันธุ์พืชเหล่านี้ไว้ อย่างไรก็ตาม กฎหมายทั้งสองฉบับนี้ยังคงมีจุดบกพร่องบางประการ ทำให้ไม่สามารถบังคับใช้ได้อย่างมีประสิทธิภาพเท่าที่ควร

จากเหตุผลที่ได้กล่าวมาข้างต้น ผู้เขียนจึงเสนอให้มีการศึกษาพื้นฐานของภูมิปัญญาท้องถิ่นและการคุ้มครองพันธุ์พืชโดยใช้กฎหมายเป็นเครื่องมือ ประกอบกับการวิเคราะห์กฎหมายทั้งสองฉบับ เพื่อศึกษาปัญหาที่เกิดขึ้น โดยศึกษาเปรียบเทียบกับกฎหมายคุ้มครองพันธุ์พืชและภูมิปัญญาท้องถิ่น รวมถึงสิทธิเกษตรกรของประเทศอินเดีย อันได้ชื่อว่าเป็นกฎหมายที่มีประสิทธิภาพและมีประสิทธิผลที่สุดประเทศหนึ่ง ซึ่งในมุมมองของผู้เขียนเห็นว่า ประเทศไทยควรมีการแก้ไขกฎหมายให้สามารถบังคับใช้ได้มีอย่างมีประสิทธิภาพมากยิ่งขึ้น นอกจากนี้ยังเสนอให้มีการบัญญัติเพิ่มเติมกฎหมายบางประการ เพื่อปรับปรุงและพัฒนาด้านการแบ่งปันผลประโยชน์ และการคุ้มครองสิทธิของชุมชนและเกษตรกร ทั้งยังเห็นสมควรให้จัดตั้งหน่วยงานสำหรับเก็บรวบรวมข้อมูลภูมิปัญญาท้องถิ่น พันธุ์พืช สมุนไพรท้องถิ่น รวมถึงภูมิปัญญาการแพทย์แผนไทย เพื่อเป็นหลักฐาน และข้อมูลภูมิปัญญาของไทย

คำสำคัญ: การคุ้มครองภูมิปัญญาท้องถิ่น, การคุ้มครองทรัพยากรพันธุกรรมพืช

## Introduction

Traditional knowledge, specifically traditional knowledge associated with plant genetic resources, has been treated as public knowledge for free exploitation, which in turn has led to bio-piracy and unsustainable use of knowledge. In this regard, the protection of traditional knowledge has been a subject of increasing importance. Several countries have developed legal mechanisms for protecting their traditional knowledge and plant genetic resources either through intellectual property protection, a *sui generis* system, or a combination of both.

Thailand, as one of the countries rich in traditional knowledge and plant genetic resources, has opted for a *sui generis* system by enacting two major laws directly addressing the protection of traditional knowledge and plant genetic resources; the Thailand Plant Varieties Protection Act B.E. 2542 (1999) and the Thai Traditional Medicine Intelligence Act B.E. 2542 (1999). However, both laws provide neither a functional system nor an effective enforcement.

Additionally, India is among the first countries in the world to have opted for a *sui generis* system and pass legislation granting farmers' rights. India's experience is important due to its international contribution to negotiations on farmers' rights, its position as a center of biodiversity, and the complexities of agriculture in India within the country, as it is attempting to implement these rights.<sup>1</sup> As a result, Indian laws and legal system are considered to be one of the most unique and effective in protecting its knowledge and resources. To develop laws and a system for protection of traditional knowledge and plant genetic resources in Thailand, a comparative study between Indian and Thai laws is required.

## **I. Characteristics of Traditional Knowledge**

Traditional knowledge is an intangible component which encompasses such diversity. It generally relates to various areas and contains plenty of information resulting from creativity and constant improvements which have been used and passed on from generation to generation over a long period of time. Such knowledge has been accumulated, scrutinized, and inherited extensively, becoming traditional knowledge at last. To date, there is not yet an accepted definition of traditional knowledge at the international level. However, most traditional knowledge usually has some common characteristics as described below.<sup>2</sup>

- Traditional knowledge is holistic: all things are interconnected and nothing is comprehended in isolation.
- Traditional knowledge is intuitive: based on deeply held holistic understanding and knowledge.
- Traditional knowledge is qualitative: knowledge is gained through intimate contact with the local environment without patterns or trends. It is based on data collected by resource users through observation and hands-on experience.
- Traditional knowledge is transmitted inter-generationally by oral traditions: teaching is accomplished through stories and participation of children in culturally important activities.
- Traditional knowledge is inseparable: it is rooted in a social context that sees the world in terms of social and relations among all life forms. All parts of its nature are inseparable.

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<sup>1</sup> Anitha Ramanna, The Fridtjof Nansen Institute, *Farmers' Rights in India: A case study*, 11 (2006), <http://www.fni.no/doc&pdf/FNI-R0606.pdf> (last visited March 17, 2015).

<sup>2</sup> "Definitions of Traditional Knowledge," [http://nafeforestry.org/forest\\_home/documents/TKdefs-FH-19dec06.pdf](http://nafeforestry.org/forest_home/documents/TKdefs-FH-19dec06.pdf) (last visited March 7, 2015).

- Traditional knowledge is based on mutual well-being, reciprocity, and cooperation: these promote balance and harmony between the well-being of the individual and the well-being of the social group.
- Traditional knowledge is often based on cumulative, collective practical experiences. It has constant improvements as new knowledge is continually integrated to the existing.
- Traditional knowledge is promoting of stewardship: it takes a proactive approach to environmental protection and an ecosystem-focused approach to resource management.

## II. Protection of Traditional Knowledge in India

The loss of biodiversity and associated knowledge have been causing a great concern since several patents based on Indian traditional knowledge have been granted to third parties, for example, *Turmeric* and *Neem*. Consequently, two major laws have been enacted for addressing the protection of traditional knowledge and plant genetic resources in India; the Protection of Plant Varieties and Farmers' Rights Act, 2001 and the Biological Diversity Act, 2002.

### 2.1 The Protection of Plant Varieties and Farmers' Rights Act, 2001

The Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR Act) provides for the establishment of an effective system for protection of plant varieties, the rights of farmers, plant breeders, and encourages the development of new varieties of plants.<sup>3</sup> This has led India to become one of the first countries in the world to pass a legislation granting rights to both breeders and farmers.<sup>4</sup>

The PPVFR Act, which reflects the interests of its actors, allows 4 types of plant varieties to be registered including: a new plant variety; an extant variety; an essentially derived variety (EDV) and farmers' variety. The provision for protecting farmers' variety is the most unique aspect of the Indian law.<sup>5</sup> It emerged to satisfy the interests of farmers who have participated in conservation and preservation of plant genetic resources and related knowledge.

According to the PPVFR Act, farmers' variety means "*a variety which (i) has been traditionally cultivated and evolved by the farmers in their fields; or (ii) is a wild relative or land race of a variety about which the farmers possess common knowledge.*" Where farmer means "*any person who (i) cultivates crops by cultivating the land himself; or (ii) cultivates crop by directly supervising the cultivation of land through any other person; or (iii) conserves and preserves, severally or jointly, with any person, any wild species or*

<sup>3</sup> The Protection of Plant Varieties and Farmers' Rights Act, 2001

<sup>4</sup> Anitha, *supra note 1*.

<sup>5</sup> Anitha Ramanna, Environment and Production Technology Division, *India's Plant Variety and Farmers' Rights Legislation: Potential Impact on Stakeholder access to Genetic Resources*, **EPTD Discussion Paper**, 17 (2003), <http://ageconsearch.umn.edu/bitstream/16105/1/dp020096.pdf> (last visited March 17, 2015).

*traditional varieties or adds value to such wild species or traditional varieties through selection and identification of their useful properties.”*

Furthermore, the PPVFR Act contains specific provisions to safeguard the interests of farmers and local communities by granting farmers’ rights. The rights granted include: rights to save; use; sow; resow; exchange; share or sell farm produce; sell the variety of seed protected under the PPVFR Act; rights of innocent infringement; rights to be recognized and rewarded from the National Gene Fund; and rights to claim compensation from the breeders if the variety or propagating material fails to meet the expected performance under given conditions as claimed by the breeder of the variety.

For the benefit-sharing, commercial breeders have to share the benefits arising from the registration of the variety with farmers or traditional rural communities who have contributed towards development of the variety.<sup>6</sup> Therefore, farmers that have played a role in conservation and development of plants can be properly recognized and rewarded.

## **2.2 The Biological Diversity Act, 2002**

India recognized the sovereign rights of states to use their own biological resources by enacting the Biological Diversity Act, 2002 (BDA), which aims at the conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.<sup>7</sup>

The BDA established a three-tiered decentralized system for implementing its provisions; the National Biodiversity Authority, the State Biodiversity Boards, and Biodiversity Management Committees, which are respectively at the National level, State level, and Local level institutions for implementing the Act.<sup>8</sup>

### **(1) The National Biodiversity Authority (NBA)**

The NBA supervises and implements all matters relating to request for access by foreigners, including non-resident Indians, institutions or companies and all matters relating to the transfer of results of research to any foreigner.<sup>9</sup> Furthermore, the NBA performs facilitative, regulatory and advisory functions for the Central Government of India on matters relating to the conservation of biodiversity.<sup>10</sup> In addition, it has the full authority to check for misappropriation of its biological resources and discharge all decisions pertaining access and

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<sup>6</sup> Sujith Koonan, *Developing country sui generis options: India’s sui generis system of plant variety protection*, 5 (2014), <http://www.quno.org/sites/default/files/resources/QUNO%20India%20-%20plant%20variety%20protection%20%202014.pdf> (last visited March 16, 2015).

<sup>7</sup> The Biological Diversity Act

<sup>8</sup> National Study on ABS Implementation in India, Commissioned by the ABS Capacity Development Initiative in collaboration with the Government of India, available at [http://www.abs-initiative.info/fileadmin/media/Knowledge\\_Center/Pulications/ABS\\_Dialogue\\_042014/National\\_study\\_on\\_ABS\\_implementation\\_in\\_India\\_20140716.pdf](http://www.abs-initiative.info/fileadmin/media/Knowledge_Center/Pulications/ABS_Dialogue_042014/National_study_on_ABS_implementation_in_India_20140716.pdf).

<sup>9</sup> The BDA Section 3 and 4

<sup>10</sup> The BDA Section 18(3)

benefit-sharing including: prior informed consent processes; approval for access and transfer of biological resources; scientific research results; several other matters related to access and benefit-sharing.<sup>11</sup>

While granting approval for access, the NBA will impose terms and conditions to secure equitable sharing of benefits and establish a guideline with the specific details of a benefit-sharing formula in an official gazette on a case-to-case basis.<sup>12</sup> However, it also decentralizes. The time period and method of benefits to be shared will be decided based on mutually agreed terms and conditions between the applicant, the BMCs, and relevant stakeholders including local communities that own specific biological resources. This creates bargaining power and promotes participation of local communities in access and sustainable use pertaining to biological resources and equitable sharing of benefits.

The monetary benefits will be deposited in the National Biodiversity Fund which will be used for preservation, conservation and development of areas. In the case that the utilization of biological resources was accessed from a specific individual, groups, or organizations, the benefits may be provided directly to those individuals or groups.

### **(2) The State Biodiversity Boards (SBBs)**

The SBBs operate at the State level to deal with matters relating to access of any biological resource by Indians for commercial purposes. Moreover, they focus on advising the State Governments, subject to any guidelines issued by the Central Governments, on matters relating to the conservation, sustainable use of biodiversity, and equitable sharing of benefits arising from the utilization of biological resources.<sup>13</sup>

### **(3) Biodiversity Management Committees (BMCs)**

At the local level, the BMCs are constituted by every local body in their jurisdiction responsible for promoting conservation, sustainable use, documentation of biological diversity, and knowledge relating to biological diversity.<sup>14</sup> One of the main functions of the BMC is to prepare People's Biodiversity Registers\*, which contains information about the biological resources of their respective areas in consultation with the local people.<sup>15</sup> This is an attempt to identify where the biological resources are from, which will facilitate the access and benefit-sharing arising from the utilization of such resources.

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<sup>11</sup> K. Venkataraman, *Access and benefit sharing and the Biological Diversity Act of India: A progress report*, 10 **Asian Biotechnology and Development Review**, 69-80 (2008).

<sup>12</sup> *Id.*

<sup>13</sup> The BDA Section 23

<sup>14</sup> The BDA Section 41(1)

\* PBR is a comprehensive data base recording people's traditional knowledge and insight of the status, uses, history, ongoing changes and forces driving these changes on the biological diversity resources of their own localities. The information is critical for conservation, sustainably monitoring of biological resources at local level. This helps in identification of a beneficiary with whom benefits can be shared when an ABS agreement becomes operational, available at <http://asbb.gov.in/preparation.html> (last visited May 31, 2015).

<sup>15</sup> Biological Diversity Rules, 2004 Rule 22 (6)

The BMCs would be consulted by the NBA and the SBBs on matters related to the use of biological resources and associated knowledge within their jurisdiction.<sup>16</sup>

#### (4) Access and Benefit-Sharing

All approvals for access from the NBA will be in the form of a written agreement between the NBA and the applicant<sup>17</sup> in accordance with mutually agreed terms and conditions between the applicant, the BMCs, and local communities or benefit claimers.<sup>18</sup> The agreement will contain the terms and conditions for access of resources<sup>19</sup> aiming at an equitable share of benefits arising from the utilization of the biological resources and related knowledge. The NBA is authorized to determine the benefit-sharing resulting from the use of biological materials which include the following: monetary benefits received as fees and royalties; grant of joint ownerships of IPRs; transfer of technology; association of Indian Scientists in R&D; and setting up of venture capital funds among other deals.<sup>20</sup>

Monetary benefits will be deposited into the National Biodiversity Fund,<sup>21</sup> which will be distributed to the stakeholders and will be used for conservation, promotion of biological resources, and socio-economic development of the areas accessed to obtain biological resources.<sup>22</sup> However, in case the utilization of biological resources has been accessed from a specific individual, groups or organizations, the NBA may deposit such benefits directly to those individuals, groups or organizations in accordance with the terms of agreement.<sup>23</sup>

### 2.3 The Traditional Knowledge Digital Library (TKDL)

The TKDL objective is to protect the traditional knowledge of India from exploitation through bio-piracy and unpatentable inventions because the TKDL makes the prior art on traditional knowledge available to patent examiners<sup>24</sup> by documenting it electronically and classifying it using modern classification systems based on the structure of International Patent Classification,<sup>25</sup> also known as “the Traditional Knowledge Resource Classification (TKRC).”<sup>26</sup>

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<sup>16</sup> The BDA Section 41

<sup>17</sup> Yeshwanth Shenoy, **National Conference on Biodiversity, Development and Poverty Alleviation**, May 22, 2010, *An introduction to the Biological Diversity Act, 2002*, 65 (2010), <http://www.upsbdb.org/pdf/Souvenir2010/11.pdf> (last visited March 20, 2015).

<sup>18</sup> The BDA Section 21(1); the Biological Diversity Rules, 2004 Rule 14(5)

<sup>19</sup> The Biological Diversity Rules, 2004 Rule 14(6)

<sup>20</sup> The BDA Section 21(2)

<sup>21</sup> The BDA Section 21(3)

<sup>22</sup> The BDA Section 27

<sup>23</sup> The BDA Section 21(3)

<sup>24</sup> “*Traditional Knowledge Digital Library*,” available at [http://en.wikipedia.org/wiki/Traditional\\_Knowledge\\_Digital\\_Library](http://en.wikipedia.org/wiki/Traditional_Knowledge_Digital_Library) (last visited March 21, 2015).

<sup>25</sup> V.K. Gupta, *Traditional Knowledge Digital Library, Paper presented at the Sub-Regional Experts Meeting in Asia on Intangible Cultural Heritage: Safeguarding and Inventory-Making Methodologies*, Bangkok, Thailand, 13-16 December 2005.

<sup>26</sup> TKDL, *supra* note 24.

Moreover, the TKDL breaks language barriers and creates a bridge between traditional knowledge, information existing in local languages, and the patent examiners.<sup>27</sup> It breaks the Indian bindings of existing traditional knowledge from local languages, for example, Sanskrit, Urdu, Arabic, Persian, Tamil, etc. into 5 international languages which are English, French, Spanish, German and Japanese in a patent application format readily accessible and understandable to patent examiners.<sup>28</sup> This is to make Indian traditional knowledge understandable by patent examiners at International Patent Offices and to prevent granting of the wrong patents. Currently, the TKDL is proving to be an effective deterrent against bio-piracy and is recognized as a global leader in the area of traditional knowledge protection.<sup>29</sup>

### III. Protection of Traditional Knowledge in Thailand

#### 3.1 Thailand Plant Varieties Protection Act B.E. 2542 (1999)

An outstanding feature of the Thailand Plant Varieties Protection Act B.E. 2542 (1999) (Thai PVP Act) is that it has been designed to protect the interests people involved in agricultural practices in 2 main ways; to protect the rights of plant breeders in order to promote innovative plant breeding activities and to recognize and protect the rights of farmers and local communities, including related knowledge in respect of their participation in improving, conserving, and making use of plant genetic resources. Therefore, the protection of new plant varieties and extant varieties has been introduced, under the Thai PVP Act, to promote agricultural development in the country.<sup>30</sup>

The most significant feature of the Thai PVP Act is the protection of extant varieties in order to create special and differential treatment in favor of farmers and local communities.<sup>31</sup> The Thai PVP Act divides extant varieties into two main categories: the local domestic plant varieties, and the general domestic plant and wild plant varieties.

Firstly, the legal protection offered for the local domestic plant varieties is regarded as a success in implementing the concept of farmers and local communities' rights. Generally, an individual or a community that takes part in the conservation or development of the plant variety may register their local domestic plant variety. A plant variety capable of

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<sup>27</sup> **CROP BREEDING AND BIOTECHNOLOGY 255** (C P Malik, Chitra Wadhvani & Bhavneet Kaur ed., Pointer Publishers 2009).

<sup>28</sup> *Id.*

<sup>29</sup> Council of Scientific and Industrial Research [CSIR], *Traditional Knowledge Digital Library (TKDL)*, available at [http://www.csir.res.in/External/Utilities/Frames/career/main\\_page1.asp?a=tkdl\\_topframe.htm&b=tkdl\\_left.htm&c=..%2F..%2F..%2FHeads%2FTKDL%2Fmain.htm](http://www.csir.res.in/External/Utilities/Frames/career/main_page1.asp?a=tkdl_topframe.htm&b=tkdl_left.htm&c=..%2F..%2F..%2FHeads%2FTKDL%2Fmain.htm) (last visited June 24, 2015).

<sup>30</sup> Pawarit Lertdhantewe, *Implementing the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement): A Case Study of Thailand's Plant Protection Regime*, **ANZSIL-SCIL Research Symposium on International Economic Law**, available at [https://www.academia.edu/1205715/Implementing\\_the\\_TRIPS\\_Agreement\\_A\\_Case\\_Study\\_of\\_Thailands\\_Plant\\_Protection\\_Regime](https://www.academia.edu/1205715/Implementing_the_TRIPS_Agreement_A_Case_Study_of_Thailands_Plant_Protection_Regime) (last visited March 23, 2015).

<sup>31</sup> See Chapter IV of the Thai PVP Act (Section 43-51)

registration must exist only in a particular locality within Thailand and must not be registered as a new plant variety.<sup>32</sup>

Secondly, the protection of the general domestic plant and wild plant varieties provides automatic protection to plant varieties, without registration, in order to strengthen farmers and local communities' rights.<sup>33</sup> Consequently, it is clear that the extension of this kind of extant variety protection is to cover all plant varieties found within Thailand.<sup>34</sup>

### **(1) Access and Benefit-Sharing**

In authorizing any person to collect, procure or gather local domestic plant varieties for commercial interests and in making the profit-sharing agreement, the local government organization, farmers' group or co-operative to which the certificate of registration of the local domestic plant variety is granted shall make the agreement in the name of the community, provided that approval of the Commission shall first be obtained.<sup>35</sup> The benefits derived from such activity shall be calculated into percentage and distributed to persons who conserve or develop the plant variety, the community as its common revenue and the local government organization or farmers' group or co-operative that makes the Agreement.<sup>36</sup>

Another access and benefit-sharing measure applies to collectors of the general domestic plant and wild plant varieties for commercial purposes. In this case, a person who collects, procures or gathers general domestic plant varieties, wild plant varieties or any part of such plant varieties shall obtain permission from the competent official and make a profit-sharing agreement.<sup>37</sup> The profit-sharing agreement shall be considered and negotiated between the applicant and the working group appointed by the Director-General of the Department of Agriculture.<sup>38</sup> The profits derived shall be remitted to the Plant Varieties Protection Fund following the agreed terms in the benefit-sharing agreement.<sup>39</sup> For the use of study, experiment or research of general domestic plant and wild plant varieties for a non-commercial purpose, it is also required to comply with the Regulation prescribed by the Commission.<sup>40</sup>

## **3.2 The Thai Traditional Medicine Intelligence Act B.E. 2542 (1999)**

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<sup>32</sup> The Thai PVP Act Section 43 and 45

<sup>33</sup> Pawarit, *supra* note 30.

<sup>34</sup> *Id.*

<sup>35</sup> The Thai PVP Act Section 48

<sup>36</sup> The Thai PVP Act Section 49

<sup>37</sup> The Thai PVP Act Section 52

<sup>38</sup> Ministerial Regulation on Rules, Procedures and Conditions for collecting, procuring or gathering general domestic plant varieties or wild plant varieties for the purpose of variety development, education, experiment or research for commercial interest and making a profit-sharing agreement B.E. 2553 (2010) Section 7

<sup>39</sup> The Thai PVP Act Section 52

<sup>40</sup> The Thai PVP Act Section 53

The Thai Traditional Medicine Intelligence Act has been established for protection of traditional Thai medicinal intelligence which is considered as part of traditional knowledge.<sup>41</sup> It promotes and protects Thai traditional medicine and related knowledge and also manages access to traditional knowledge and biological resources in herbal medicine.

Accordingly, the Thai Traditional Medicine Intelligence Act provides the protection of herbs for sustainable conservation and utilization of medicinal plants by authorizing the Minister, with the advice of the Committee, to issue a Notification specifying herbs that are valuable for study and research, have economic significance, or may become extinct as controlled herbs.<sup>42</sup> When an herb is notified as a control herb, permission from the licensing authority is required in order to obtain any management activities involving the controlled herb except for research done by State agencies.<sup>43</sup>

## **IV. Protection of Traditional Knowledge in India vs. Thailand**

### **4.1 Access and Benefit-Sharing**

Relatively, the Thai PVP Act seems to ignore the participation of farmers and local communities, since they cannot directly take part in the consideration and negotiation of the benefit-sharing agreement. Additionally, Thailand is still lacking mechanisms and specific institution that would monitor and follow up the use of accessed biological resources and related knowledge, especially for commercial purposes. Unlike the benefit-sharing agreement under the BDA of India, which is mutually agreed between the applicant, the BMCs, and local communities together with the full authority of the NBA to oversee the misappropriation of its biological resources and discharge all decisions pertaining to access and benefit-sharing.<sup>44</sup> This has strengthened the protection of biological resources and related knowledge in India. As a result, India has become one of the most successful countries in protecting their own traditional knowledge and plant genetic resources.

### **4.2 Farmers' Rights and Communities' Rights**

Under the PPVFR Act, the definition and scope of farmers' rights and communities' rights including farmers' varieties have been clearly expressed. This facilitates the identification of the actual farmers that would be given the privilege and rights under the PPVFR Act.

For Thailand, farmers and local communities, as a group of people registered as a community under the Thai PVP Act, may register their local domestic plant varieties existing only in a particular locality which has been conserved or developed exclusively by a

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<sup>41</sup> Chavalit Uttasart, *The Relevance of Traditional Knowledge to Intellectual Property Law*, <https://www.aippi.org/download/committees/232/GR232thailand.pdf> (last visited June 27, 2015).

<sup>42</sup> The Thai Traditional Medicine Intelligence Act Section 44

<sup>43</sup> The Thai Traditional Medicine Intelligence Act Section 48

<sup>44</sup> วิวัธ วงศ์พิชญ์, *แนวทางการคุ้มครองภูมิปัญญาท้องถิ่นของไทย: ศึกษาเปรียบเทียบกับประเทศไทยกับประเทศอินเดีย*, 87 *วารสารสุทธิปริทัศน์*, 336, 323-344 (2557) (Vivith Vongthip, *The Guiding Principle to the Protection of Traditional Knowledge in Thailand: A Comparative Study between Thailand and India*, 87 *Suthiparithat Journal*, 336, 323-344 (2014).

particular community. However, it has been claimed that the qualification to register a domestic plant variety is hardly met since it is highly unlikely that the plant variety exists in only one particular place. Usually, it scatters throughout various places resulting from the free exchange of plant materials and knowledge among various communities. Therefore, the difficulty of identifying a specific community that has originally conserved or developed a particular domestic plant variety that is eligible for registering its variety has emerged.

Despite that the Thai PVP Act furnishes the farmers' privileges by allowing them to cultivate and propagate protected new plant varieties from the propagating material they make. Though it does not permit them to exchange, share or sell the protected new plant, including the seeds of a protected variety, which is an important ingredient for conservation of plant varieties. On the other hand, exchanging, sharing or selling of the protected new plant by farmers could be considered as an act of commercial purpose, which infringes the rights of the holder of a new plant variety.

### 4.3 A database for Traditional Knowledge

While the law for the protection of Thai traditional knowledge is being promulgated, the Department of Intellectual Property (DIP) has enacted the regulation concerning the establishment of databases on Thai local intelligence, dated 7 November B.E.2545 (2002),<sup>45</sup> aiming to invite people or groups of people who conserve, reserve or develop Thai traditional knowledge to notify and register information of their knowledge as a reference databank and to promote the use of the registered traditional knowledge. This helps prevent redundancy and overlapping of traditional knowledge obtained in Thailand.<sup>46</sup>

However in March 2015, the Notification of the DIP has been repealed and the Thai traditional knowledge notification system was withdrawn. Presently, Thailand still has no proper *sui generis* law for protection of all traditional knowledge.<sup>47</sup> Some of existing *sui generis* laws only provide protection for specific types of traditional knowledge under the supervision of different institutions. For example, the traditional Thai medicinal intelligence is under the supervision of the Ministry of Public Health, and plant varieties are under the supervision of the Ministry of Agriculture and Cooperatives.<sup>48</sup> Therefore, the DIP has considered it better to have each of the institutions directly oversee relating traditional knowledge under its specific *sui generis* law including the registration of relating traditional knowledge, preparing a traditional knowledge database, etc.

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<sup>45</sup> Panamas Kudngaongarm, *Thai Traditional Medicine Protection (Part I)*, 14 **Thailand Law Journal** (2011), available at <http://www.thailawforum.com/articles/Thai-traditional-medicine-protection-part1.html> (last visited March 21, 2015).

<sup>46</sup> “กรมทรัพย์สินทางปัญญายกเลิก ขอรับบริการข้อมูลภูมิปัญญาท้องถิ่นไทย” (“*Department of Intellectual Property repealed the regulation concerning the establishment of databases on Thai local intelligence*”), available at <http://www.manager.co.th/iBizChannel/ViewNews.aspx?NewsID=9580000033634> (last visited June 25, 2015).

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

As a result, currently Thailand has no central database for the overseeing of all traditional knowledge as a whole. Instead, the knowledge is usually scattered in many institutions such as the Department of Agricultural Extension, Department of Thai Traditional and Complementary Medicine, Department of National Parks, Wildlife and Plant Conservation and National Center for Genetic Engineering and Biotechnology (BIOTEC), leading to redundancy and overlapping of the traditional knowledge. Each of the above institutions works individually to oversee different kinds of resources and knowledge, which does not provide a collaborative function for the supervision of Thai traditional knowledge. This may lead to bio-piracy, unsustainable use of the resources and related knowledge derived from Thailand.

## **V. Proposed *Sui Generis* Law for the Protection of Traditional Knowledge in Thailand**

### **5.1 Management of Access and Benefit-Sharing**

A State, provincial and local institution that systematizes collaboration between each of the communities in Thailand should be established to encourage the participation of farmers and local communities in negotiating benefit-sharing. However, the Ministry of Agriculture and Cooperatives should be the primary agency to oversee Thai traditional knowledge, plant genetic resources, and facilitate benefit-sharing on behalf of the communities, since farmers and local communities alone may not be fully prepared to be able to properly negotiate with companies or organizations.

### **5.2 Protection of Farmers' Rights and Communities' Rights**

The development of traditional knowledge and plant genetic resources protection in Thailand should not only seek to prevent bio-piracy but also recognize the rights of owners who protect, develop, and preserve their traditional knowledge and plant genetic resources. Therefore, the granting of rights that empower farmers and communities to promote their traditional knowledge and plant genetic resources to control the use and benefits from the commercial exploitation is recommended.<sup>49</sup>

To start with, the definition and scope of a 'farmer', 'community', 'rights of farmers', and 'rights of communities' to be protected under the Thai PVP Act should be clearly expressed to identify the actual farmers and communities that would be provided protection and benefits. The given definition shall be specific and must not create any confusion. Also, the rights provided shall be collective rights with a participation of farmers and local communities in the setting of proper terms and conditions of access and benefit-sharing. Furthermore, the Thai PVP Act should clearly permit farmers to exchange, share or sell the protected new plant varieties including seeds to encourage development and conservation of plant varieties in order to bring about biological diversity.

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<sup>49</sup> Hanamshet Kritika et al., *Traditional knowledge protection*, available at <http://www.slideshare.net/AbhishekSingh337/intellectual-and-traditional-knowledge-of-india-ppt> (last visited April 15, 2015).

### 5.3 Establishment of a central database for Traditional Knowledge

The establishment of a national central database to collect and archive Thai traditional knowledge including Thai traditional medicine is suggested. It shall be a one-stop service center collecting all information related to Thai traditional knowledge. In this case, a special institute, for example, a National Mission on Traditional Knowledge, may be established to directly supervise and be responsible for all national traditional knowledge in an organized way. The established institute should support initiatives at different levels including State, provincial and local level and also coordinate with other related institutions, as well as NGOs, and private sectors for the purpose of unity.<sup>50</sup>

For the established traditional knowledge database, it could be an important source of reference for all Thais to access national traditional knowledge for the purpose of studying, researching and development of the existing traditional knowledge. A searchable database can be used as evidence of prior art by patent examiners when accessing patent applications. This follows the Indian concept of their TKDL, which has been successful in protecting their traditional knowledge and plant genetic resources.

### CONCLUSIONS

In order to develop an effective *sui generis* system regarding the protection of traditional knowledge and plant genetic resources, Thailand has various alternatives. Thai laws should adopt the general concept of access and benefits-sharing, farmers' rights and TKDL suggested by Indian laws and systems and adjust these concepts to be suitable for Thailand. The law should be revised to grant the rights that empower farmers and communities to promote their traditional knowledge, and to participate in negotiating the benefit-sharing arising from the use of their knowledge and resources. Furthermore, it should clearly permit farmers to exchange, share or sell the protected new plant varieties including seeds to encourage development and conservation of plant varieties in order to bring about biological diversity. Additionally, the establishment of a national central database to collect and archive Thai traditional knowledge including Thai traditional medicine is suggested.

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<sup>50</sup> Vishwas Kumar Chouhan, "Protection of Traditional Knowledge in India by Patent: Legal Aspect," 3 **Journal of Humanities and Social Science (JHSS)** 35, 35-42 (2012).

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