

**Intellectual Property Rights Regime and Protection of  
Traditional Knowledge of Lepcha And Bhutia Communities  
of Sikkim: A Legal Study**

A Thesis Submitted

To

**Sikkim University**



In Partial Fulfilment of the Requirement for the  
**Degree of Doctor of Philosophy**

By

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Department of Law

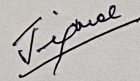
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March 2021

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**DECLARATION**

I, **Jigme Wangchuk Bhutia**, hereby, declare that the research work embodied in the thesis titled, “**Intellectual Property Rights Regime and Protection of Traditional Knowledge of Lepcha and Bhutia Communities of Sikkim: A Legal Study**” submitted to Sikkim University in partial fulfilment of the requirement for the degree of **Doctor of Philosophy** is my original work. This thesis has not been submitted for any other degree of this University or any other University.



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This is to certify that the thesis titled “**INTELLECTUAL PROPERTY RIGHTS REGIME AND PROTECTION OF TRADITIONAL KNOWLEDGE OF LEPCHA AND BHUTIA COMMUNITIES OF SIKKIM: A LEGAL STUDY**” submitted to Sikkim University in the partial fulfilment of the Degree of **Doctor of Philosophy in Law**, embodies the result of *bonafide* research work carried out by **Jigme Wangchuk Bhutia** under my guidance and supervision. No part of the thesis has been submitted for any other Degree, Diploma or Fellowship.

All the assistance and help received during the course of investigation have been duly acknowledged by him.

I recommend this thesis be placed before the examiners for evaluation.

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Submitted by (*Jigme Wangchuk Bhutia*) under the supervision of (*Dr. Praveen Mishra, Associate Professor, Department of Law, School of Social Sciences, Sikkim University*), Tadong, 737102, Sikkim, India.

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## ABBREVIATIONS

ABS:	Access and Benefit Sharing
ARIPO:	African Regional Intellectual Property Organization
ATMA:	Agriculture Technology Management Agency
AVP:	Arya Vaidya Pharmacy
AYUSH:	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
BKS:	Bharat Krishak Samaj
BPO:	British Patent Office
BSI:	Botanica Survey of India
CBD:	Convention on Biological Diversity
CSIR:	Council of Scientific & Industrial Research
DST:	Department of Science and Technology
DST&CC:	Department of Science and Technology and Climate Change
EPC:	European Patent Convention
EPO:	European Patent Office
FAO:	Food and Agriculture Organization
FDA:	Forest Development Agency
FRLHT:	Foundation for Revitalization of Local Health Traditions
GATT:	General Agreement on Tariffs and Trade
GBPIHED:	G B Pant Institute of Himalayan Environment and Development
GI:	Geographical Indication
GPU:	Gram Panchayat Unit
ICAR:	Indian Council of Agricultural Research
ICCPR:	International Covenant on Civil and Political Rights
ICESCR:	International Covenant on Economic, Social and Cultural Rights
ICG:	Intergovernmental Committee on Intellectual Property and Genetics Resources
ICRISAT:	International Crops Research Institute for the Semi-Arid Tropics
ICTSD:	International Centre for Trade and Sustainable Development
IFS:	Indian Forest Service
IGAU:	Indira Gandhi Agricultural University
IGOs:	Inter Governmental Organizations
ILC:	International Law Commission

ILO:	International Labour Organization
IP:	Intellectual Property
IPRs:	Intellectual Property Rights
IWDP:	Integrated Wasteland Development Project
ITPGRFA:	International Treaty on Plant Genetic Resources for Food and Agriculture
KIPO:	Korean Intellectual Property Office
KNP:	Khangchendzonga National Park
KSMPA:	Karnataka State Medicinal Plant Authority
KTKA:	Kerala Traditional Knowledge Authority
KTKP:	Korean Traditional Portal
LMPCA:	Lampokhri Medicinal Plants Conservation Area
MNCs:	Multi-National Companies
MPCA:	Medicinal Plants Conservation Area
MPDA:	Medicinal Plant Development Area
NGOs:	Non-Governmental Organizations
OAU:	Organization of African Unity
PBRs:	Peoples Biodiversity Registers
PHC:	Primary Health Centre
PIC:	Patent Information Centre
PPV&FR:	Protection of Plant Varieties & Farmers' Rights
RFSTE:	Research Foundation of Science, Technology and Ecology
RTI:	Right to Information
SDF:	Sikkim Democratic Front
SMPB:	State Medicinal Plants Board
SSCS&T:	Sikkim State Council of Science and Technology
TBGRI:	Tropical Botanic Garden Research Institute
TCEs:	Traditional Cultural Expressions
TIFAC:	Technology Information Forecasting & Assessment Council
TK:	Traditional Knowledge
TKDL:	Traditional Knowledge Digital Library
TKGRs:	Traditional Knowledge related to Genetic Resources
TRIPs:	Trade Related aspects of Intellectual Property Rights
UKPTO:	United Kingdom Trademark and Patent Office

UN: United Nations  
UNCTAD: United Nations Conference on Trade and Development  
UNDP: United Nations Development Programme  
UNEP: United Nations Environment Programme  
UNESCO: United Nations Educational Scientific and Cultural Organization  
US: United States  
USPTO: United States Patent and Trademark Office  
VFCs: Village Forest Committees  
WHO: World Health Organization  
WIPO: World Intellectual Property Organization  
WTO: World Trade Organization



## EXECUTIVE SUMMARY

The study is divided into six chapters. The first chapter is 'Introduction' and provides the rationale, problem and objectives of the study. It also describes the methodology, research questions, hypothesis and the literatures that have been reviewed. This chapter is the basic structure of the study. The second chapter titled 'Traditional Knowledge of the Bhutia and Lepcha Communities of Sikkim' explores the commonly known Traditional Knowledge of the communities along with a brief explanation regarding the subject matter of Traditional Knowledge and its significance. Traditional Knowledge of the aforementioned communities has been categorized under the headings of Sikkimese Bhutia and Lepcha specific cultural knowledge, artistic knowledge, medicinal knowledge, biodiversity-based knowledge, agricultural knowledge, sacred knowledge, customary laws and traditional games. The chapter also consists of an ethnographic account of the Bhutia and Lepcha communities of Sikkim. The third chapter is titled 'Constraints in the Preservation of Traditional Knowledge of India'. India is regarded as a golden bird and is very rich in the subject matter of Traditional Knowledge. There are various legislations regarding the subject matters of Traditional Knowledge but still India faces constraints in protecting it. Administrative framework, 'Traditional Knowledge Digital Library' has also been set up for the protection but somehow there still seems to be some drawbacks of it. The most dangerous issue which has hindered the protection is Biopiracy. Various Traditional Knowledge regarding medicinal plants, indigenous seeds, agricultural practices have been attacked time to time by the Westerners and some have even been granted IPRs. Another issue is Bioprospecting. In the name of Bioprospecting, the act of Biopiracy is carried on which has hampered the Traditional Knowledge of India. All these issues are discussed in third chapter. The fourth chapter is 'International Instruments Regarding the Traditional Knowledge and its Protection'. It discusses various international instruments like The World Intellectual Property Organization (1970), United Nations Environment Programme (1972), International Labour Organization (1946), etc. which provides the ways to protect certain aspects of Traditional Knowledge. Other than these, there are other declarations as well like, the Kari-Oca Declaration and the Indigenous People's Earth Charter (1992), Voice of Earth Congress (1994), etc. which talks about the Traditional Knowledge, have also been discussed. There are some countries which have enacted certain legislations for the better protection of Traditional Knowledge like

Africa, Thailand, Portugal, Indonesia, etc. and from them, India can take ideas for the enactment of Sui Generis Legislation. There is a deep-rooted relationship between customary laws and Traditional Knowledge. More than legislations, customary laws have protected Traditional Knowledge and have kept it alive. How customary laws provide protection to Traditional Knowledge and referring to customary laws, Sui Generis Legislations can be formed. The fifth chapter, 'Impact of Policies of the Government of Sikkim in the Protection of Traditional Knowledge in India' particularly deals with various strategies which the Government of Sikkim has adopted for the protection of Traditional Knowledge of Sikkim. Sikkim is known for its organic vegetables, medicinal plants, Handicrafts and handlooms, etc. For the protection, there has been revival of organic farming in Sikkim, where farming is carried out without the use of pesticides. This chapter focuses on the Sikkim State Biodiversity Rules, 2006 and Peoples Biodiversity Registers. It also discusses the areas which have been declared conservation zone for the protection of medicinal plants. There are other specific programmes which the Sikkim Government has initiated for the protection of medicinal plants. Likewise, the establishment of Patent Information Centre and policies for the Traditional Healers in the state are also steps taken to further the cause. Additionally, the impact of these policies has also been dealt with in this chapter. The sixth chapter 'Conclusion and Suggestions' summarizes and reflects on the preceding chapters of the thesis. Here an effort has been made to bring to light the shortcomings of the legislations, administrative frameworks, etc. put in place for the protection of Traditional Knowledge and to suggest remedial measures to ensure better protection and preservation of Traditional Knowledge.

# CHAPTER I

## INTRODUCTION

### 1.1. Background of the Study

According to World Intellectual Property Organization, (hereafter referred to as WIPO), “Traditional Knowledge (hereafter referred to as 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>1</sup> In a broad sense it includes stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, medicinal and agricultural practices, including the development of plants and animal breeds.<sup>2</sup> TK thus, can be regarded as an identity<sup>3</sup>, way of living, life, an heirloom that gives us an insight into how people lived before in harmony with nature and accepting all it offered.

According to Russel Brash, “what is ‘traditional’ about TK is not its antiquity, but the way it is acquired and used. In other words, the social process of learning and sharing knowledge, which is unique to each indigenous culture, lies at the very heart of its ‘traditionality.’ Much of this knowledge is actually quite new, but it has a social meaning, and legal character, entirely unlike the knowledge indigenous people acquire from settlers and industrialized societies.”<sup>4</sup> TK is often not documented and is passed on orally from generation to generation. The holders of Traditional Knowledge are mostly indigenous people or local communities.

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<sup>1</sup> Traditional Knowledge, *available at:* <http://www.wipo.int/tk/en/tk/>. (last visited on February 15, 2017).

<sup>2</sup> Ananda Mohan Bhattarai, *Protection of Himalayan Biodiversity* 145 (Sage Publication, New Delhi, 1<sup>st</sup> ed. 2010).

<sup>3</sup> Protection and Preservation of Traditional Knowledge, *available at:* [https://www.academia.edu/3106623/PROTECTION\\_AND\\_PRESERVATIONOF\\_TRADITIONAL\\_KNOWLEDGE](https://www.academia.edu/3106623/PROTECTION_AND_PRESERVATIONOF_TRADITIONAL_KNOWLEDGE). (last visited on March 1, 2017).

<sup>4</sup> Traditional Knowledge and Cultural Expressions, *available at:* [http://www.ip4growth.eu/sites/default/files/07-IP4GROWTH%20TM1-Traditional%20Cultural%20Expressions\\_US.pdf](http://www.ip4growth.eu/sites/default/files/07-IP4GROWTH%20TM1-Traditional%20Cultural%20Expressions_US.pdf). (last visited on March 15, 2017).

Despite the fact that TK as a form of knowledge has existed since a long time, it has generally remained obscure. The World Health Organization was the first institution to study TK and to recognize traditional medicine as a source of primary health care in the Primary Health Care Declaration at the Alma Ata in 1978.<sup>5</sup> Later in the year 2004, the United Nations Conference on Trade and Development adopted the Sao Paulo Consensus where it was acknowledged that there was ‘lack of recognition of Intellectual Property Rights for the protection of TK’.<sup>6</sup> The matter relating to the protection of Traditional Knowledge came into being in an indirect manner through statements seeking to formalize links between the Agreement on Trade-related Aspects of Intellectual Property Rights and the Convention on Biological Diversity.<sup>7</sup> Protection of Traditional Knowledge is a very difficult issue and discussion for the protection has become a subject of debate in the ensuing years.

In the recent years, the need for the protection of TK of the indigenous people in the developing countries who are rich in biodiversity have been felt.<sup>8</sup> The international system, which is protecting intellectual property was formed during the age of industrialization in the West and developed in accordance to the need of them.<sup>9</sup> Owing to the fact that under the existing international intellectual property system traditional knowledge is not fully protected and a need for an international legal system for the protection of traditional knowledge was felt and for that purpose an Intergovernmental Committee has been set up by WIPO.<sup>10</sup> Many communities and governments have called for an international legal instrument providing sui generis protection. Protection of TK is necessary as up to 80% of the world population still rely on traditional medicine<sup>11</sup> and the rights of the indigenous people and communities have been left out and the benefits for the sharing of their knowledge has not been provided by the

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<sup>5</sup> Protection of Traditional Medicine, *available at*: <http://icrier.org/pdf/wilder66.PDF>. (last visited on February 18, 2017).

<sup>6</sup> *Supra* note 2 at 199.

<sup>7</sup> Justifying Intellectual Property in Traditional Knowledge, *available at*: [http://www.privatelaw.uct.ac.za/usr/private\\_law/attachments/djims\\_report1.pdf](http://www.privatelaw.uct.ac.za/usr/private_law/attachments/djims_report1.pdf). (last visited on February 18, 2017).

<sup>8</sup> *Supra* note 3.

<sup>9</sup> Traditional Knowledge and Intellectual Property – Background Brief, *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 February 15, 2017).

<sup>10</sup> *Ibid*.

<sup>11</sup> Archibold Mposhi, Charity Manyeruke & Shakespeare Hamauswa, “The Importance of Patenting Traditional Medicines in Africa: the case of Zimbabwe” 3 (2) *International Journal of Humanities and Social Science*, 238 (2013).

developed world in most cases and even if provided then in a biased way. For the protection of TK there is defensive mechanism and positive mechanism. In defensive mechanism, the Intellectual Property Rights over TK are not given to any other parties except the holder of those. India has taken an initiative by way of Traditional Knowledge Digital Library (hereafter referred to as TKDL) for the protection of TK, which acts as an evidence to defeat a claim against patent on such TK or evidence of prior authorship.<sup>12</sup> In positive mechanism, positive rights regarding TK are created to empower the indigenous or local communities to protect and promote their culture and identity as property. For this positive mechanism, some countries have developed sui generis legislation like in New Zealand, where certification trademarks are used to protect the rights of Maori tribes and use of Maori symbols.<sup>13</sup>

Coming to India, one of the countries rich in Biodiversity, it has a distinct identity and a vast reserve of associated TK. Nonetheless, TK in India could not flourish in a very well manner owing to colonization by the British, and subsequently a lot of it was destroyed.<sup>14</sup> India's TK was regarded as orthodox and unscientific. India is the biggest democratic country in the world with second largest population, people belonging to different religions, castes, races, tribes, etc. and speaking language of their own and having varieties of TK. India has such a system of law where only the rights and interests of the individual are protected at large and not of a community. Various legislations like the Patent Act, 1970, the Wildlife Protection Act, 1972, the Protection of Plant Varieties and Farmers' Rights Act, 2001, the Geographical Indication of Goods (Registration and Protection) Act, 1999, Biological Diversity Act, 2002, the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and Sikkim State Biological Diversity Rules, 2006 are enacted in India which indirectly talk about the protection of TK. And being a member nation of the World Trade Organization (hereafter referred to as WTO), India has to abide by the International Legal Agreement, called Trade Related Aspects of Intellectual Property Rights (hereafter referred to as TRIPs). India has 29 states and 7 union territories and Sikkim is the second smallest state of India. It was merged in the year 1975 through the way of

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<sup>12</sup> *Supra* note 4.

<sup>13</sup> *Ibid.*

<sup>14</sup> Amit Jha, *Traditional Knowledge System in India* 1 (Atlantic Publishers & Distributors, New Delhi, 1<sup>st</sup> ed. 2009).



annexation.<sup>15</sup> Pre-merger the Namgyal Dynasty ruled Sikkim. It is generally believed that the Lepchas are the first inhabitants of Sikkim, who may have come from Southern Tibet<sup>16</sup> and after them came the Bhutias from the Tibetan province of Kham<sup>17</sup>, the Sikkimese Limbus from the Tibetan province of Tsang<sup>18</sup> and then the Nepalese from Nepal region.

There is no official definition of the term 'indigenous' due to diversity of indigenous people.<sup>19</sup> The United Nations and the International Labour Organization have come up with few characteristics to define indigenous people. Those people are regarded as indigenous who are the descended from the pre-colonial or pre-invasion inhabitants of the region, who have a close link to the land in both cultural and economic practices, the minority group who suffer from economic and political marginalization and those who define themselves as indigenous or self-identification.<sup>20</sup> Indigenous people have their own set of languages, knowledge systems and belief. Their relation to their land and uses of it is special. They possess invaluable knowledge of practices for the sustainable management of natural resources.<sup>21</sup> The Bhutias and the Lepchas deem fit the characteristics laid down above and can be regarded as amongst the indigenous communities of Sikkim as they have their own set of TK inherited from their ancestors, their own language, customs, beliefs, culture, practices that they use in their day-to-day life.

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<sup>15</sup> Sunanda K. Datta-Ray, *Smash and Grab Annexation of Sikkim* 321 (Westland Ltd, New Delhi, 2<sup>nd</sup> ed. 2013).

<sup>16</sup> H. H. Risley, *The Gazetteer of Sikkim* i (Bengal Secretariat Press, Calcutta, 1<sup>st</sup> edn. 1894).

<sup>17</sup> *Id.* at 27.

<sup>18</sup> *Ibid.*

<sup>19</sup> Who are indigenous people?, *available at:*

[http://www.un.org/esa/socdev/unpfii/documents/5session\\_factsheet1.pdf](http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf). (last visited on March 12, 2017).

<sup>20</sup> Indigenous People Literature, *available at:* <http://www.indigenouspeople.net>. (last visited on March 12, 2017).

<sup>21</sup> *Ibid.*

## 1.2. Rationale of the study

This study is an attempt to explore the TK belonging to the Bhutias and Lepchas of Sikkim and further for the protection of it. While reviewing literature on the TK of the Lepchas and Bhutias of Sikkim, the researcher gathered that the subject matter remains relatively unexplored or it can be said that very little has been explored. Though the Bhutias and Lepchas have been studied with some reference to the TK but these studies do not elaborate the TK as a whole. In simple words, it can be said that for the protection of their TK, this subject matter in the field of law under the Intellectual Property Regime specially on the Bhutias and Lepchas of the Sikkim is virgin and one of its own.

Time and again, due to over exploitation of the TK under the Intellectual Property Rights (hereafter referred to as IPRs), it has been felt that there is a serious need of sui generis system to look over and protect the Traditional Knowledge which belongs to the Indigenous or the local communities.<sup>22</sup>

Furthermore, in this contemporary world, there is a state of dilemma whether the right to own the TK belongs to the Indigenous people or the patent holder. In many cases it has been seen that the Indigenous people are not provided any benefits for the sharing of their knowledge whereas by that knowledge they earn millions of dollars.<sup>23</sup> Sikkim being a state with vast Biodiversity abounds in Biodiversity associated TK and the Bhutias and the Lepchas being amongst the oldest tribe, are, in certain areas have been living in peace and harmony with nature, worshipping them, valuing them and accepting what the nature has provided as food, medicines, etc. They are well familiar with the Biodiversity of Sikkim, there will definitely come a time when their TK may be asked for patenting.

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<sup>22</sup> Vishwas Kumar Chouhan, "Protection of Traditional Knowledge of India by Patent: Legal Aspect" 3 (1) *Journal of Humanities and Social Science*, 37-39 (2012).

<sup>23</sup> Who owns Traditional Knowledge?, available at: <http://icrier.org/pdf/WP96.pdf>. (last visited on March 8, 2017).

### 1.3. Statement of Problem

Protection of TK has gained immense importance. Legislations and instruments have been made for the protection of TK of the indigenous communities but time and again it has been felt that there is a serious need of sui generis system for the protection and the governance of TK.<sup>24</sup> There is no exact legislation for the protection of TK. Most of the concern has been raised by Asian and African countries that have rapidly lost their TK by way of unauthorized or inappropriate Intellectual Property Rights or by use of TK without any benefit sharing or little benefit sharing with the original right-holders. The Multi-National Companies or the researchers safely privatizes the indigenous knowledge and rarely benefits flow back to the holders of knowledge, which demoralize them and they are losing interest and motivation in protecting their TK.<sup>25</sup>

In India, the IPRs in TK belong to the indigenous or local communities (Biological Diversity Act 2002 and Forest Right Act 2006)<sup>26</sup> but when it comes internationally, the right to hold and derive benefits from TK is not clearly defined. When rights are provided to the holder or the third party, it is provided for a certain period of time and after that the right to own it is not clarified. Though the IPRs do protect TK but it is felt that there are still gaps that need to be filled in the field of protection. It has been seen in so many cases that the indigenous people were not granted any kind of benefits sharing for the use of their knowledge and if this continues then there will be no interest of the indigenous communities in sharing their knowledge and nurturing it.<sup>27</sup> Bio-piracy is the biggest threat to TK and this has to be overcome. Cases like neem, turmeric, basmati rice, maca, quinoa, endod, hoodia are good examples of bio-piracy. It has been observed that tourists in Sikkim come only in certain months, between September to October when the plants bear seeds and they mostly find accommodation in Bhutia, Lepcha or Limboo home-stay. Though cases of bio-piracy have not been registered in Sikkim but this does not mean that it is not happening at all. There is no denying the fact that bio-piracy is taking place either through the way of research on the use of

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<sup>24</sup> S.K. Tripathi, "Traditional Knowledge: Its significance and implications" 2 (2) *Indian Journal of Traditional Knowledge* 99 (2003).

<sup>25</sup> *Supra* note 2 at 151.

<sup>26</sup> Aashi Khandelwal & Yuvraj Mishra, "Traditional Knowledge: Significance and its Protection" 2 (3) *International Journal of Research and Analysis* 3 (2015).

<sup>27</sup> *Supra* note 25.

medicinal plants or by unethically asking and taking specimens or crops of such plants from naive Sikkimese villagers. Bio-piracy in a small state like Sikkim remains latent and is thus very hard to check.

Sikkim is identified as one of the biodiversity hot-spots in the Eastern Himalayas and with it comes abundant Traditional Knowledge.<sup>28</sup> Researchers have been researching about the plants and their uses in Sikkim since long back. For example, Dr. Campbell and Dr. Hooker who came to Sikkim for a botanical research.<sup>29</sup> One research leads to another, which may eventually lead to property rights. The Bhutias and the Lepchas are amongst the oldest living tribes of Sikkim and have their own set of TK. Their Traditional Knowledge System is getting neglected and gradually losing its value. These days due to flourish of Tourism in Sikkim, home stays offering specific cultural experiences like Bhutia homestay, Lepcha homestay, Limboo homestay, etc have cropped up in plenty and are very popular with the tourists. Though it is a good way to earn a livelihood and share one's culture with the world but there is always the risk of sharing and exposing too much of one's culture like giving away some of our TK. The researchers may intentionally come as a Tourist or Trekkers and take away valuable knowledge. West Sikkim is highly known for trekking and people living there earn through guiding the tourists to trekking destinations. It is interesting that these guides have high knowledge regarding the plants that are locally found there to the point that they even know the scientific names of these plants. As per their information, the foreigner tourists live in their homestay for at least a month and most of the time they are found researching about the plants, cultures, traditions, folklores, foods, etc. They even take away specimens of plants from the villagers and conduct research on them and take away more information. Moreover, Sikkim lacks initiative like border outpost sensitization as suggested by Usha Lachungpa, Principal Research Officer. It becomes hard to know the real motive or intention of such people entering the state, which may pose a great threat to the loss of TK. More over the folklores regarding the lakes, caves, mountains and places of Sikkim have maintain the nature and even in the rituals certain

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<sup>28</sup> Biodiversity, *available at:* <http://www.sikkimforest.gov.in/Biodiversity.htm>. (last visited on February 12, 2017).

<sup>29</sup> S.C. Bhatt & Gopal K Bhargava, *XXIV Land & People of Indian States & Union Territories Sikkim* 22 (Kalpaz Publication, Delhi, 1<sup>st</sup> edn. 2006).

plants are required which makes it valuable to the Bhutia and Lepcha people. Thus, there is a felt sense of urgency to protect and preserve TK in Sikkim.

#### **1.4. Review of Literature**

A number of literatures that are related to the TK, its protection, Bhutias and Lepchas of Sikkim, and other related issues with them have been reviewed for the purpose of the study from books, articles, research papers, journals, news articles and materials found in the internet. The literatures are as follows:

TK is essential for the food security and health of millions of people living in the developing countries like India.<sup>30</sup> India was rich in the sphere of Traditional Knowledge system before the Colonial period and the British destroyed some of them. Whatever development in the field of scientific research, mathematics, astrology, astronomy, physics and chemistry, aviation technology, crafts and trade, medicine, construction technology, etc. have been made in modern time, these developments have its root deep in the Traditional Knowledge System of India.<sup>31</sup> The richness of India in the field of TK makes every Indian feel proud about India and being an Indian with such a rich traditional knowledge system. In this contemporary world due to merciless exploitation of the TK, there has been a growing interest for the protection of it in the national and international level.<sup>32</sup> India after the challenges faced due to basmati and turmeric patents have taken an initiative by way of establishment of TKDL where the traditional Indian system of medicine are documented and are available in public domain.<sup>33</sup> Furthermore, India has enacted certain legislations which indirectly provide for the protection to the TK.<sup>34</sup>

Biodiversity is co-related to TK and protection of TK is important. Biodiversity based knowledge in the field of medicine, agriculture, and industry falls under Traditional Knowledge. TK is a golden bowl, which has been handed down by ancestors to the modern generation but much of TK is not antique and ancient but contemporary,

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<sup>30</sup> *Supra* note 14 at 10.

<sup>31</sup> *Id.* at 255.

<sup>32</sup> *Id.* at 266.

<sup>33</sup> *Id.* at 281.

<sup>34</sup> *Id.* at 296.



dynamic and vital.<sup>35</sup> It is not outdated but is innovative and evolving to meet the everyday needs of the people. Himalayan region is rich in biodiversity and hence people living in this region have their own set of TK. When it comes to protection of TK, the Convention on Biological Diversity is the first international hard law instrument which provides for the protection of TK. The threats to TK are migration, destruction and degradation of environment, disruption of traditional life due to modern culture and lifestyle.<sup>36</sup> TK is disappearing at high speed and if this goes on then much of the precious knowledge will be lost within few decades. There are certain international as well as national laws for the protection of indigenous people and their knowledge but if access to TK and privatization are not regulated then there is a high chance of exploitation of the TK and use it against the interest of the indigenous people.<sup>37</sup>

The TRIPs Agreement somehow or the other way affects the indigenous people and their traditional knowledge.<sup>38</sup> With this TRIPS Agreement there are certain threats to the Traditional Knowledge of the local communities and the usage of it. The rights of the indigenous people over the TK and the protection of TK have become a need which needs to be looked upon.<sup>39</sup>

Indian legal system remains largely insufficient in providing protection to the TK and Traditional Medicinal Knowledge of its indigenous population.<sup>40</sup> While protection has been extended to India the indigenous communities who are the legitimate holders and owners of Traditional Medicinal Knowledge have not been taken into ambit. Though TKDL by way through documentation is playing a vital role in the protection of TK but in other hand it is also providing an easy access to India's TK for the foreign companies.<sup>41</sup> The main drawback of the Digital library is lack of participation of indigenous communities in India. The indigenous people remain largely excluded and play no active role for development of what rightfully belongs to them. Furthermore, there are chances of the exploitation of Traditional Medicinal Knowledge and

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<sup>35</sup> *Supra* note 2 at 147.

<sup>36</sup> *Id.* at 150.

<sup>37</sup> *Id.* at 212.

<sup>38</sup> Martin Khor, *Intellectual Property, Biodiversity and Sustainable Development: Resolving the Difficult Issues* 18 (Zed Books Ltd., London, 1<sup>st</sup> edn., 2002).

<sup>39</sup> *Id.* at 35.

<sup>40</sup> Bipin Chandra Choubey & Deepak Km. Dungrakoti, "Protection of Traditional Knowledge and Traditional Medicinal Knowledge in India" XLI (2) *Indian Bar Review* 154-155 (2014).

<sup>41</sup> *Ibid.*

Traditional Knowledge for its commercial utilization. There is a need for a firm law in India for the protection of TK, whereas the existing laws are not self-sufficient to fight bio-piracy and other threats.<sup>42</sup>

The history of Sikkim starts from the 13<sup>th</sup> Century with the story of Khye-Bumsa and Thekong Tek.<sup>43</sup> The first King of Sikkim Phuntshok Namgyal and very little is known about his reign. Sikkim was a Buddhist country and Buddhism was its religion. It has her own set of laws, the rituals followed by its people, the flora and fauna.

When Sikkim is studied then mostly it is studied in two contexts; premerger and postmerger. North Sikkim is the biggest district and is rich in Biodiversity, the indigenous Lepchas and Bhutias living in North Sikkim in the Dzongu and Lachung-Lachen area are more tradition fervent than those living in rest of the Sikkim.<sup>44</sup> Dzongu is the land reserved for the Lepchas by the Chogyal of Sikkim and they inherit traditional knowledge of the use of plants or parts of plants for the treatment of common diseases.<sup>45</sup> They practice traditional medicine under which falls folk medicine and all other types of medicine that has been passed on from generation to generation. The Bhutias and Lepchas have their own set of traditions and traditional healers, the healing practices of certain illness are performed by them.<sup>46</sup> They are the Lamas, Mun, Bonthing, Pau and Neejum.

The right to use TK and the belongingness of it is often confusing.<sup>47</sup> Though there are numerous international treaties that address the issues of TK but they have not proved to be sufficient to provide proper protection to TK therefore there is a need for sui generis system for the protection. Furthermore, whether these treaties are really needed to provide protection. Some treaties are in favour of the TK holders and some are in favor of trading it. Further whether the right of TK to be conferred in the hands of the

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<sup>42</sup> *Supra* note 40 at 157.

<sup>43</sup> *Supra* note 16 at 8.

<sup>44</sup> Medical Anthropology: Healing Practices in Contemporary Sikkim, *available at*: <http://krepublishers.com/06-Special%20Volume-Journal/T-Anth-00-Special%20Volumes/T-Anth-SI-03-Anth-Today-Web/Anth-SI-03-07-Bhasin-Veena/Anth-SI-03-7-Bhasin-Veena-Tt.pdf>. (last visited on March 3, 2017).

<sup>45</sup> *Ibid.*

<sup>46</sup> *Ibid.*

<sup>47</sup> Ajeet Mathur, "Who owns Traditional Knowledge" 38 (42) *Economic & Political Weekly* 4472-73 (2003).

people and the communities or should there be creation of para-state monopolies to provide and ensure inter-governmental coordination is often confusing. There should be a system or a body of its own kind to look over TK and all its aspects, as it does not easily fit in the concept of IPRs and these can be done through creation of system to provide rights and obligations in the national level taking in view the international guidelines. TK has been passed on from generation to generation since time unknown and with such care and belongingness it has been preserved. Patenting it or trading it without the consent of the community is injustice and for that protection though sui generis system is a need for the survival of TK.

Protection of TK of the local and indigenous communities is one the most complicated issue.<sup>48</sup> The provisions of the Biological Diversity Act 2002 and the Forest Rights Act 2006 provide for the protection of tribal traditional knowledge and give the right of ownership of such knowledge to the indigenous or the local communities respectively.<sup>49</sup> Traditional Knowledge is collectively owned by the communities than by individuals and one of the fears in these communities is that if the knowledge gets documented then it will be exposed and the communities will loose it.<sup>50</sup> Certain strategies have been adopted by India to increase protection of TK internationally as well as regional.<sup>51</sup> Improvement in the Indian Patent Act for the protection of TK has to be undertaken and for the extend protection documentation of TK, registration and innovation patent system and development of a sui generis system are to be adopted.<sup>52</sup>

India has an immense treasure of TK and also the lack of a specific or sui generis legislation to protect it.<sup>53</sup> Though there are Biodiversity Act 2002, Protection of Plant Varieties and Farmers Rights Act 2001, Patents Act 1970 to serve to protect the Traditional Knowledge but these laws are not sufficient. Due to lack of legal protection for Traditional Knowledge, in earlier days, it had led to patenting of many TK based products in India by outsiders which made it hard for India and had to undertake legal

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<sup>48</sup> Vishwas Kumar Chouhan, "Protection of Traditional Knowledge of India by Patent: Legal Aspect" 3(1) *Journal of Humanities and Social Science* 35 (2012).

<sup>49</sup> *Id.* at 36.

<sup>50</sup> *Ibid.*

<sup>51</sup> *Supra* note 48 at 39.

<sup>52</sup> *Id.* at 41.

<sup>53</sup> Lisa P. Lukose, "Legislation response in India to the protection of Traditional Knowledge: A critique" 5 *Bangalore Law Journal* 189-200 (2014).

battle to fight such bio-piracy. Consequently, the original custodians of such knowledge are losing their right over what actually belongs to them. The protection of TK has become very vital and is necessary for the benefit of the indigenous community as well as for the benefit of the whole nation keeping in mind the importance of TK for national development and economic activities.<sup>54</sup>

Customary Law and TK have a deep relationship and customary law since the day of its existence has been protecting the TK and the understanding of customary law is vital for the protection of TK.<sup>55</sup> Therefore the indigenous communities are of the view that the protection of TK against misuse and misappropriation can be supported by the enforcement of customary laws. Customs are regarded as a source of law and customs and traditions are inter-related and work hand in hand.

### **1.5. Research Methodology**

This study is exploratory and descriptive in nature. It is based on both primary and secondary sources. Primary sources include Laws, Regulations, Acts, Statutes, recording of speeches, government publications, government notifications, oral histories, newspapers, video recordings, documentary films, audio recordings, artifacts, photographs, social media posts, interviews of Traditional healers (Mun, Bonthing, Pawo, Nejum, Lamas etc.) and knowledgeable individuals regarding TK from both the Bhutia and Lepcha community. A total of 500 respondents were purposively selected for the sample size in the study. Samples were further divided into 250 Bhutia and 250 Lepcha respondents. Additionally, 16 Traditional Healers and 50 knowledgeable individuals from Bhutia and Lepcha communities were also interviewed for the study. An interview schedule was used to elicit information from the respondents. The study was conducted in the four districts of Sikkim preferably in those areas with a sizeable Bhutia and Lepcha population. The total Bhutia population is 69,598 and Lepcha population is 42,909 in Sikkim out of which the East District comprises of 34,043 Bhutias and 12,427 Lepchas, the West District comprises of 13,779 Bhutias and 9,775 Lepchas, the North District holds 7,971 Bhutias and 13,748 Lepchas and the South

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<sup>54</sup> *Id.* at 200.

<sup>55</sup> Customary Law and Traditional Knowledge, *available at*: [http://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_tk\\_7.pdf](http://www.wipo.int/edocs/pubdocs/en/wipo_pub_tk_7.pdf). (last visited on February 7, 2017).

District comprises of 13,805 Bhutias and 9,775 Lepchas.<sup>56</sup> The secondary sources include books, journals, articles, internet sources, reports, etc.

### **1.6. Research Objectives**

- To understand the framework of Traditional Knowledge.
- To understand the importance of Traditional Knowledge to the Bhutia and Lepcha communities.
- To understand the level of awareness and understanding amongst the Lepcha and Bhutia communities about the ways of preservation of their Traditional Knowledge.
- To take account of the challenges faced by the indigenous people when their Traditional Knowledge is being exploited against their interest.

### **1.7. Research Questions**

- What is the Traditional Knowledge of the Bhutia and Lepcha communities of Sikkim?
- Why is there need for the protection of Traditional Knowledge of the Bhutia and Lepcha communities of Sikkim?
- What is the level of awareness amongst the Bhutia and Lepcha communities of Sikkim regarding the preservation/protection of their Traditional Knowledge?
- What are the steps taken by Government to preserve and protect the Traditional Knowledge of the Bhutia and Lepcha communities of Sikkim?
- What are the emerging and existing laws and institutions related to the preservation and protection of Traditional Knowledge in India?

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<sup>56</sup> 2011 Census.

## **1.8. Hypothesis**

- The Bhutia and Lepcha communities of Sikkim have their own set of Traditional Knowledge.
- The Bhutia and Lepcha communities of Sikkim have failed to preserve their Traditional Knowledge.
- The Traditional Knowledge of Bhutia and Lepcha communities are being exploited without their informed consent.

## CHAPTER II

### TRADITIONAL KNOWLEDGE OF THE BHUTIA AND LEPCHA COMMUNITIES OF SIKKIM

#### 2.1. Traditional Knowledge

The world is changing rapidly and in this changing world, like the good old days, knowledge has grown more important and have become a primary source of Intellectual Property.<sup>57</sup> Such knowledge can be regarded as Traditional Knowledge (hereafter referred to as TK). What is TK or what areas does it covers have not been precisely given. In other words, there is not a universally accepted definition of TK. Scholars typically define it either as knowledge developed by indigenous communities or tradition based intellectual activity.<sup>58</sup>

After analyzing the UN documents, TK has been characterized as, complex bodies and systems of knowledge and practices which further means content or substance of knowledge held by traditional communities which is a part of an intangible cultural heritage of indigenous people and also a part of the heritage of humanity.<sup>59</sup> TK can be regarded as the knowledge which has been developed from experience gained over the centuries and adapted to the local culture and environment. It is a potential source of wealth and has been transmitted orally. It's in the form of stories, songs, artistic expressions, cultural events, beliefs, rituals, laws, languages, agricultural practices and know-how relating to architecture, textile-making, fishery, health, forestry management.<sup>60</sup> For the indigenous people, the nature of Traditional Knowledge is very sacred and secret.

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<sup>57</sup> G.B. Reddy, *Intellectual Property Rights and the Law* 395 (Gogia Law Publications, Hyderabad, 7<sup>th</sup> edn., 2010).

<sup>58</sup> Javier Garcia, "Fighting Biopiracy: The Legislative Protection of Traditional Knowledge" 18 (1) *Berkeley La Raza Law Journal* 5 (2007).

<sup>59</sup> Ulia Popova-Gosart (ed.), *Traditional Knowledge & Indigenous Peoples* 18 (WIPO Publication No. 1014E/R, 2009).

<sup>60</sup> *Supra* note 58.

According to WIPO, TK is a knowledge which refer to tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, symbols and names; undisclosed information; and all other tradition-based innovations and creations which is a result of intellectual activity in the field of industry, science, literature or arts, which have generally been transmitted from generation to generation, pertaining to its people or territory and are in constant evolution in response to the changing environment.<sup>61</sup> In short, it is a living body of knowledge passed on from generation to generation within a community, often forms part of a people’s cultural and spiritual identity.<sup>62</sup>

Another definition of TK in accordance to the United Nations University is, “Traditional Knowledge or local knowledge is a record of human achievements which help us in comprehending the complexities of life and acquiring the knack of survival in often-unfriendly environments. Traditional Knowledge – which may be technical, social, organizational, or cultural – was obtained as part of the great human experiment of survival and development”.<sup>63</sup>

The term “traditional” used in TK does not really imply that the knowledge is old or untechnical in nature, but “traditional – based.” It is regarded “traditional” by the way it was created in a manner to reflect the traditions of communities, and not relating to the nature of the knowledge itself, but to the way in which that knowledge is created, preserved and disseminated.<sup>64</sup>

Convention on Biological Diversity (hereafter referred to as CBD) mentioned the importance of TK in Article 8 (j). According to Article 8 (j), “each contracting Party shall, as far as possible and as appropriate: Subject to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the

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<sup>61</sup> *Supra* note 57.

<sup>62</sup> Traditional Knowledge, *available at*: <http://www.wipo.int/tk/en/>. (last visited on June 18, 2017).

<sup>63</sup> *Supra* note 14 at xii.

<sup>64</sup> Traditional Knowledge and Intellectual Property: A Handbook on Issues and options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity, *available at*: [https://www.humanrights.ch/upload/pdf/061127\\_handbook.pdf](https://www.humanrights.ch/upload/pdf/061127_handbook.pdf). (last visited on June 27, 2017).



approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices.”<sup>65</sup>

United Nations Educational, Scientific and Cultural Organization has even tried to define Traditional Knowledge. According to it, “Traditional Knowledge is the cumulative and dynamic body of knowledge, knowhow and representations possessed by peoples with long histories of interaction with their natural milieu. It is intimately tied to language, social relations, spirituality and worldview, and is generally held collectively.”<sup>66</sup>

Various components of TK are cultural knowledge, artistic knowledge, medicinal knowledge, biodiversity or natural resources knowledge, agricultural knowledge and sacred knowledge. Thus, TK can be categorized into Traditional Cultural Expressions (TCEs), medicinal knowledge, biodiversity related knowledge, agricultural knowledge, scientific knowledge and technical knowledge.<sup>67</sup>

TK is the knowledge which has been tried, tested and developed in accordance to the need of the time and the society and has been passed on from generation to generation through orally or in written form. It mostly belongs to the indigenous or local communities and there are even individual TK holders. TK varies from region to region. The biodiversity, climate, weather condition, geographical landforms, etc. shape the TK. The TK of a community living in desert area is different from that of the one living in mountain area and same legislation might not be appropriate for all the regions to regulate and protect the TK from misuse and misappropriations. TK can be divided in various categories like cultural knowledge, artistic knowledge, medicinal knowledge, biodiversity-based knowledge, agricultural knowledge, sacred knowledge, scientific knowledge and technical knowledge.

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<sup>65</sup> Article 8 (j) – Traditional Knowledge, Innovations and Practices, *available at*: <https://www.cbd.int/traditional/>. (last visited on July 24, 2017).

<sup>66</sup> R.D. Singh, S.K. Mody, *et.al.*, “Pharmaceutical Biopiracy and Protection of Traditional Knowledge” 3 (2) *International Journal of Research and Development in Pharmacy & Life Sciences* 866 (2014).

<sup>67</sup> Traditional Knowledge, *available at*: <https://www.wipo.int/tk/en/tk/#:~:text=Traditional%20knowledge%20can%20be%20found,well%20as%20biodiversity%2Drelated%20knowledge>. (last visited on July 7, 2019).

## 2.2. Significance of Traditional Knowledge

After World War II, there was change in the world economy and the international political climate, which played a vital role in the recognition of the economic, cultural and political value of traditional knowledge at the international level.<sup>68</sup> During 1970s, with the advancement in technology, the growing world economy became more dependent on the application of knowledge and technology, instead of labor and capital, the TK of the indigenous people was accorded greater recognition.<sup>69</sup>

During the period of 1960s-1970s, there had been discussions regarding the protection or preservation of “intangible cultural property” of Traditional Indigenous Knowledge for the benefit of the state or humanity and this step further for “indigenous empowerment” as called by Waziyatawin Angela Wilson, grew as human rights movement.<sup>70</sup> The recognition of TK on the international level, as a subject matter of study began in the second half of the 19<sup>th</sup> century and since then discussion of issues relating to traditional knowledge by various United Nations agencies has increased.<sup>71</sup>

An African proverb says that “when an old man dies a library burns.” That knowledgeable old person carries lots of knowledge which has been passed on to him from generation to generation by his ancestors, which were developed with experiences and adjusted with regards to the changing circumstances and environmental conditions, which helps the community to survive. Hence, when such person dies, a whole library that is full of knowledge burns. Across the world, TK is deep rooted and is very important for the well-being of its holders and for sustainable development, they have developed it to conserve and utilize the biological diversity of their surroundings.<sup>72</sup>

According to the report of World Health Organization (here after referred to as WHO), 80 percent of the world’s population still depends on traditional medicine for its primary health care. In many developing countries, majority of the population is still dependent on traditional medicine for the fulfillment of their primary health care needs

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<sup>68</sup> *Supra* note 59 at 17.

<sup>69</sup> *Ibid.*

<sup>70</sup> *Ibid.*

<sup>71</sup> *Ibid.*

<sup>72</sup> The Importance of Traditional Knowledge: A National Treasure, *available at*: <http://lawinfowire.com/articleinfo/importance-traditional-knowledge-national-treasure>. (last visited on July 12, 2017).

and the reasons for this are traditional medicine are affordable, accessible and acceptable, determined by a range of social, economic, geographical, and cultural factors as well as by the efficacy of the treatment.<sup>73</sup> The simplest example of traditional medicine is use of neem and turmeric in first-aid, curing rashes, etc. Other such examples of usage of TK are use of ‘plao-noi’ by the Thai traditional healers to treat ulcers, use of the ‘Ayahuasca’ vine by Western Amazonian tribes to prepare various medicines, use of ‘hoodia’ cactus by the San people to stave off hunger while out hunting, sustainable irrigation through water systems such as the ‘aflaj’ in Oman and Yemen and the ‘qanat’ in Iran.<sup>74</sup> In many developing countries, large number of population still depend on traditional practitioners like traditional birth attendants, herbalists, and bone-setters to take care of their primary health related needs.<sup>75</sup> In many Asian countries like China, India, Japan and Pakistan, traditional medicine system is quite popular. For instance; in China, 50% of the total medicinal consumption is traditional medicines. During the 1990s, the developed countries like America, Netherlands, Belgium and United Kingdom showed interest in traditional and alternative medicinal systems.<sup>76</sup>

All indigenous knowledge is TK but all TK is not indigenous knowledge. According to the 1998/99 World Development Report, knowledge, not capital, is the key to sustainable development socially and economically.<sup>77</sup> Indigenous Knowledge system is a sine qua non for the developmental process of local communities and plays a profound role in societies by shaping and defining indigenous knowledge’s very existence and provides the foundation of their beliefs and traditional practices.<sup>78</sup> To

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<sup>73</sup> The Importance of Traditional Knowledge for Meeting Public Health Needs in Developing Countries, *available at*:

[https://www.researchgate.net/publication/42766393\\_The\\_Importance\\_of\\_Traditional\\_Knowledge\\_for\\_Meeting\\_Public\\_Health\\_Needs\\_in\\_Developing\\_Countries](https://www.researchgate.net/publication/42766393_The_Importance_of_Traditional_Knowledge_for_Meeting_Public_Health_Needs_in_Developing_Countries). (last visited on August 8, 2017).

<sup>74</sup> Intellectual Property Rights and Traditional Knowledge, *available at*:

<https://pdfcoffee.com/intellectual-property-rights-and-traditional-knowledge-pdf-free.html> (last visited on August 10, 2017).

<sup>75</sup> Traditional Medicine, *available at*:

[https://chiro.org/acupuncture/FULL/TRADITIONAL\\_MEDICINE.shtml](https://chiro.org/acupuncture/FULL/TRADITIONAL_MEDICINE.shtml) (last visited on August 10, 2017).

<sup>76</sup> *Ibid.*

<sup>77</sup> Indigenous Knowledge for Development: a Framework for Action, *available at*:

[https://www.academia.edu/27830765/INDIGENOUS\\_KNOWLEDGE\\_FOR\\_DEVELOPMENT\\_A\\_FRAMEWORK\\_FOR\\_ACTION\\_Knowledge\\_and\\_Learning\\_Center\\_Africa\\_Region\\_World\\_Bank\\_Indigenous\\_Knowledge\\_for\\_Development\\_A\\_Framework\\_for\\_Action](https://www.academia.edu/27830765/INDIGENOUS_KNOWLEDGE_FOR_DEVELOPMENT_A_FRAMEWORK_FOR_ACTION_Knowledge_and_Learning_Center_Africa_Region_World_Bank_Indigenous_Knowledge_for_Development_A_Framework_for_Action) (last visited on July 12, 2017).

<sup>78</sup> Indigenous Knowledge-are we losing our traditional practices?, *available at*:

<https://www.ema.co.zw/index.php/129-indigenous-knowledge-are-we-losing-our-traditional-practices.html>. (last visited on August 12, 2017).

know more about the local area, indigenous knowledge can be very helpful. The holder of these knowledge has gathered such knowledge over the centuries by directly coming in interaction with the environment, i.e. soil, water, climate, forest, wildlife, minerals, etc. in the locality.<sup>79</sup>

TK can also be used for sustainable development and better future. Indigenous communities have been living in peace and harmony with the environment and have utilized resources without hampering the nature. They have protected the nature and used it sustainably. Furthermore, it can also help promote biodiversity conservation by characterizing resource uses that are appropriate for the particular local landscape.<sup>80</sup>

Another important aspect of TK is it has become a highly valued source of information for archaeologists, ecologists, biologists, ethnobotanists, climatologists and others.<sup>81</sup> One of the examples regarding climatology studies is incorporation of Qaujimajatuqangit (Inuit traditional knowledge) which helps in the explanation of changes in sea ice conditions observed over many generations. Scientists and researchers do value TK when it supports or supplement their researches. Such is the case with the above example but when TK seems to challenge scientific truths then its utility is questioned or dismissed as myth.<sup>82</sup> Archaeologists and environmental scientists working in coastal British Columbia, in the past two decades, have come to recognize evidence of mariculture, meaning intentional management of marine resources, that dates back to European settlement. Such practice has been carried out by the ancestors of the Kwakwaka'wakw and other Indigenous groups, over the course of thousands of years, known by the name "clam gardens" (it is a rock-walled, terrace-like constructions that provide ideal habit for butter clams and other edible shellfish).<sup>83</sup> To the Kwakwaka'wakw, these were known as loxiwey and according to marine ecologist, these structures increase shellfish productivity and resource security significantly.<sup>84</sup> This provide us with an evidence that that indigenous communities have

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<sup>79</sup> *Ibid.*

<sup>80</sup> *Supra* note 75.

<sup>81</sup> Western science is finally catching up to indigenous traditional knowledge, *available at*: <https://www.iafrikan.com/2018/03/02/western-science-is-finally-catching-up-to-traditional-knowledge/>. (last visited on March 18, 2018).

<sup>82</sup> *Ibid.*

<sup>83</sup> *Ibid.*

<sup>84</sup> *Ibid.*

been practicing mariculture from generations and it could have been very helpful if the Western scientists have asked them about it. Another such use of TK in the field of history can be traced with regards to the Battle of Greasy Grass, also known as Little Big Horn.<sup>85</sup> The oral indigenous stories about the battle as well as the drawings made by the Red Indians gave a precise and more accurate historical account of the battle such as trooper's uniforms, the location of wounds on horses and the distribution of Indian and white casualties. In 1984, fire broke out at the place where the battle had taken place which revealed military artifacts and human remains which prompted archaeological excavations. This further revealed new and more accurate history of the battle validating many elements of the Native American oral histories, accompanying pictographs and drawing events.<sup>86</sup> Though the historians had heard of the oral narratives from the Native American but they did not regard all of their words to be true but this archaeological evidence became the witness to the stories of the Native Americans.

As it is a known fact that all indigenous knowledge are TK and indigenous people have immense knowledge about the land where they have inhabited since many centuries, they through their experience have come to learnt to grow food, preserve and to survive in such environments. They know what varieties of crops to plant, when to sow and weed, which plants are poisonous, which can be used for control of diseases in plants and livestock.<sup>87</sup> In the field of agriculture, Traditional Knowledge plays a vital role as all the resources for agriculture are drawn locally. People are less dependent on outside supplies, which can be costly, scarce and unavailable; people can understand, handle, and maintain traditional knowledge regarding agriculture better than western practices and technologies.<sup>88</sup> Furthermore, when we come to realization that there is no rice, wheat plants, cotton or mustard found lying around in the forest, the importance of indigenous knowledge can be understood. The forest consists of wild plants out of which the indigenous people over generations have bred races of several food and cash crops. The land races bred by farming communities are the foundation material of

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<sup>85</sup> When Scientists “Discover” What Indigenous People Have Known For Centuries, *available at*: <https://www.smithsonianmag.com/science-nature/why-science-takes-so-long-catch-up-traditional-knowledge-180968216/> (last visited on February 27, 2018).

<sup>86</sup> *Supra* note 78.

<sup>87</sup> The Importance of Indigenous/Traditional Knowledge in Agriculture, *available at*: <http://naarap.blogspot.com/2009/10/importance-of-indigenoustraditional.html>. (last visited on August 30, 2017).

<sup>88</sup> *Ibid.*

modern plant breeding and global food security.<sup>89</sup> In agricultural research stations, the scientists conduct scientific experiments regarding genetic selection, maintenance and cross breeding. The research station for the indigenous people is the field, where they have tested, experimented and develop the ways and skills to cross breed, maintain and identify valuable genes and traits. There would not be a modern plant breeder if there was no indigenous knowledge regarding it.<sup>90</sup> Due to global warming and climate change, threat seems to appear across agricultural zones. Scientists are looking for crop varieties that are more heat tolerant and for this purpose they visit deserts and hot regions asking local farming communities about the varieties of crops that grow in that region and can withstand extreme heat. After the information is gathered, these scientists return to their labs and experimental farms and engage themselves in breeding and selection program that would result in the combination of traits that they seek to achieve in the new variety that is being designed for post global warming agriculture.<sup>91</sup> It is a known fact that if the breeding of a crop variety entailed 100 steps then indigenous knowledge contributes at least the first 70 to 80 steps and the scientists contribute the next 20 to 30 steps. Indigenous farmer having the traditional knowledge have a greater and more innovative share in the creation of new plant varieties than scientists.<sup>92</sup> More than crop varieties, the role of indigenous knowledge is more important in the cases of medicinal plants. The scientists cannot enter a tropical forest on his own or can know the use of the plants in curing or treating certain sickness or diseases. They need the help of indigenous peoples who have been using the medicinal plants since time immemorial and have access to them. In India, traditional medicinal practices are carried out by way of Ayurveda and Siddha.

The pharmaceutical industries are the ones who have benefited a lot from the use of TK and is an important source of resources for them. Loss of TK means cutting off access to a potentially huge and precious stock of complex biological substances that scientists are unlikely to be able to stumble across elsewhere or invent de novo in the laboratory.<sup>93</sup> One of the examples is of the use of willow bark extracts for the treatment of fever and

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<sup>89</sup> Suman Sahai, "Importance of Indigenous Knowledge" 2(1) *Indian Journal of Traditional Knowledge* 11 (2003).

<sup>90</sup> *Ibid.*

<sup>91</sup> *Supra* note 87.

<sup>92</sup> *Ibid.*

<sup>93</sup> Why traditional knowledge is important in drug discovery, *available at*: <https://www.futurescience.com/doi/pdfplus/10.4155/fmc.10.210>. (last visited on September 21, 2017).

inflammation in ancient Greece and Rome. In the end of the 19<sup>th</sup> century, this use of willow bark extract came to be called as aspirin, the synthetically produced mass-consumption pharmaceutical product.<sup>94</sup>

TK has gained more importance due to the increase in the losses of biodiversity, habitats, and native language. It is estimated that one language goes extinct every 3.5 months and that 3134 of the 6901 known living languages are endangered.<sup>95</sup> This chapter discusses about the State Sikkim and the Lepcha and Bhutia communities and their traditional knowledge.

### 2.3. Sikkim

Sikkim is a small state in northeast India, which can be reached through West Bengal. It shares its borders with Tibet Autonomous Region of China in the north and northeast, Bhutan in the southeast, Nepal in the west, and West Bengal in the south.<sup>96</sup> The capital of Sikkim is Gangtok, which lies in the southeastern part of the state. Sikkim is located between 27° 04' 46" and 28° 07' 48" North latitudes and between 88° 00' 58" and 88° 55' 25" East longitudes.<sup>97</sup> The total area of Sikkim is 2,818 square miles or 7,096 square kilometers.<sup>98</sup>

It is said that Sikkim derived its name from the Tsong word, "Sukhim" which means 'new home' or 'happy home'.<sup>99</sup> Another fact regarding the name of Sikkim is that Sikkim is the corrupt word of "Shing-khyim" which in the Sikkimese Bhutia (Ihopo) or lho-khay language means 'wooden-house' as all the Lhopo dwellings were made up of stone and wood.<sup>100</sup> Some scholars are of the view that Sikkim is the corrupt of the

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<sup>94</sup> *Ibid.*

<sup>95</sup> Benjamin T. Wilder, Carolyn O'Meara, *et al.*, "The Importance of Indigenous Knowledge Curbing the Loss of Language and Biodiversity" 66 (6) *BIOSCIENCE* 499 (2016).

<sup>96</sup> Sikkim, *available at*: <https://www.britannica.com/place/Sikkim> (Last visited on July 29, 2017).

<sup>97</sup> A.C. Sinha, *Sikkim: Feudal and Democratic* 28 (Indus Publishing Company, New Delhi, 2008).

<sup>98</sup> Suresh Kumar Gurung, *Sikkim: Ethnicity and Political Dynamics a Triadic Perspective* 29 (Kunal Books, Delhi, 1<sup>st</sup> edn., 2011).

<sup>99</sup> H.C. Sadangi, *Emergent North-East: A Way Forward* 259 (ISHA Book, Delhi, 2008) *available at* [https://books.google.co.in/books?id=uLFE8HGwdIMC&pg=PA262&lpg=PA262&dq=Naong,+Chang+and+the+Mon.&source=bl&ots=OLjSVV8MAP&sig=nw6MyzZ\\_V2In-y4XWXz0pC\\_UeAE&hl=en&sa=X&ved=2ahUKEwIU8\\_aZsYvfAhWIsY8KHQcCDmgQ6AEwDXoECAoQAQ#v=onepage&q=Naong%2C%20Chang%20and%20the%20Mon.&f=false](https://books.google.co.in/books?id=uLFE8HGwdIMC&pg=PA262&lpg=PA262&dq=Naong,+Chang+and+the+Mon.&source=bl&ots=OLjSVV8MAP&sig=nw6MyzZ_V2In-y4XWXz0pC_UeAE&hl=en&sa=X&ved=2ahUKEwIU8_aZsYvfAhWIsY8KHQcCDmgQ6AEwDXoECAoQAQ#v=onepage&q=Naong%2C%20Chang%20and%20the%20Mon.&f=false) (Visited on October 1, 2017).

<sup>100</sup> History of Sikkim, *available at* <http://www.siblac.org/history.html> (Visited on October 3, 2017).

word “Che-khyim” which means ‘stone masonry’ but most scholars from the western part of Sikkim stated that it was “Srid-khyim” for political power house which signified the magnificent Rabdentse Palace, the second capital of Sikkim.<sup>101</sup> Chogyal Thutob Namgyal and Maharani Yehse Dolma had stated that the Lhopos, the Renjongmus and the Tsongs are the three communities which are the oldest inhabitants of Sikkim.<sup>102</sup>

#### **2.4. The Bhutia Community of Sikkim (Lhopo)**

The word Bhutia has been derived from the Nepalese language called ‘Bhotay’ which means the people of the Bhot, Tibet.<sup>103</sup> It is sometimes spelt and pronounced as Bhotia and is said to be derived from their original habitat “Bhot”, Tibet.<sup>104</sup> The term ‘Bhutia’ is, however, misleading as it can refer to any Buddhist highlander of Tibetan origin living in the Himalayas.<sup>105</sup> It is confusing as well because it is used for an ethnic group of Sikkim and Darjeeling, as well as for the inhabitants of Bhutan.<sup>106</sup> The Bhutias were classified into four classes, the Sikkimese Bhutias or Denzongpas, a mixed race of Tibetans and Lepchas, being the descendants of Tibetans who settled in Sikkim a few centuries ago and intermarried with Lepchas; Sherpa Bhutias, who came from east of Nepal; the Drukpa Bhutias, the descendants of the Bhutanese who were settled on the land at the time of annexation and the Tibetan Bhutias who had immigrated from the table land of Tibet.<sup>107</sup> According to the Constitution (Sikkim) Scheduled Tribes Order, 1978, the Bhutia have been granted Scheduled Tribe status along with Lepcha.<sup>108</sup> Other communities, i.e., Chumbipa, Dophapa, Dukpa, Kagatey, Sherpa, Tibetan, Tromopa and Yolmo are also included in Scheduled Tribe along with the Bhutia of Sikkim.<sup>109</sup>

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<sup>101</sup> *Ibid.*

<sup>102</sup> J.R. Subba, *History, Culture and Customs of Sikkim*, 251 (Gyan Publishing House, New Delhi, 2<sup>nd</sup> edn., 2011).

<sup>103</sup> Zigme Wangchuk Bhutia & P.K. Mishra, “Bhutia Tribe in Sikkim: A Sociological Study” 3(11) *International Journal of Innovative Research and Development* 322 (2014).

<sup>104</sup> *Supra* note 102 at 267.

<sup>105</sup> Kangchendzonga: Secular and Buddhist perceptions of the mountain deity of Sikkim among the Lhopos, *available at*:

[http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2002\\_02\\_01.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2002_02_01.pdf). (last visited on October 13, 2017).

<sup>106</sup> Origin of Bhutia in Sikkim, *available at*:

[http://shodhganga.inflibnet.ac.in/bitstream/10603/137522/8/08\\_chapter\\_02.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/137522/8/08_chapter_02.pdf). (last visited on October 23, 2017).

<sup>107</sup> WEST BENGAL BHUTIA DEVELOPMENT BOARD, *available at*:

<http://wbdb.org/AboutUs.html>. (last visited on October 19, 2017).

<sup>108</sup> The Constitution (Sikkim) Scheduled Tribes Order, 1978.

<sup>109</sup> *Ibid.*



But it shall not be misinterpreted that these tribal communities also fall under Bhutias of Sikkim. They are Tribes of Sikkim along with the Bhutia and Lepcha of Sikkim but are not Bhutias of Sikkim. There are some orders which give a clear-cut view that these Tribal communities are not Bhutias. One of such order is Revenue Order Number 1. Just like the Lepcha, the term ‘Bhutia’ or ‘Bhotay’ is a derogatory term which the Nepalese used to designate all northern beef-eating and alcohol-drinking Buddhists.<sup>110</sup> To avoid such confusion, the Sikkimese Bhutia hereafter will be referred to as the “Lhopo”.

Saul Mullard in his book, “Opening the Hidden Land: State Formation and the Construction of Sikkimese History”, has argued that there is a very little evidence with regards to the precise origins of the Lhopo people. What he has conveyed is that the Lhopos migrated to Sikkim from many different locations both within Tibet and along the Himalayan ranges at different period of time and continued well into the 20<sup>th</sup> century (Tibetan refugees are to be excluded who migrated after the Chinese occupied Tibet and there was substantial movement of Tibetans during 1920s and they settled in regions which were close to the Sikkim-Bhutan border).<sup>111</sup> There are various clans in Sikkim whose ancestry can be traced or they claim to be from the Ha and Spa gro regions of Bhutan. Some clans are associated with noble families or petty rulers of the Sa skya-Yuan period of Tibetan history. Other such claims are also there which is or may be regarded as believable but cannot be wholly accurate.<sup>112</sup> This makes it very hard to locate the particular region from where the Lhopo as a collective ethnicity migrated to the present-day Sikkim and how the TK as a whole became the same. When people migrate from different regions, they bring with them their own TK, languages, etc. and the Lhopos are regarded to migrate from different regions which make it evident that they should be having different TK, languages, etc.

According to Namgyal and Dolma, the unpublished manuscript, “the Bhutias are considered to have been descended from the eight clans known as Beb-Tsan-Gyat of the great ancestor of Khe-Bumsa”.<sup>113</sup> There has been another interpretation as well by

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<sup>110</sup> Saul Mullard, *Opening the Hidden Land: State Formation and the construction of Sikkimese History* 21 (Rachna Books & Publications, Gangtok, 2011).

<sup>111</sup> *Id.* at 37.

<sup>112</sup> *Ibid.*

<sup>113</sup> *Supra* note 104.

others which stated that the Bhutias descended from the three sons of Khe-Bumsa and multiplied.<sup>114</sup> The later tradition was of the view that the Beb-Tsan-gyal, and the Tongdu- ruzhis (the four regiments of 1000 each), were the descendants from Trag-tsan-dar sons of Khe-Bumsa. Of these two, the four tribes or regiments belonging to Tongdus are:

- i) Shandarpa
- ii) Tse-chu-dar
- iii) Guru Tashi
- iv) Nyimagyalpo

Apart from these is the Lingserpa, the descendants of these who were called the Beb-Tsan-Gyat (8 clans), these clans got separated afar. They are:

- i) Bonpas
- ii) Gonsarpas or Gantagputsas
- iii) Namtsangkors
- iv) Tagchungdars
- v) Karsorpas
- vi) Gyonto-pas
- vii) Tsungyapas
- viii) Topas or Dokhangpas

These above mentioned 12 clans are said to be Nyorpog-phutsos and are regarded as the pure Bhutias are Lhopos. They are eligible to enter the Pemayangtse monastery as priests. Furthermore, there is sub-division of Bonpas into five classes, they are:

- i) Bonpo – Nagding
- ii) Lhasung
- iii) Wo-cha-Bonpos
- iv) Nabons

Again, the Gonsarpas descended to Bonchungs. All these taken together constituted the original Bhutia clans, they are believed to settle in Sikkim prior to the time of Chogyal

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<sup>114</sup> *Ibid.*

Phuntsog Namgyal in 1642. After the formation of Sikkim as a kingdom, other Bhutia tribes and settlers from Paro and Hah district in Bhutan began to travel Sikkim and started to settled in different parts of Sikkim. These clans were ranked amongst the Bhutia tribes of Sikkim but were not regarded as of the same rank to the former ones.

Other Tribes and sub-tribes of Bhutias of Sikkim are:

- i) Butsawopa
- ii) Lagdingpas or Gorongpas
- iii) Botpas
- iv) Gyengap
- v) Gorongpas
- vi) Topas
- vii) Sharpas
- viii) Barphung-putsos
- ix) Adenputsos

These again include the Topas or Tromowas, who are further sub-divided into:

- i) To-Lhagopa
- ii) To-Jamyangpa
- iii) To-Chu-Khapas
- iv) Chumbipas

Topas of Tromo are furthermore subdivided into:

- i) Lhambodar
- ii) Genynputso
- iii) Agon
- iv) Athub-putsos
- v) Dozho-pa
- vi) Khyim-pharpa

The Lapon Lhundrub tribes of Sikkim are the Lachungpas and Lachenpas who had settled in Lachung and Lachen part of Sikkim. They originally belonged to Tibet and from there went to Hah Chu valley of Bhutan and then came to Sikkim.

Other lower and minor clans of Bhutias of Sikkim are:

- i) Assampa from Assam in the Mochu Valley
- ii) Mang-baypas
- iii) Nam-mangpas
- iv) Shagtsangpas
- v) Dorobpas
- vi) Gang-gyabpas
- vii) Ahpas
- viii) Mang-tsangpas
- ix) Pathingpas
- x) Boripa
- xi) Kargyalpas
- xii) Dotrapas

The term ‘Bhutia’ is very confusing and misleading. The Sikkimese Bhutias are said to have migrated from Tibet since 13<sup>th</sup> century onwards and are the “Lhopo” or “Lhopa”<sup>115</sup> and established the kingdom in the 17<sup>th</sup> century.<sup>116</sup> George van Driem, a linguist, have argued that the linguistic similarities between the old Tibetan, Lhokey and Dzongkha is evident that the migration of Lhopo and Drukpa to their respective places must have occurred at similar point during the 9<sup>th</sup> century.<sup>117</sup> Lhopo means the dweller of the southward and one of the earliest inhabitants of “The Greater Sikkim”.<sup>118</sup> Since they are Lhopos, and this term is refer to address them and this term makes it more specific and is not misleading. What makes it misleading is the Bhutias are known by their place of habitations such as the Drukpas are people from Drukul, Bhutan; the Chumbipas, people from the Chumbi valley; the Dhophthapas, inhabitants of Dhophtha, a place in South Tibet; the Tromopas or Do-mu-pas, inhabitants of Do-mu; are all

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<sup>115</sup> *Supra* note 104.

<sup>116</sup> *Supra* note 96.

<sup>117</sup> *Supra* note 110 at 77.

<sup>118</sup> *Supra* note 104.

Bhutias.<sup>119</sup> After coming and settling in Sikkim, the Lhopos have developed their own set of distinct culture and social patterns, their own set of Traditional Knowledge in accordance to the land, which are different from their Tibetan counterparts. They even have their own language, “Denjongke lho kay” which they speak among themselves. It is one of the oldest languages spoken in the ancient times by “Bhompu” or the “Bon” people and is different from the official Tibetan language.<sup>120</sup>

The religion that the lhopos follow is Buddhism and earlier, it had been made compulsory to send one male member from every lhopo family to join the monastery and become a monk.<sup>121</sup>

#### **2.4.1. Traditional Knowledge of the Lhopo Community**

Most of the Traditional Knowledge of the people living in the Himalayan regions are quite similar. In accordance to the components of TK, it can be divided as:

##### **2.4.1.1. Cultural Knowledge**

Without Culture, the subject matter of TK is incomplete. And it comprises of food, music, dance, language, attire, jewellery, festivals, customs, rituals, and such.

##### **2.4.1.1.a. Traditional Food**

Most of the Lhopos are farmers and their food habits highly depend on the crops and vegetables that they sow and plant along with the animals they raise. Rice is their staple food. Wheat, rice, maize and millet are highly used for the production of the traditional food and beverages. From beef, pork, and yak meat, traditional foods are also prepared by them. The Lhopos in the earlier days used to use animal fats especially of pig and yak instead of refined or mustard oil in cooking.<sup>122</sup> They used to store the fat of the pig

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<sup>119</sup> *Ibid.*

<sup>120</sup> *Supra* note 102 at 273.

<sup>121</sup> Yishey Doma, *The Splendour of Sikkim: Cultures and Traditions of the Ethnic Communities of Sikkim*, 15 (Cultural Affairs and Heritage Department Govt. of Sikkim, Sikkim, 1<sup>st</sup> edn. 2017).

<sup>122</sup> Information gathered while conducting interview with Mr. Tempo Rapgay Bhutia, at Samlik, East Sikkim on November 18, 2019 at 11:45 a.m.

after boiling it in the skin of animal (in the northern part of Sikkim, the Lachungpas and Lachenpas have their own traditional way of storing the yak fats in the skin of yak by the process called “Chi-llu”). Pig and yak fats were the ones used in cooking and preparing some traditional foods in the earlier days by the Lhopos. The elder lhopo generation claimed that the animal fats did not make them sick and made them strong.

- i) **Chya-dung byasu:** One of the most popular food of the Bhutias of Sikkim is ‘Chya-dung byasu’ which is made out of maize. The maizes are beaten to flakes and shaped as cup. The process of making this traditional food is very time consuming and tiresome. It was made in almost all the houses of Lhopos of Sikkim but these days only very few people are into the making of this food. It has been identified by the Patent Information Centre, SSCS&T, Sikkim, that this traditional food has the potential to be granted the protection of Geographical Indication.<sup>123</sup>
  
- ii) **Zheroe:** ‘Zheroe’ is another traditional food which the Lhopos prepare before their main festival ‘lossong’ for offering it to the God and for self-consumption as well, even in marriage ceremony and other festivals it is prepared. It is made out of fermented rice (soaked for overnight or 4-8 hours in cold water) which is pounded into fine powder in a big wooden mortar and pestle which is called chum and chum-phew, (these days the mortar and pestle are also made of iron).<sup>124</sup> After this the larger particles of pounded rice flour are separated with the help of clothes through which the fine particles of rice flour can pass through. Then the rice flour is mixed by hands with water (these days some adds sugar or salt for taste). The batter is left to ferment naturally for 2 to 4 hours and then the fermented batter is put inside the kuja in which small holes are made through which the fermented batter can pass through and is poured on the frying pan in which edible oil had been heated. The process of

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<sup>123</sup> World Intellectual Property (IP) Day celebration at Vigyan Bhawan, *available at:* <http://dstsikkim.gov.in/newsletter/IPR%20Newsletter.pdf> (last visited on January 8, 2020).

<sup>124</sup> Information gathered while conducting interview with Mrs. Choden Bhutia, Samlik, East Sikkim on November 25, 2019 at 1:34 p.m.

pouring of the fermented batter takes place in round motion and is left to fry till it is cooked well. After it is fried well, it is taken out of the hot oil with the help of a slim bamboo stick draining the oil out of it. At one time in a frying pan, only one zheroe can be made. Zheroe is often round in shape probably, crispy, and deep fried (earlier it was fried in animal fat but now in cooking oil).<sup>125</sup>

- iii) **Phi:** Another important and significant traditional food is the ‘Phi’ which is often made out of wheat or rice (the Tibetans refer to it as Tsampa and is usually made from barley). The Phi made from rice is called ‘bhya-phi’ and the phi made from wheat or barley is called ‘naa-phi’.<sup>126</sup> It is mostly consumed by the people of the Himalayan regions and has name in accordance to their language. The process to make bhya-phi and naa-phi is bit different and is quite complicated. In the process of making of the bhya-phi, the rice is poured in the boiling water and is stirred with a shang-khya (made from bamboo) till the rice are soaked well in water. After this the rice is separated from the water and is roasted in a big utensil until it is cooked through. Fire using bamboos are preferred to roast the rice as it is believed that the bamboo fire will not get the rice over roasted even if the flames of the fire is heavy.<sup>127</sup> Then the final part is grinding the roasted rice in the ‘rau-tha’ (it is made of stone and wood and man power is needed) or ‘chu-tha’ (it is also made of stone and wood and functions with the help of stream). The traditional process of making naa-phi involves the pounding of the barleys or the wheats till the covers of the wheats or barleys are separated. Then it is winnowed on woven tray made of bamboo for the purpose of separating the pounded cover of barley and wheat. Just like in the process of making bhya-phii, it is now roasted in big utensils till it is well cooked and then it is grinded by rau-tha or chu-tha. Phi is in

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<sup>125</sup> *Ibid.*

<sup>126</sup> Information gathered while conducting interview with Mr. Rinzing Bhutia, Samlik, East Sikkim on November 12, 2019 at 3:56 p.m.

<sup>127</sup> *Supra* Note 124.

the form of flour. These days as per the sources<sup>128</sup>, the Phi of Lachung is quite in demand in Sikkim as they are processed in the traditional way rather than that of grinding on the machine. In Lachung, there are still 7-9 chu-tha which is used to prepare Phi and the Phi which are prepared with the use of chu-tha is highly on demand. Rau-tha are found in houses of some lhapos, as well the Lepchas and the Nepalese in Sikkim.

- iv) **Khu-ree:** Khu-ree is the food of both the Renjongmu and Lhopo. It is made from Millet or Buck wheat flour and leafy vegetables. Millet or Buck wheat is dried in the sun for few days and then smashed to remove the husk, after it is grinded to make its powder. Then the flour is mixed with a small quantity of wheat flour for consistency, in a bamboo container and mixed with water and stirred to make a slightly thick, consistent mixture. Earlier they heated a flat stone on the fire and cooked on it. Utensils like pan or flat lids were used to make the same. When the pan is properly heated, a thin layer of mixed flour gently placed over it creating a round shape bread. After the bread is prepared vegetables that are locally found are cooked along with the crushed shiso seeds. After the vegetable is cooked it is wrapped in the khu and thus khu-ree is prepared.<sup>129</sup>
- v) **Souja:** Souja is the traditional tea of the Lhopo, Tibetan and Drukpa. Most Lhopo households used to cultivate the tea plant for the preparation. One to three plants of tea leaves are said to be enough for a house for a year.<sup>130</sup> Around the month of July-August, tea leaves are plucked and cut into smaller ones. Water is mixed with ashes from the wood burnt in the chula. And then this mixed ash water is mixed with the cut tea leaves and put inside an air tight tin container for a period of 8 to 10 days.<sup>131</sup> Thus, Chaa-ree (tea leaves) is prepared. Chaa-ree are boiled in water. It is then poured in the Chaa-dung (wooden churner)

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<sup>128</sup> Information gathered while conducting interview of Mr. Tempo Wangdi Lachungpa, Lachung, North Sikkim on December 9, 2019 at 6:45 p.m.

<sup>129</sup> Information gathered while conducting interview with Mrs. Bafling Bhutia, Badong, East Sikkim on January 7, 2020 at 11:09 a.m.

<sup>130</sup> *Supra* note 122.

<sup>131</sup> *Ibid.*



along with butter and salt. With the help of sub-da (wooden stick with a round wooden attached on the bottom), all the ingredients of Chay-ree is mixed and then prepared. After this process, Chaa-ree is separated with the help of traditional utensil made of bamboo called Chaa-cha (tea strainer) which prepares the Souja.<sup>132</sup> The reason for the use of ash is of medicinal value. Most of the Lhopos are non-vegetarians and consume meat in every meal which might cause parasitic worms. The ash in the tea helps to get rid of parasitic worms. Souja is also prepared with the use of milk and ashes are not used these days.

- vi) **Baa-dong (Fermented Bamboo Shoot):** Most of the Asian countries like China, Thailand, India (North East), Nepal, Bhutan, Malaysia, Korea, Indonesia, Japan etc. consume Bamboo Shoots and is included in their traditional food.<sup>133</sup> In India, Sikkim, Mizoram and Meghalaya annually harvest Bamboos and there are different varieties of bamboos available. In Sikkim, all the three communities, Bhutia, Lepcha and Nepali use Bamboo shoots in their traditional diet and is an age-old traditional practice which continues till date. The Lhopo community make a dish called ‘Raw-que’ from the Bamboo shoots. To prepare this dish, the Bamboo shoots are boiled and then cut into small pieces. After this, the small pieces of bamboo shoots are put inside pipe (bamboo container) in a very tight manner and the top is cover with fig tree’s leaf which is tied with a bamboo rope or algari rope (some even use the banana leaf to cover the top and for this the banana leaf is heated a bit and then used). Now, the bamboo container is placed on one of the corners of the chula (the reason for keeping it on the chula is the bamboo container will get heat and the small bamboo shoots inside it will get matured). It is kept for a period of one week or more.<sup>134</sup> After this period,

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<sup>132</sup> Information gathered while conducting interview with Mrs. Figo Bhutia, Ranipool, East Sikkim on December 2, 2019 at 10:35 a.m.

<sup>133</sup> Debangana Choudhury, Jatindra K Sahu, *et.al.*, “Bamboo shoot: Microbiology, Biochemistry and Technology of fermentation – a review” 11 (2) *Indian Journal of Traditional Knowledge* 242 (2012).

<sup>134</sup> Information collected while conducting interview with Mrs. Karma Doma Bhutia, Bushuk, East Sikkim, on October 12, 2019 at 12:45 p.m.

the bamboo shoots become mature and can be used in making pickle, soup, dishes, etc. The taste of the Raw-que is sour.

- vii) **Barbi-doo:** The plant of Barbi-doo is found in the forest cliffs at Sikkim. It is similar to that of Baa-dong (bamboo shoots). The tip of the plant is cut and then peeled off. Then the inside part is boiled. Thus Barbi-doo is prepared. Various dishes of Barbi-doo are made by adding butter, churpi, chilly, etc.
- viii) **Khu (roti):** Khu is made from wheat atta. It is round in shape which is made by pressing with both the palms. Then it is placed in between the banana leaves (some do not use banana leaves) and put it inside the chula on the hot ashes. After this some hot ashes are placed on top of it along with red hot coals and covering it.<sup>135</sup> Thus, Khu is cooked which is somewhat similar to that of Tandoori roti.

These are few traditional foods of the Lhopo and there are many more which is prepared from dairy products, meat, vegetables, maize, rice, phi, etc. like saiyoo, byasu, philuk, men-chya khu or men-chya khulep, men-chya th-em, fheu-khu or fheu-khulep, nathu, kin-chow chum, khab-jay, ma-khu, gya-ri, gew-ma, phi-luk, chang, soch-ya, etc.

#### 2.4.1.1.b. Traditional Music and Dance

The Lhopos are nature loving people and their folk songs and dances are based mostly with regards to Sikkim, her landscape, animals, plants, etc. They have a rich folk culture. Folk dances and songs are an ingrained part of their culture. Most signifies the harvest season, and even performed for prosperity.

- i) **Folk Song:** There are two types of folk songs of Lhopo community:
  - a) **Zhung-lhu folk song:** It is sung by group of people (both men and women) when the folk dance Zhung-shey folk dance is being performed. This folk song

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<sup>135</sup> Information collected while conducting interview with Mr. Nima Bhutia, Chandmari, East Sikkim on April 13, 2019 at 1:12 p.m.

is sung during wedding ceremony, house warming ceremony and Lossong festival.

**b) Tey-Lhu folk song:** This folk song is sung during Tey-Lhu folk dance by one or more person in line up manner. The song's lyrics are normally like Kowali of hindi or Dohori of Nepali which praises the honour.<sup>136</sup>

**ii) Folk Dance:** The folkdances are based in accordance to the folk songs of the Lhapos. Basically, it can be divided into two types, namely:

**a) Zhung-Shey Cham:** This folk dance is performed in circular manner while singing the Zhung-Lhu folk song. It is performed in the tune of the song. It is performed during festival like lossong, Khyimsa Tashi (house warming ceremony), Ngen-Chhan Thung (wedding ceremony).

**b) Tey-Zhey Cham:** This folk dance is performed by one or more persons who are in a lined-up manner, sometimes moving forward and backward with regard to the tune of the Tey-Lhu folk song.<sup>137</sup>

Many types of songs and dances can be performed with regards to these two types dance and song forms in all occasions. One such example of the Zhung-Lhu folk song and the Zhung-Shey folk dance can be taken as the song, 'Zigmo Zeepa Jhoen' which means to greet animals and witness their merrymaking. In this folk song, the folk dance is performed with rhythmic foot tapping matching the tune of the song and the music of the dranyen, gymang, piwang, lingboo (flute), cymbals, and drums. The dancers first greet the sun, and then with the formation of the circle greet the snow lion of the mighty mountain, the vulture, the king of the birds, the ten-horned stag of the flat land, the striped tiger of the jungle, the golden fish of the sacred lake, the singing birds of the pleasant grove and the sturdy horses of the tamed stables.<sup>138</sup> Songs, music and dance have always been an integral part of every community. Whether in sadness, happiness, pain, etc., one sings songs.

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<sup>136</sup> *Supra* note 102 at 272.

<sup>137</sup> *Ibid.*

<sup>138</sup> *Supra* note 121 at 26.

#### 2.4.1.1.c. Language

The language of the Lhopos is called ‘Lhokey’.<sup>139</sup> The Lhopos are also called Denzongpas and the language spoken by them is also known by ‘Denzongpe Ke’ or ‘Denzong Ke’.<sup>140</sup> The language of the Lhopo is spoken among themselves and is one of the oldest languages which was spoken by Bhomphu or the Bon people (the Lhopos were also the followers of Bon religion, later they accepted Buddhism) during the ancient times.<sup>141</sup> Lhokey language is different from the Tibetan language but is similar to the Dzongkha language (the official language of Bhutan) and the Tibetan language. During the time of Namgyal Dynasty, this language was only in spoken dialect. It did not have alphabets. All the holy texts which were recited by the monks were in Tibetan language and due to the influence of it, the Tibetan language was used as official language for all literary, cultural and educational purposes. No efforts were made during the period of the Namgyal Dynasty to invent a script of this language, if such step had been taken then this ancient language would have developed into an advanced language by now and could have had its own identity. This language along with the Lepcha and Nepali languages was made as the official languages of Sikkim with the passing of the Sikkim Language Act, 1977.<sup>142</sup> Earlier in Sikkim, Tibetan language was taught in schools but with the invention of the script of the Lhokey language (textbooks are prepared by the Government of Sikkim since 1977 onwards), the Lhopos could read, write and understand their own language. The need was felt for the invention of script as this language could not be used widely and applied in relevant fields like education, cultures and traditions. The goal of teaching the language in schools was not to make the students speak their mother tongue (as most from the villages do speak their language) but a medium through which cultural heritage can be transmitted through the mother tongue.<sup>143</sup> Lhokey is only taught in government schools and not in private schools which are considered to be prestigious and better education provider. The parents work hard to send their kids to private schools which are mostly located in town

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<sup>139</sup>*Id.* at 15.

<sup>140</sup> The Sikkimese Bhutia, *available at*: [http://www.thlib.org/static/reprints/bot/bot\\_1995\\_01\\_25.pdf](http://www.thlib.org/static/reprints/bot/bot_1995_01_25.pdf) (last visited on December 15, 2019).

<sup>141</sup> *Supra* note 102 at 273.

<sup>142</sup> Results from the Linguistic Survey of Sikkim: Mother Tongues in Education, *available at*: [http://digitalhimalaya.com/projectteam/turin/downloads/Sikkim\\_Tibetology.pdf](http://digitalhimalaya.com/projectteam/turin/downloads/Sikkim_Tibetology.pdf) (last visited on December 17, 2019).

<sup>143</sup> The Life of a Semi-Urban Lhopo/Sikkimese Bhutia Family, *available at*: <https://shsfinland.files.wordpress.com/2018/11/yliniemi1.pdf> (last visited on December 18, 2019).

areas (outside Lhokey speaking community) and these kids gradually lose their contact with language for extended period of time.<sup>144</sup> The Lhokey language is said to be on the verge of extinction as of 2006, there were only 7% of Sikkimese students from class 8 to class 12 who could speak the language.<sup>145</sup> If a person does not grow up speaking the Lhokey language then there is no publicly available source from where one can learn the language. Strong initiatives have to be taken to prevent the language from extinction, as extinction of language means loss of an entire culture which will lead to loss of diversity and identity.<sup>146</sup> With the establishment of Sikkim University in Sikkim, the language is taught at university level and for those capable of doing Ph.D. can also pursue it.

#### **2.4.1.1.d. Traditional Attire**

The clothes that each community wear manifests their identity. Both the attire of male and female of the Lhopo community is called ‘Kho’ (corrupt word is bhakhu), the kho which is worn by the male is the ‘Po-Kho’ where as the one wore by female is called ‘Mo-Kho’’. The attire of the Lhopo male consist of Kho, kera, gyador, yonthatse, jya jya and lham. The Kho is a neck to feet long dress with long-sleeves (longer than the hands). The length is adjusted just few inches above the feet with the help of kera (long piece of cloth like belt) which is tied in the waist above the dress. Gyador is a pair of loose trouser which is wore inside the kho. Inside the Kho, a Lhopo male wears yonthatse on the upper body which is a double breasted and high-necked just like a shirt. And above the Kho, on the upper body the Lhopo male wears jya jya, which does not have sleeves and acts like a coat. The shoes are called lham which resembles boots.<sup>147</sup>

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<sup>144</sup> *Ibid.*

<sup>145</sup> The Bhutia Dictionary: Preventing Himalayan Language Extinction, *available at*: <https://www.davisprojectsforpeace.org/media/view/7359> (last visited on January 2, 2020).

<sup>146</sup> *Ibid.*

<sup>147</sup> Information gathered while conducting interview with Mr. Kunzang Bhutia, Tashiding, East Sikkim on January 19, 2020 at 10:23 a.m.

The attire of the Lhopo female consists of kho, hanju, kera, kushen, shambo, kyamthue, and shabcha.<sup>148</sup> On the upper body inside the kho which is sleeveless, the female wears hanju and on the waist to adjust the kho, just like the male, kera is tied (but these days there has been a change in the attire and the kera is attached on the kho in the waist area). Kushen is like a coat which is wore from outside the kho. Shambo is the cap which the female wears in head which is made out of wool. The female usually prefers long hair and use kyamthue which is hair ribbon to make the hair look long and pretty. The shoes of the female are called shabcha. The married female wears pangden around her waist above the kho which is like a striped apron. The quality of the clothes used to make the attires range from simple cotton to Chinese brocade and silk, it totally depends on the economic status of the person as there are costlier Chinese brocade and silk.<sup>149</sup>

#### **2.4.1.1.e. Traditional Jewellery**

When it comes to jewellery, women are the ones who are mostly interested and have varieties of it. Most of the ornaments are similar to that of other communities belonging to the Himalayan region.

The Lhopo male simply wears zuku which is finger rings made of gold with zee studded in it. In the ears, ‘along’ are worn which are ear rings (these days along are really worn).

The traditional ornaments of the Lhopo female are ‘Yencho’ (earring) which they wear in the ears.<sup>150</sup> On the neck, ‘Khao’ is worn which is a long necklace made from gold, white pearls, zee, phiru and gems, the main part of Khao is made of gold and gems are studded on it. It is mostly worn during wedding ceremony by the females and the size of the Khao resembles the economic status of the family (the bigger the Khao, the richer the family). Along with Khao, chyap-chyap is worn as a broach.<sup>151</sup> ‘Dhok-chem’ was worn as necklace (some still have it which belong to their ancestors and some prefer it

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<sup>148</sup> Information gathered while conducting interview with Miss Yangchen Bhutia, Shyagyong, Rumtek, East Sikkim on December 27, 2019 at 11:23 a.m.

<sup>149</sup> Some aspect of Bhutia Culture in Sikkim, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_1995\\_01\\_18.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_1995_01_18.pdf) (last visited on December 22, 2019).

<sup>150</sup> Ornaments, *available at*: <http://sikkimtourism.gov.in/Webforms/General/SikkimAtAGlance/Ornaments.aspx> (last visited on December 22, 2019).

<sup>151</sup> *Supra* note 149.

in place of Khao) which is not as long as the Khao and is made of either gold or silver (rectangular in shape with some gems on it), white pearls, some phiru and zee. The bangles are made mostly of gold and are called 'Diu'. The ring wore are called 'Joko' and is made of gold. Most of the ornaments are made out of gold. Zee and phiru are sacred stones to the Lhopos and are mostly used in ornaments. Gold was cheap during the old days, the price of one big pig could buy 11.6638038 grams of 24 carat gold, even the hair pins and clips were made out of gold (during that time there was nothing fancy to buy and the living expense was also less).<sup>152</sup>

#### **2.4.1.1.f. Design & Structure of the House**

It is really difficult to find the traditional structure of the house of the Lhopos these days. Since the availability of the iron rod, cement, stone-chips and other building materials, there has been a drastic change in the housing patterns of the Lhopos. The Lhopos call their house as 'Khim'. Traditionally, the Lhopo house is similar to that of the Renjongmu. The most common house is the 'Singkhim' or 'Tshe-khim', meaning the house made of wood. The house consists of two storied and is rectangular in shape. For the foundation of the house, big stones are used and are shaped with the help of hammer. The stones are used as bricks and the mud is used between the stones to hold them together. For the support, big tree trunks were used as poles (the whole tree is used as support without cutting it). The Lhopos are agriculturalist and pastoralist, to keep their domestic animals mainly cattle the ground floor of the house is partially enclosed. The floor of the house is made of wood, even the windows, doors and furniture are made of wood. The roof of the house varied from time to time. Earlier, the roofs were made of straw, (the house used to be very cool and even when it rained there was no sound of rainfall on the roof), even bamboo was used (bamboo is split from the middle and then cut in appropriate size which were aligned in a way that rainfall do not get leaked, the bamboos due to sunlight and rainfall after a year or so need replacement), and the wood as well (the same process as that of bamboo).<sup>153</sup> Later on, after the Britishers came to Sikkim and brought along with them corrugated tin which became a

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<sup>152</sup> Information gathered while conducting interview Mrs. Tshering Choden Bhutia, resident of Ranipool, East Sikkim on November 27, 2019 at 3:47 p.m.

<sup>153</sup> Information gathered while conducting interview with Mr. Nima Tshering Bhutia, Tashiding, West Sikkim on January 20, 2020.

very useful alternative to be used as a roof of the house. Then the trend of using corrugated iron-sheet came into practice and is still followed. Another house is the 'Dow-khim' which is built with wood and dressed stone masonry. Dow-khim usually belong to the Kazi/Yapo (Lhopo/Renjongmu landlord).

#### **2.4.1.1.g. Festivals**

Every community has their own sets of festivals and some even have common festivals. In festivals, there can be seen demonstration of costumes, dances, songs, arts, folklife, stories, handicrafts, etc. and all these may fall into the purview of IPRs. Festivals encompass variety of TK.

The Lhopo community being the follower of Buddhism have their festivals associated with Buddhist Gods, their deities and nature. These festivals are even celebrated by the Renjongmu community.

"Pang Lhab-Sol" is the native festival of Sikkim which is celebrated by the Lhopo and Renjongmu communities and is also known as "Nay-tso". It is observed every year on the 15<sup>th</sup> day of the 7<sup>th</sup> month of the Buddhist calendar. This festival even marks respect to the blood brotherhood sworn between the Lhopos and the Renjongmus of Sikkim. The main attraction of this festival is the Chaam (mask dance) which is a part of the ritualistic tradition, where the guardian deity of Sikkim is portrayed by masked Lama dancer as a fiery red-faced deity with a crown of five skulls who rides a snow lion.<sup>154</sup> This dance is performed and the chants can be accorded Copyright. During this festival, prayers and rituals are performed in almost all the Monasteries of Sikkim and masked chaams are performed at Tsuklakhang Gyempa, Rabong Gyempa, etc. The warrior chaam is also performed.

Another important festival of the Lhopo and Renjongmu is Losoong/Namsoong. It usually occurs between 25<sup>th</sup> to 29<sup>th</sup> day of the 10<sup>th</sup> month of the Buddhist Calendar.<sup>155</sup>

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<sup>154</sup> SBFP, Forest Environment and Wildlife Management Department, *Handbook on Nature Based Festivals of Sikkim* 16 (SBFP, Forest Environment and Wildlife Management Department, Gangtok, 2015).

<sup>155</sup> *Id.* at 17.



It denotes the end of the harvest season. During this time, the winter harvests are collected and the farmers have plenty of food stocks and adequate cash which they have earned from selling the cardamom (it is not the same now).<sup>156</sup> It is 9 days long festival and each day having its own importance. The time of Lossong is the only time when they have plenty of leisure time and resources to celebrate with immense passion and in cheerfully manner and even get themselves refreshed from all the hardship they have endured the whole year. The festival of Losoong is filled with traditional foods, dances, songs, chants, rituals, culture. One of the main practices of Losoong is putting Phima on each other by the family members and neighbours and offering Changkoe (rice liquor) to them. In the present time, playing with Phima practice is not bound to the family members and neighbours, whole of the enthusiasts of Lhopo and Renjongmu communities come together, participate in a rally around their respective towns and put phima on each other.

Another festival which holds the aspect of IPRs is Bhum Chu. It is the sacred water vase ritual, is held every year at Tashiding Gyempa, West Sikkim, with great religious festivity on the full moon night of the first month of the lunar day calendar which usually falls in February or early March.<sup>157</sup> It has been held by the monks of Tashiding since 1646.<sup>158</sup> In Lhokey, Bhum means ‘vase’ and Chu means ‘water’. It is kept inside the Bum chu casket which is sealed and kept inside the Tashiding Gyempa. The Bhum chu is believed to be produced by Guru Rinpoche with his bare hands from earth, water and five kinds of gems collected from across the world.<sup>159</sup> After the Bum chu was produced, he performed initiation and during this initiation, deities appeared from the sky and immersed in the Bum chu water causing the water to over flow and radiate in all directions. The water was distributed to all those who witnessed it but did not decrease at all. Guru Rinpoche concealed the Bum chu as hidden treasure which was

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<sup>156</sup> Information gathered while conducting interview with Mr. Champo Bhutia, Marchak, East Sikkim, on November 30, 2019 at 2:45 p.m.

<sup>157</sup> Bumchu: The Sacred Water Vase Ritual of Tashiding, *available at*: [http://tibetology.net/?sikkim\\_video\\_archive=bumchu-the-sacred-water-vase-ritual-of-tashiding](http://tibetology.net/?sikkim_video_archive=bumchu-the-sacred-water-vase-ritual-of-tashiding) (last visited on January 2, 2020).

<sup>158</sup> *Ibid.*

<sup>159</sup> Tashiding Bumchu, *available at*: <http://www.siblac.org/tashiding.html> (last visited on January 2, 2020).

later rediscovered by Tertön Zhigpo Lingpa in the 16<sup>th</sup> century.<sup>160</sup> It was later brought to its original place, Tashiding, by a Tibetan Lama Ngadak Sempa Chenpo Phuntsok Rinzing.

The above mentioned three festivals is solely related to Sikkim and from time immemorial have been celebrated by the two communities. Other festivals are Drukpa Tshe chi (first sermon of Lord Buddha), Guru Rinpoche's Thungkar Tshe chu (birth anniversary of Guru Padmasambhava, the patron saint of Sikkim) and Lhabab Dhuechen (this festival marks the return of Lord Buddha for the second time to Earth).

#### **2.4.1.2. Artistic Knowledge**

##### **2.4.1.2.a. Wood Carving and Painting, Mask Making, Thangka Painting and Mural Painting**

The tradition of wood carving and wood painting, mask making and Thangka painting date back to 7<sup>th</sup> century.<sup>161</sup> Wood carving has its origin to Tibet and the Thangka painting in Nepal.<sup>162</sup> The art of carving and painting is totally related to Buddhism. With the acceptance of Buddhism by the Lhopos, the art of carving and painting were practiced by the Lhopos as well as by the Renjongmus. The Thangka paintings usually depicts a deity, a religious concept, or a spiritually significant event. It can even be considered as the culmination of Buddhist art. It is even worshipped as well as use as an aid of meditation.<sup>163</sup>

The woods are carved into religious symbols and the most common symbol that is carved is the 'Tashi Targye' (the eight auspiciously lucky sign in Buddhism) and it has enormous spiritual significance.<sup>164</sup> Even mountains, flowers, clouds, animals, other

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<sup>160</sup> Origin of the Bumchu of Dakkar Tashiding, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_1992\\_03\\_03.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_1992_03_03.pdf) (last visited on January 3, 2020).

<sup>161</sup> Buddhist Art in Sikkim, *available at*: <https://artsandculture.google.com/exhibit/buddhist-art-in-sikkim-dastkari-haat-samiti/EQIyKf4J9R7vJA?hl=en> (last visited on January 7, 2020).

<sup>162</sup> *Id.*

<sup>163</sup> About Buddhist Painting, *available at*: <http://livingbuddhistart.com/about-painting.php> (last visited on January 7, 2020).

<sup>164</sup> Information gathered while conducting interview with Mr. Dorjee Bhutia (Lharipa), Chandmari, East Sikkim on January 12, 2020 at 4:23 p.m.

elements of nature, religious symbols, etc are carved on woods and painted. This traditional practice of wood carving and wood painting, mask making, Thangka painting and Mural painting are practiced in mostly the Himalayan belt in Tibet, Nepal, Bhutan, Arunachal Pradesh, Sikkim West Bengal, Himachal Pradesh, etc.<sup>165</sup>

In Sikkim, these arts are taught in Directorate of Handlooms and Handicrafts run by Government of Sikkim and was established by Chogyal Palden Thondup Namgyal. These traditional arts will be discussed later in detail in chapter 4. These tradition arts belong to the whole of the Himalayan region. Different tribes who are Buddhist practice these traditional arts.

### **2.4.1.3. Medicinal Knowledge**

#### **2.4.1.3.a. Traditional Healers and Medicinal System**

The WHO has defined Traditional healing as “the health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being.”<sup>166</sup> The practice of traditional medicinal system has been witnessed since the time humans came into existence. And it varies from place to place (as the place so the traditional medicinal system). Sikkim has three ethnic communities, “Bhutia (Ihopo), Lepcha (Renjongmu) and Nepali” and every community have their own traditional healers and medicinal system which is similar to one another.

The Lhopos give emphasis on coercive rites of exorcising and destroying demons.<sup>167</sup> The Traditional Healers of the Lhopo community are Pawo (male), Nejum (female) and Bongthing (male). The Bongthing performs those ancestral rituals which do not involve possession and is very well versed in all aspects of *pho lha mo lha*. Bongthings have

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<sup>165</sup> The Art of Thangka, *available at*: <https://issuu.com/dennispious/docs/thanka> (last visited on January 8, 2020).

<sup>166</sup> P.C. Rai, P. Sherpa, *et. al.*, “Traditional healers of Ribdi-Bhareng in Western Sikkim: perspectives on their methods, belief and sustenance in community health care” 8 (2) *PLEIONE* 221 (2014).

<sup>167</sup> Ashok Kumar Panda & Sangram Mishra, “Some belief, practices and prospects of folk healers of Sikkim” 11 (2) *Indian Journal of Traditional Knowledge* 370 (2012).

the specialty to control ‘noepa’ (harmful spirits) and do not let them cause illness and misfortune to the villagers.<sup>168</sup> It is to be noted that the Renjongmu also have Bongthing as their Traditional Healer but they are a bit different from the Lhopo Bongthing (this will be discussed in the Traditional Medicinal System part of the Renjongmu community). As per the beliefs of the Lhopo community, illness is caused when the harmful spirits (ajyo-anyo) are provoked or offended.<sup>169</sup> To impress the spirits, Bongthing has to be consulted. There are numerous harmful spirits and each of them have their own demands. The Bongthing knows the demand of every spirits and heals patient according to it.<sup>170</sup> Whatever the spirit demands, is placed on banana leaf with butter lamp while chanting khelen (oral invocations). If the patient does not recover then a Pawo or Nejum is referred or sought. In the absence of Pawo or Nejum, a learnt lama is sought. If the rituals of the lama also fails then a Rinpoche is the last resort.<sup>171</sup> The Traditional healers of the Lhopo performs the healing by the process of oral mantra chanting and do not use medicinal plants.

It is said that all the plants found in Sikkim have medicinal properties and most of the villagers have knowledge regarding the common medicinal plants to treat toothache, diarrhea, gastritis, allergies, wounds, cuts, bone fracture, headache, cough and cold, fever, throat pain, nose bleeding, piles, etc.<sup>172</sup> Not much emphasis has been given towards the plant based medicinal knowledge of the Lhopo community. One such research initiative conducted in five Lhopo villages (Linkey, Parkha, Machong, Menchu and Barapathing) by G. B. Pant National Institute of Himalayan Environment and Sustainable Development, had documented 35 medicinal plants used by the Lhopos for curing 31 different ailments and diseases.<sup>173</sup> Their research is of the view that there is a strong need for conserving of plant based medicinal knowledge of the Lhopo community.

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<sup>168</sup> Information collected while conducting interview with Mr. Dawa Tshering Bhutia (Bongthing), Badong-Khamdong, East Sikkim on February 1, 2020 at 1:56 p.m.

<sup>169</sup> YIshey Doma, *Faith Healers of Sikkim: Traditions, Legends and Rituals* 108 (Trysts & Traces, Sikkim, 1<sup>st</sup> edn., 2018).

<sup>170</sup> *Supra* note 168.

<sup>171</sup> *Supra* note 169 at 109.

<sup>172</sup> Information gathered while conducting interview with Mr. Chewang Dorjee Bhutia, Yuksom, West Sikkim on January 21, 2020 at 10:23 a.m.

<sup>173</sup> Tshering Tashi Lepcha, Prashanti Pradhan, *et. al.*, “Ethnomedicinal Use of Plants by Bhutia Tribe in Sikkim Himalaya” 1 *Proceedings of 1<sup>st</sup> Himalayan Researchers Consortium* 71 (2019).

In the valley of Lachung, there is one person who practices plant medicinal systems as well as traditional healing process. He is Mr. Chewang Gyaltzen Lachungpa, and is 60 years old. He is a retired government servant. On interviewing him, he said that he learnt the plant medicinal systems as well healing processes from his father. During his father's time, his father used to practice and all these knowledges were passed on to him from his father (grandfather of Mr. Chewang Gyaltzen Lachungpa).<sup>174</sup> Mr. Chewang did not do any kind of training and learnt all from his father. He used to be the first remedy to any kind of illness, fractures, etc. During his father's time, people of Lachung used to visit his father often for cure of illness, etc. But now due to the availability of allopathy medicinal system, people rarely sought him. For healing process, people do visit him and according to him, the mantras will only be effective if the count of mantras are fulfilled.

He has a very good knowledge regarding all the medicinal plants of Sikkim and their properties. He uses these plants to treat stomach pain, headache, cough-cold, dysentery, diarrhea, bone fracture, etc. He even uses Silajit to treat various illness and stated that there are five different varieties of Silajit found in the cliffs of Lachung. Even some organs of animals were used by him for treatment of various illness but due to unavailability he has stopped to use.<sup>175</sup> He has even treated nose bleeding by wrapping the horse feces in a cloth and squeeze the liquid out of it inside the nose. If the horse feces are dry then it has to be burnt and inhaled. Urine of human as well as donkey can be used as medicines. His type of medicinal practice is somewhat similar to Amji.

He has even treated the ones who had suffered from joint pain, nerves related complications, severe headache and such with the help of traditional medicinal system which uses the heat of fire as a source of medicine. When a sharp weapon is continuously hit on a banana trunk then small white parts of the trunk remain on the sharp weapon. That is kept to dry and then use on certain point to treat the joint pain or nerves problem. It is stick on that point and set on fire (the reason for the use of banana trunk particles are they catch fire very easily and they are not the medicine). The whole

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<sup>174</sup> Information gathered while conducting interview with Mr. Chewang Gyalsten Bhutia (Healer), Lachung, North Sikkim on December 10, 2019 at 7:38 p.m.

<sup>175</sup> Information gathered while conducting interview with Mr. Palzor Lachungpa, Lachung, North Sikkim on December 10, 2019 at 9:45 a.m.

of it doesn't burn at once but when it burns to near the point where it is applied, it has to be blown rapidly so that it catches fire. When the flame hits the flesh then it blasts and water flows out causing it to be a wound which is to be left untreated. With time, pus is formed and drained out. After this the joint pain, nerves problem, etc. are treated. For headache, he uses rope to measure the head to get the accurate point to use the above mentioned technique.<sup>176</sup>

For septic, he uses da-men (similar to alum). He uses it for decaying toothache, knee pain due to septic, etc. He had even treated various kind of fracture with medicinal plants found locally. Different fractures have different kind of treatment. Till date he had cured 30-40 fractures. He even shared his experience of treating snake bite by reciting mantras and blowing on the snake bite wound.

#### **2.4.1.3.b. Men-chu (hot stone bath)**

Men-chu means medicinal water in the Lhopo language. It was practiced in almost all the Lhopo villages of Sikkim and is still practiced in some areas. The medicinal properties of Men-chu soothes the nerves, body aches, joint-pains, fracture pains, etc. and relaxes the whole body and mind.<sup>177</sup> Men-chu is found nearby to river or nearby to spring water area, which is rust in colour and flows along with water from within the stones. Men-chu contains Sulphur.<sup>178</sup> Along with Men-chu, certain herbs are also added depending on the availability of the herbs in that area. Traditionally, a big log of tree was cut and made bath tub where the spring water or the river water was filled.<sup>179</sup> Various herbs are collected from the nearby forest and prepared. Along with it, stones are heated in fire. Then the hot stones are put inside the wooden tub filled with water. The stones release heat and minerals in the water and the herbs are also put in the wooden tub water. When a person stays in a hot bath tub for a long time, then there

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<sup>176</sup> *Supra* note 174.

<sup>177</sup> Information gathered while conducting interview with Mr. Top Tshering Bhutia, Rabong, South Sikkim on October 24, 2019 at 12:56 p.m.

<sup>178</sup> Information gathered while conducting interview with Mr. Pejo Bhutia, Chandmari, East Sikkim on January 29, 2020 at 4:56 p.m.

<sup>179</sup> Information gathered while conducting interview with Mr. Karma Tshering Bhutia, Samlik, East Sikkim on January 1, 2020 at 2:34 p.m.

might be abnormality in their blood pressure for which some take Kowri (a traditional dish), chang (millet local alcohol), meat, Phi, tea, etc. during the bath.<sup>180</sup>

The Lhopos of the Samlik village, located in East Sikkim, used to go to Namthay river to available the benefits of Men-chu as it was found there. Beside the river, the Lhopos used to make wooden tub and put river water in the tub. They used to heat the stone and used to put it inside the tub. After this, they used to collect the Men-chu and put appropriate amount in the wooden tube. Along with it, cover of the tree used to be beaten to powder and put in the tub (this tree is found nearby to the river). Small tents or such were also built where the people used to stay and practice men-chu for a month or more.<sup>181</sup> The Lhopos of Chandmari (a place near Gangtok Market) used to add the powder which was made from beating the roots of the Bojo tree (local name) to dust. The roots were washed very clean and then it was made powder. Thereafter, it was added in the wooden tub along with men-chu. These were mixed to cure the skin diseases and it really worked.<sup>182</sup> In Tashiding, Sribabdam, Rabong, Yuksom, etc., Men-chu is still practiced but is slowly vanishing. But in most areas, it has vanished, even in Samlik, Chandmari, and other such places. Very few places still practice this traditional men-chu. The people of Tashiding were not at ease to share the herbs and barks which are used along with Men-chu. Some homestay in Sikkim like Eshab homestay, located in Sribabdam, West Sikkim, provide Men-chu for certain amount of money. In Biksthang Heritage Farmhouse, locates in Biksthang, West Sikkim, the rate of Men-chu is Rs. 5,500/- for couples. The Men-chu is slowly vanishing and those who have the knowledge about it are using it commercially, but they do not share the secret ingredients of the Men-chu which was passed on to them by their ancestors.

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<sup>180</sup> *Supra* note 122.

<sup>181</sup> *Ibid.*

<sup>182</sup> *Ibid.*

#### 2.4.1.4. Biodiversity/Natural Resources based Knowledge

“Biodiversity consists of all species of plants, animals and micro-organisms and the variation between them, and the eco-systems of which they form a part.”<sup>183</sup> Sikkim lies in the eastern Himalayan region and is a biodiversity hotspot and with just 0.2% geographical area of India has 26% of the country’s total biodiversity.<sup>184</sup> According to the Forest and Environment Department of Sikkim, there are 4500 flowering plants, 550 orchids, 36 rhododendrons, 16 conifers, 28 bamboos, 362 ferns and its allies, 9 tree ferns, 30 primulas, 11 oaks, over 424 medicinal plants, over 144 mammals, 550 birds, 48 fishes and over 600 butterflies (these figures are not absolute).<sup>185</sup> And it is the locals, who know the area very well help the Government identify these flora and fauna.

Sikkim is known for its nature and with the support of rituals and customary practices, the biodiversity of Sikkim has been well preserved and sustainably used. The elder (above 65 years) Lhopos have a good understanding of the biodiversity around them and with time this knowledge is vanishing. In every part of Sikkim, various flora and fauna are found. The locals have helped the Government in identifying different types of rhododendron, medicinal plants, flowers, animals, wild edibles, wild fruits, etc. There is a wild edible called “Tho” (local name) found in Lachung which was used as food when there was scarcity of food.<sup>186</sup> Another such instance is the end of agricultural season is marked when a certain species of bird come to the valley of Lachung and sing song.

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<sup>183</sup> Regulatory Framework at National, Regional and International Level, *available at*: [http://www.legalserviceindia.com/article/1266-Biodiversity-and-Traditional-Knowledge.html#:~:text=Biodiversity%20encompasses%20all%20species%20of,which%20they%20fo rm%20a%20part.&text=Traditional%20knowledge%20\(TK\)%20associated%20with,component%20of %20the%20resource%20itself.](http://www.legalserviceindia.com/article/1266-Biodiversity-and-Traditional-Knowledge.html#:~:text=Biodiversity%20encompasses%20all%20species%20of,which%20they%20fo rm%20a%20part.&text=Traditional%20knowledge%20(TK)%20associated%20with,component%20of %20the%20resource%20itself.) (last visited on January 20, 2020).

<sup>184</sup> Biodiversity, *available at*: [http://sikenvis.nic.in/Database/Biodiversity\\_776.aspx](http://sikenvis.nic.in/Database/Biodiversity_776.aspx) (last visited on January 21, 2020).

<sup>185</sup> Biodiversity, *available at*: <https://www.sikkim.gov.in/departments/forest-environment-and-wildlife-department/biodiversity#:~:text=Species%20wise%20C%20the%20State%20harbors,Fishes%20and%2 0over%20600%20Butterflies.> (last visited on January 21, 2020).

<sup>186</sup> Information gathered while conducting interview with Mr. Namgyal Gyali Lachungpa, Lachung, North Sikkim on December 9, 2019, at 8:01 p.m.



Ritha is Soap-nut tree and its seeds are used for washing and cleaning purposes. In Sikkim, all the three ethnic communities use ritha in various ways. The Lhopos used to use ritha seeds (the fleshy portion containing saponin) to wash hair, take bath, wash clothes and even to wash gold and silver ornaments, rings, etc. This days with the availability of various shampoos, detergents, soaps, etc. ritha seeds are rarely used. But it is to be noted that the seeds of ritha are used in the preparation of quality shampoos, detergents, etc.<sup>187</sup> In the villages of Sikkim biodiversity resources are of great importance and it needs to be preserved.

#### **2.4.1.4.a. Household Goods**

The utensils, furniture, etc. in the Lhopo house were mostly made out of woods, bamboos, plants, animal skins, etc. and are same as of the Renjongmu. Bamboo is one of the most preferred and easily available plants in Sikkim. All the three communities of Sikkim make the most use of the bamboo in various works. With the use of *Dendrocalamus* sp. bamboo, Forceps (used for holding utensils, hot coal, etc.), Kaayu (cup for drinking), spoon (for serving foods), basket (to keep foods and vegetables), tea filter, etc. were made and used. From another bamboo, *Bambusa* sp, spoon holder, Daru (used for serving of foods), container (to keep goods or cereals), nanglo (used for husking), etc. are made and used. For the purpose of carrying water from the stream to the house, big sized bamboos were cut to certain height and were used as a container. Bamboos were even used to make, which was used for washing dishes, short toilet purpose, soaking the rice under the sun, and may such purposes. Not only these, even butter and souja (traditional tea of the Lhopos, Bhutanese, and some Tibetan clans) were prepared in a container made out of bamboo. The use of Bamboo by the Lhopos and the Lepchas are very much in number. Pipe (bamboo container) is also made from bamboo and its roots which is of great importance to the Lhopos, Lepchas and some other Nepali communities. It is important during marriage ceremony, death rituals and other such rituals. It is a container where millet beer is added and with the help of reed straw, it is drunk. There is a small village called Baadong nearby to Khamdong, East Sikkim, and out here while surveying it was stated that from bamboos, the Lhopos make

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<sup>187</sup> Priorities for Indian agriculture, available at: <https://www.tribuneindia.com/2001/20011224/agro.htm> (last visited on January 23, 2020).

Que-dang , Sub-da, Pipe (container for chang), Dhomo (straw for chang), Cha (rope), genda (support to carry loads), pelung (container), rede (used for soaking of rice under the sun), kum (container used to approximate the weight of the rice while filling the sack), pa-dung (water bucket to carry water and even used in marriage ritual), balo (roof of house), phe-khyap (nanglo), sambo or ujya (hat), etc.<sup>188</sup>

Bowls were made out of local wood. And various such utensils were made out of wood.<sup>189</sup> The skin of an ox is used in Lhopo house as a carpet and in earlier days it was offered to the guests to sit and sometimes even sleep on it.<sup>190</sup> Even to spread crops and soak it under the sun, the skin of animal is used. Slaughtering of animals is banned in Sikkim and it is not possible to get hold of such ox skins now but while visiting a village in Sang, East Sikkim and Badong, Khamdong, East Sikkim, the skin of the ox was still in use. Mostly in 2-4 house, it was still used for many purposes. Those skins were in the house since last 30-40 years and was still in use. Other household items were the usual items made out of steel, aluminum, etc. which are found in the market.

#### **2.4.1.5. Agricultural Knowledge**

Agriculture is still regarded as the main occupation of rural Sikkim.<sup>191</sup> With regards to agricultural practices, Sikkim has a difficult terrain and the land suitable for cultivation is limited. It has been observed by the Agricultural Department (Govt. of Sikkim), that due to less availability of land, the per capita income is very low and with time the farmers working in farms are slowly decreasing.<sup>192</sup> Almost all of the Lhopos and the Renjongmus have their roots to rural parts of Sikkim and since many hundreds of years, have been practicing agriculture, some sort of hunting and raising domestic animals. Their agricultural practices, methods, etc. are similar or can be regarded as same. The crops, vegetables, fruits that are widely cultivated are rice, maize, barley, finger millet, wheat. Pulses, pea, potato, mustard, sweet potato, large cardamom, chilly, turmeric, ginger, mandarin orange, banana, papaya, Litchi, passion fruit, guava, jackfruit, iskus,

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<sup>188</sup> *Supra* note 129.

<sup>189</sup> *Ibid.*

<sup>190</sup> Information gathered while conducting interview with Mrs Lakhi Bhutia, Khamdong, East Sikkim on February 13, 2020 at 11:56 a.m.

<sup>191</sup> Agriculture Department, *available at*: <https://www.sikkim.gov.in/departments/food-security-and-agriculture-development-department> (last visited on January 23, 2020).

<sup>192</sup> *Ibid.*

tomato, cauliflower, onion, pumpkin, tree tomato, radish, tea, etc.<sup>193</sup> The technique of farming varies with places in Sikkim. In the valley of Lachung and Lachen, the Lachungpas and Lachenpas plough the land with their bare hands using hoe, they do not use domestic animal to plough the land unlike in other areas of Sikkim.<sup>194</sup> During the month of December, the land for cultivation is ploughed to make soil soft, and the grasses are set on fire which later adds to the benefits of manure.<sup>195</sup> The potato, cabbage and saag (local name) of those area is very famous in Sikkim. Cultivation is practiced as per the seasonal crops, vegetables and fruits. For agricultural practices, domestic animals are also kept and from the milk of the cow, butter, churpi (local name), curd, and such are prepared. To make farming easier and sustainable, the Government of Sikkim had provided modern technology equipment for farming but due to difficult terrain, those equipments are difficult to use. There was a time in Sikkim when the Sikkimese used to eat what they cultivated but now with the availability of food products in the market, the practice of agriculture is declining. The youths are more towards securing their future with Government jobs, government tenders and such.

#### **2.4.1.6. Sacred Knowledge**

Sacred TK is referred to those expressions of TK which are related to religious and spiritual beliefs, practices or customs.<sup>196</sup> This can be regarded as the opposite of secular and this form of TK is the most commercially exploited. To be recognized as sacred, an object has to derive its status as sacred from the community. Even the sacred sites are included in the sacred knowledge. Even the mantras, religious practices of praying to God, sacred dance, etc. are components of Sacred Knowledge. The three ethnic communities of Sikkim are very religious.

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<sup>193</sup> *Supra* note 126.

<sup>194</sup> *Supra* note 186.

<sup>195</sup> Information gathered while conducting Interview with Mr. Chewang Lachenpa, Lachen, North Sikkim on December 12, 2019 at 6:34 p.m.

<sup>196</sup> Daniel J. Gervais, "Spiritual but Not Intellectual? The Protection of Sacred Intangible Traditional Knowledge" 11 *Cardozo Journal of International & Comparative Law* 469 (2003).

Sikkim was ruled by Buddhist monarch and different Buddhist monasteries were established in various places of Sikkim, the transformation of Sikkim into a completely Buddhist place remains an ongoing process.<sup>197</sup> The Lhopos are the followers of Nyingma and Kagyu sect of Buddhism (they even worshipped their ancestors). Every place (whether village or town) where they have settled, may it be East, West, North or South of Sikkim, there is a monastery nearby. Monastery and monks form a hub around which their daily lives revolve.<sup>198</sup> In some places (like Tingchim and other parts of North Sikkim), as mentioned by Anna Balikci in her book “Lamas, Shamans and Ancestors: Village Religion in Sikkim” the whole principles of Buddhism are still not followed. The village religion in Sikkim is mixture of Shamanism and Buddhism, they have incorporated their traditional practice of Shamanism with Buddhism. In villages where the Bongthinkh, Pau, Neejum still exist, they perform the rituals side by side with lamas (in earlier days, the lamas were not celibate and are still in some parts of Sikkim but these days most lamas practice celibacy). Both the Renjongmu and the Lhopo have similarities in their shamanic traditions.<sup>199</sup> The example of Tingchim village can be taken to see how the religion, rituals, values and beliefs were in most Lhopo settlement. Anna Balikci in her above-mentioned book has strongly pointed out that there was no anthropological literature relating to the Lhopos on long-term field research and they got misrepresented through the writings of aristocratic and Buddhist elites.<sup>200</sup> Furthermore she wrote that such misrepresentation as well came indirectly through series of publications of monographs that exclusively focused on the Lepchas written by Geogrey Gorer (*Himalayan Village: An Account of the Lepchas of Sikkim*), John Morris (*Living with Lepchas: a book about the Sikkim Himalayas*), Halfdan Siiger (*The Lepcha: Culture and Religion of a Himalayan People*), A.R. Foning (*Lepcha, my vanishing tribe*) and Rip Roshina Gowloog (*Identity Formation among the Lepchas of West Bengal and Sikkim*) on the relation between the Bhutias (Lhopos) and the Lepchas centered around the monastery mentioned in the book by Chie Nakane (*A study of plural societies in Sikkim: Lepcha, Bhutia and Nepalee*) or more recently, on the socio-politics of the state and its history written by Lal Bahadur Basnet (*Sikkim: a Short*

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<sup>197</sup> Taming of supernatural entities and animal sacrifice, The synthesis of Tibetan Buddhism and local shamanistic traditions in Northern Sikkim (India), *available at*:

<http://journals.openedition.org/emscat/3915> (last visited on February 3, 2020).

<sup>198</sup> *Supra* note 121 at 15.

<sup>199</sup> *Supra* note 197.

<sup>200</sup> Anna Balikci, *Lamas, Shamans and Ancestors: Village Religion in Sikkim*, 8 (Brill NV, Netherlands, 2008).

Political History), A.C. Sinha (Sikkim: Feudal and Democratic), Rose and N. Sengupta (State Government and Politics: Sikkim) which have categorized the Lhopos as aristocratic Tibetan Buddhist population who came, built monasteries and converted the Renjongmu community to Buddhists.<sup>201</sup> But what had not been taken into consideration is the existence of the commoner Lhopo villagers who had a very little understanding of Buddhism and its principles and their settlement were far from the six premier monasteries of Sikkim (these monasteries are Pemayangste, Tashiding and Phensang belonging to Nyingma Sect and Old Rumtek, Ralang and Phodong belonging to Khagyu Sect). On conversation with elderly lhopos (above the age of 65 years), they said that in their villages Bongthing were the ones who used to perform all the rituals and when people got sick or ill, animal sacrifice were made mostly of oxes (chicken in rare cases). More than Buddhism, Shamanism was practiced in most villages of Sikkim.

With the passage of time, the Chogyal of Sikkim made certain rules like one son from each family has to join the monkhood, animal slaughter was banned. And with the Rinpoches from Tibet searching for asylum in different places of Sikkim from 1950 onwards, the wave of “Tibetanisation” was pushed hard with their arrivals and activities. One of such examples has been given in the article, “Taming of supernatural entities and animal sacrifice. The synthesis of Tibetan Buddhism and local shamanistic traditions in Northern Sikkim (India)”.<sup>202</sup> Guru Padmasambhava, the patron saint of Sikkim, who subdued the demons in Sikkim during the 8<sup>th</sup> century and was the first one to introduce Buddhism in Sikkim. After him, many Tibetan Masters arrived to Sikkim and professed Tibetan Buddhism in Sikkim which slowly eradicated the practice of Shamanistic traditional practices in some regions of Sikkim. With the arrival of His Holiness the 16<sup>th</sup> Karmapa in Sikkim, Buddhism in Sikkim flourished at its best. He played a very big role in eradicating the tradition of animal sacrifice in Sikkim. He called all the Shamans of the surrounding areas to Rumtek Monastery and asked them to give up their shamanistic rituals.<sup>203</sup>

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<sup>201</sup> *Id.* at 9.

<sup>202</sup> *Supra* note 197.

<sup>203</sup> *Supra* note 122.

In villages, the Shamans and the lamas live side by side practicing both Tibetan Buddhism and local shamanic tradition. There are many more spirits and deities inhabiting the environment in Sikkim than there are human beings and these deities are highly respected, feared and apprehended.<sup>204</sup> The Lhopos and the Renjongmus believe that the deities exist in each and every part of Sikkim, whether they be mountains, lakes, rivers, rocks, caves, environment, houses, villages, etc. Thus, the sacred Knowledge of the Lhopo community consists of the mantras, religious practices of praying to God, sacred dance, sacred sites related to Buddhism and even of the worshipping of sacred lakes, mountains, rivers, caves, environment where the super natural deities reside. Even the rituals related to birth, marriage and death (three stages of life) are sacred to the community.

There is a village in East Sikkim called Khamdong where small other villages are there and one of them is Badong, where there is sizable amount of Lhopos. In this village, there is still practice of Shamanism and when a baby is born in the village, then the family member call upon the Bongthing to perform rituals. In this ritual, a chicken is sacrificed and the intestine and other organs are used for the fulfilment of the rituals.<sup>205</sup>

#### **2.4.1.6.a. Rituals**

Rituals play a vital role in understanding the communities and they even support the conservation of the biodiversity (if biodiversity is lost, then lots of valuable TK will be lost). In Sikkim, the biodiversity had been and is still conserved more through the ritual beliefs rather than the regulations or legislations enacted by the Government. It is through rituals various knowledge are passed on from generation to generation and have become the identity of the communities. Within these rituals lots of knowledge relating to the land, people, environment, plants, animals, herbs are hidden. While performing certain rituals plants, mud, branches of trees, and such are used which indicate towards

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<sup>204</sup> I exist therefore you exist, we exist therefore they exist”: Narratives of mutuality between deities (Yul-Lha Gzhi Bdag) and Lhopo (Bhutia) villagers in Sikkim, *available at*: [www.folklore.ee/folklore/vol75/bhutia.pdf](http://www.folklore.ee/folklore/vol75/bhutia.pdf) (last visited on February 14, 2020).

<sup>205</sup> Information gathered while conducting interview of Mr. Karma Bhutia, Badong, East Sikkim on February 13, 2020 at 4:56 p.m.

the sustainable use and conservation of nature.<sup>206</sup> Just like any other communities, the Lhopos have their own rituals regarding birth, marriage and death which is similar to other communities of the Himalayan regions.

- a) **Birth:** The birth rituals of the Lhopo has a close affinity with the Renjongmu. Certain beliefs are to be maintained (which are not followed these days) by both the father and mother of the going to be born baby. One of such belief is that the food items (chang, Tsampo, butter, etc.) prepared for the mother and the child shall not be opened and eaten by any family members before the mother eats them and the child is feed.<sup>207</sup> Another one is, an amulet should be made which should comprise of snail's shell, kowri, and old copper coin. It is customary to make such an amulet as it is believed that it will protect the child from getting frightened by anything while sleeping.<sup>208</sup> Even the navel of the child, which was cut at the time of birth is used by some to make an amulet. This amulet is mostly tied on the cradle of the child as it is more convenient to tie there instead of the body of the child.<sup>209</sup>

The customs relating to birth rituals are Bhuchhem Naykap (stage of pregnancy), Tshamshing, Bhangsang (purification rites), Phya-kay and Jhi-ton (birth feast).<sup>210</sup> Each step has its own significance and has to be precisely followed.

Bhuchhem Naykap is the time of pregnancy. And during this time, certain precautions have to be taken by both the husband and the wife. One of the most important precautions is, the about to be parents should not watch solar or lunar eclipses. If they do then the child born will get bluish or reddish colour and will constantly faint or will suffer from epilepsy. The remedy for this is, the placenta has to be concealed under a stone or a wooden plank with drawing of sun and

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<sup>206</sup> Yanfei Geng, Guoxiong Hu, *et.al.*, "The implications of ritual practices and ritual plant uses on nature conservation: a case study among the Naxi in Yunnan Province, Southwest China", 13(58) *Journal of Ethnobiology and Ethnomedicine* 1 (2017).

<sup>207</sup> Information gathered while conducting interview with Mrs. Chung Chung Doma Bhutia, Samlik, East Sikkim on December 24, 2019 at 3:45 p.m.

<sup>208</sup> Information gathered while conducting interview with Mrs. Dorjeem Bhutia, Barapathing, East Sikkim on November 12, 2019 at 11:45 a.m.

<sup>209</sup> *Ibid.*

<sup>210</sup> *Supra* note 207.

moon. This is to be placed on a tree branch to avoid any untoward incident. Tshamsing and Bhangsang are related and performed one after the other. A branch of a tree is cut and palnted on the courtyard of house as Tshamsing, which signifies that a baby is born and visitors are refrain from entering the house as it is under defilement (three days period). Bhangsang means to remove the defilement in the house which was caused by the birth of a new born child. This ritual is conducted by lama (monk), he burns incense and sprinkles holy water in all the rooms of the house to purify. The new mother has to take bath with water mixed with holy water to free herself from the defilement. On the same day of Bhangsang, the women from the village gather at the house of new born and celebrate the birth event in their own way. They contribute a live chicken along with butter packed in leaves weighing 250 to 500 grams. As per the tradition, the family of the new born has to serve the women guests with chicken and rice (phya-kay meal). Before cooking the Phya-kay meal, the wood of Chilaune (local name) and sishing (balayo, local name) are burnt in the chula (local name) which will free the child from skin allergies caused by touching or coming in contact with any of the above-mentioned trees in the future. Lastly, Jhi-ton is the celebration of the birth of the child. It is celebrated by inviting the village children and serving them with porridge prepared from rice or wheat. After the porridge, the children are given coins and sweets as gifts. The lamas are also invited to perform the rituals and recite 'Bumchung' and 'Jhipoe Donchen Chongla' so that all the misfortune or infliction which can be caused by demons are ward off.

With time all these rituals are vanishing and losing its value within the community. These days people mostly celebrate the birth of the child in western manner.

- b) Marriage:** The Lhopos have their own set of marriage custom which is unique and different from other communities living in the Himalayan regions. The marriage custom and rites of the Lhopo consist of five different stages. And it begins with Thi-chang (inquiry formalities), then Kha-chang (proposal formalities), followed by Nang-chang (the engagement), then Nyen and finally



Tashi changthung (wedding ceremony).<sup>211</sup> Before the commencement of marriage, the ‘Rueh’ (caste) ‘Khung’ (clan) of both the parties seeking to marry are properly verified (these days it is not followed due to love marriage, inter-caste marriage, etc.). Even the background is taken into consideration before the finalization of matrimonial alliance. Marriage between relatives are not allowed. But marriage after the fifth generation from paternal side is allowed and three generation from maternal side. Notwithstanding anything mentioned earlier, marriage between one common clan is not allowed at all. For instance, a Namangpa male cannot marry a Namangpa female. If anyone belonging to Lhopo community contravenes any of the above-mentioned customary code then such individuals are excluded from the Lhopo community or are excommunicated from the region being declared as “Dompri Domna”.<sup>212</sup> The marriageable age in accordance to the customs of the Lhopos is now 18 years for both male and female and the tradition of minor marriage is not practiced. Without following the customary rituals and rites of the marriage, the marriage is not considered as an authentic marriage and do not even enjoy a legal sanctity. The society will not accept the marriage. The Sikkimese marriage rituals are very lengthy and, in this time, people do not follow the whole rituals.

Some changes in the marriage rituals of the Lachungpas has been made and most people have accepted it.<sup>213</sup> Mr. Chewang Gyalsten Lachungpa, knowledge holder of marriage rituals of Lachung, North Sikkim, was invited by the Tibetology of Sikkim through invitation letters but he declined. The reason for not visiting was that now he stands alone who knows most of the TK practices of Lachung region more than others and him alone cannot do anything. If younger generations are interested or if the Tibetology could provide him some students then he would happily pass on his Knowledge to them.<sup>214</sup> According to him, no one till date have come to him to learn about the marriage rituals, marriages these days have become very easy with just a marriage party and offering of Khadas. He is very much keen to share his knowledge to the younger

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<sup>211</sup> Information gathered while conducting interview with Mr Nima Bhutia, Lower Marchak, East Sikkim at October 2, 2019 at 9:45 a.m.

<sup>212</sup> *Ibid.*

<sup>213</sup> *Supra* note 174.

<sup>214</sup> *Ibid.*

generations or any interested persons. He fears this knowledge will vanish with him.

- c) **Death:** The Lhopos or the Denjongpas are Buddhist and follow series of ceremonies or rituals for the deceased. When a lhopo dies then his body is not disturbed in any way, until and unless an accomplished lama performs the 'Phowa' for the deceased.<sup>215</sup> The reason for the restriction of any such movement is to restrict the ejection of the soul from the body, it is believed that if the body is moved then the soul might leave the body, which might cause the wandering of the soul in an irregular manner and get seized by some demon. According to the traditional practices of the Lhopos with regard to the death ritual, the family members or any other person are not at all allowed to shake the body of the deceased with emotions or hope that the one may become alive and wake. As mentioned earlier that such act might make the soul leave the body and get seized by demons, if it happens so then the Phowa lama might not be able to direct the soul to the right path. Such precaution should always be taken. The rituals which are to be performed respectively are Dhungkay Tangshe, Pho Tapshe (Phowa ritual), Tsee (death horoscope), Kupur Dradik (preparation of dead body for cremation), Shicho (death ceremony), Mechoe (funeral ritual), Ku-rue Phykshe, Ku-Tein (making of effigy), Shedok (devil chasing away ritual), Duentzi and Shapto (weekly puja in the house as well as in the monasteries), Kinay Zoshe (making of deities images in the name of the deceased), Gyadhar (108 prayer flags), Zhipchu Shegu (49<sup>th</sup> Day), and Lomchoe (death anniversary).<sup>216</sup>

#### 2.4.1.6.b. Sacred Dance

- i) **Kagyed Cham:** Before the festival of lossong, Cham (dance) is performed by monks in most monasteries of Sikkim which the Lhopos of the surrounding areas of the monasteries attend. Kagyed Cham is the name of the sacred dance and it is said that when a Lhopo dies, he or she

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<sup>215</sup> Information gathered while conducting interview with Champo Karma Sonam Bhutia, Rumtek Monastery, East Sikkim on October 23, 2019 on 2:23 p.m.

<sup>216</sup> *Ibid.*

will meet all the characters of the dance so to be accustomed every Lhopo should watch the dance.<sup>217</sup> Masks and costumes are wore by the performers and they perform elegantly. The dance has a story to say and most Lhopos do not know the story that the dance portrays.<sup>218</sup> The main theme of the dance is the destruction of evil forces and it is done by burning effigies made of wood, flour and paper.<sup>219</sup>

- ii) **Pangtoed Cham:** Pangtoed Cham is also known as Warrior dance. It is performed on the 15<sup>th</sup> day of 7<sup>th</sup> month of the Tibetan calendar on the occasion of Pang Lhabso. This dance is performed by the common Sikkimese as well as by the monks to pay homage and gratitude to the great warrior-god 'Dzonga', the guardian deity of Sikkim, who lives in the Mighty Mt. Khangchendzonga.<sup>220</sup> This dance is performed in Tsuklakhang and Pemayangtse Monastery at West Sikkim. In this dance, the performers perform with masks representing the guardian dieties of Dzonga and Yeshe Gonpo. It represents victory over the evil by Dzonga. The Dzongkhor (victory dance) is also performed by the performers by circumambulating the Tsuklakhang three times singing the victory songs<sup>221</sup>.

Sikkim had witnessed the death of the Pangtoed Cham as it had lost its dignity and was not performed but since 2016, it has been performed at Tsuklakhang. The Lhopos and the Renjongmus are both part of the chams.

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<sup>217</sup> Information gathered while conducting interview with Champo Passang Bhutia, Rumtek Monastery, East Sikkim on October 12, 2019 at 3:24 p.m.

<sup>218</sup> *Ibid.*

<sup>219</sup> *Ibid.*

<sup>220</sup> Information gathered while conducting interview with Mr. Ugen Bhutia, Chandmari, East Sikkim on October 30, 2019 at 4:12 p.m.

<sup>221</sup> *Ibid.*

#### 2.4.1.6.c. Sacred Sites

To the Lhopos and Renjongmus, the whole of Sikkim is a sacred place. Mountains, lakes, rivers, streams, trees, caves, rocks, chhoedten, hot-springs, etc are all sacred. Most of these are sacred Buddhist sites which are worshipped by all the three communities of Sikkim. These sacred sites are protected by the Places of Worship (Special Provisions) Act, 1991 and the State Government's Notifications No. 59/Home/98 dated 26.10.1998. The most sacred peak to the Lhopos and Renjongmus is the Mighty Mt. Khangchendzonga. The festival of Phang Lhabsol is a mark of respect to the Mighty Khangchendzonga. Other sacred peaks are Mt. Narsing, Gabur Gangtsen, Mt. Pandim, Mt. Simvo, Goecha Peak, Fork Peak, Pao Hungri, and Mt. Sinolchu.<sup>222</sup>

The sacred caves are mostly related to Guru Padmasambhava. Those caves were the places where he meditated and even tamed some demons. These caves are Sharchhogbayphug at Sangmo, South Sikkim; Khadosangphug at Sanganath, South Sikkim; Dechenphug above Nampung, West Sikkim; and Lharingyingphug via Kongri-Labdang, West Sikkim. These four caves are very precious to the Buddhist, especially to the Lhopos and the Renjongmus. Phagmorong and Tragthungrong caves located at West Sikkim have sacred significance.<sup>223</sup>

The sacred lakes to both the communities are Omai-tsho, Sungmteng tsho, Lham-tsho, Dhole-tsho, Khachodpalri Pemachen tsho, Kathog tsho at West Sikkim; Tsho-mgo lake at East Sikkim; and Guru Dongmar lake, Tsho-lhamu lake, Mulathingkhai-tsho (green lake) at North Sikkim.<sup>224</sup> Apart from these protected lakes, there are many other lakes which are regarded as holy and sacred. In North Sikkim, Yangchen tshoka and Kashang tshoka are such lakes which are worshipped by the Lachungpas.<sup>225</sup>

There are plenty of hot springs in Sikkim which are regarded as sacred and considered to have medicinal powers by both the communities. These are Phuttshachhu, Ranglop tshachhu, at South Sikkim; Gangyab chhutshen at West Sikkim; Takrumtshachhu,

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<sup>222</sup> *Supra* note 102 at 109.

<sup>223</sup> *Ibid.*

<sup>224</sup> *Ibid.*

<sup>225</sup> *Supra* note 128.

Yumasamdongtshachhu, Yumthangtshachhu, Zee tshachhu, Shagyong phedok tshacchu, Tholung kangtshachhu at North Sikkim.<sup>226</sup>

The sacred chhoedten (stupa) are Norbugang Chhoedten Tashi Hodber built by Naljor Chhedshi at Yuksam, Chhoedten Thongwa Rangdrol built by Gyalwa Khatsun Chhenpo and its surrounding Chhoedten built few centuries ago, Khachodpalri Bheyul Chhoedten (replica of Nepal's Boudhanath Stupa) built in 19<sup>th</sup> century, Chud-Tsen-Lu-Sum Chhoedten at Rabdentse, Gyalshing Mendang built by Kyabgon Jigme Pao to prevent famine located at West Sikkim, Mendang at Tashiding.<sup>227</sup>

The sacred rocks are Yongzokdrak, Tragkar rock at Tashiding, Gyalwa Lhasun Chhenpo's Footprint at Yuksam, Coronation Throne at Yuksam, and Thegehhok Yangtse Khadoi Drora rock at West Sikkim; Guru Rinpoche's Footprint Naydo at Tsunthang and Kabi longtsok stone (blood brotherhood stone) Naydo at North Sikkim.<sup>228</sup>

All of these sites have now become tourist attractions, trekking spots or hiking spots. One of the reasons for the flourishing of tourism in Sikkim are these sacred sites which hold great importance to both communities. The TK regarding all these sacred sites in one way or the other have preserve the biodiversity and has been passed on from generation to generation.

#### **2.4.1.6.d. Meditation and Mantras**

The lamas and Rinpoche's play a very vital role in the matter of sacred knowledge. They practice different forms of meditations and chant different mantras for the well-being of themselves and of the world. Mani-Lakhang is a small monastery where the ordinary people are guided by a learned lama to meditate and chant mantras. It is mostly senior citizens who go to Mani-Lakhang and it is to be visited on special occasions, on

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<sup>226</sup> *Supra* note 222.

<sup>227</sup> *Supra* note 102 at 110.

<sup>228</sup> Government of Sikkim, Home Department, Notification no. 70/HOME/2001 dated: 20/09/2001, available at: <http://www.sikkimforest.gov.in/docs/sacred%20natutal%20sites.pdf> (last visited on February 25, 2020).

full moon day and new moon day. What they learn is transmitted to their younger generations at home

#### **2.4.1.7. Customary Laws**

The customary laws play a vital role in the protection and preservation of TK of any given communities. The Lhopos have their own set of customary laws and still follow those customary laws. Article 371F (k) of the Constitution of India protects and provides the status of law to these customary laws. Social-Cultural matters are governed by customary laws. The Department of Law, Government of Sikkim have prepared and printed a draft report on customary laws and usages of the Lhopo community. For the preparation of this draft report, a committee was set up by the State Government of Sikkim in 2002. According to this report, the customary laws are applicable with regards to marriage, divorce, inheritance, adoption, wills, debts, minority and guardianship, religious and charitable endowment, monasteries, etc.<sup>229</sup> Any of the matter dealing with those mentioned are to be dealt by the customary laws. There was customary practice of Mandal system in Sikkim which prevailed in almost every villages of Sikkim and was later in 1970s replaced by the Panchayati Raj System. The Dzumsa system which is still practice in the Lachung and Lachen area of northern part of Sikkim did not get replaced and is still in practice till date. It falls under the cumtomary law and has been the strong back bone in the protection and preservation of TK of that area and the community.

**Dzumsa System of Lachung and Lachen, North Sikkim:** The word ‘Dzumsa’ literally means gathering place. Dzumsa system was first established during the first half of 19<sup>th</sup> century for the betterment and well-functioning of the societies and the people.<sup>230</sup> Dzuma system is headed by Pison, who is regarded as the village head. Originally, Pisons were called Chipons (king of the public), who possessed the authority, spokesmen of the Dzumsa and the representative of Lachung and Lachen

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<sup>229</sup> Draft Report on Customary Laws & Usage of Bhutia Community of Sikkim.

<sup>230</sup> Sandhya Thapa & Swati A. Sachdeva, “Institution of Dzumsa in North Sikkim: A Sociological Understanding” 66(2) *Sage Publication* 213 (2017).

people elsewhere.<sup>231</sup> This traditional system was officially recognized in 1985<sup>232</sup> and till this date the system still prevails. And it was in 1991 that the rules and regulation of Dzumsa system was written in a book in Tibetan and was called ‘Tepchen’ which is also known as ‘Deb chen’.<sup>233</sup>

There is a slight difference in the Dzumsa system of Lachung and Lachen of North Sikkim. In the Lachen region, the Dzumsa or general council consists of two pipons, six gembos, two tsipos and two gyapons. They are elected for a period of two years now and are changed after the said period by the voting system by the villagers. This election takes place every year on the Lunar New Year just after the monastic mask dances.<sup>234</sup> Earlier they were nominated by a group of people called theumi<sup>235</sup> in a customary way without election. Even the Gembos were chosen by the Pipons but later they started to get elected by the villagers just like all the members of the Dzumsa. Due to the Dzumsa system the traditions, cultures, language are protected in the lachung and Lachen regions, Dzumsa has made a rule that among the Lachungpas (resident of Lachung) and Lachenpas (resident of Lachen), their mother tongue should be spoken and there is no single Lachenpa or Lachungpa who do not speak their mother tongue (their language is a bit different from the Lho khay language).

Apart from that, the Dzumsa even has the function of redistribution of money collected from fines, taxes, tenders, etc. It provides an assistance to the families which are of no good standard and without it they would be in difficulty. It helps in so many ways to the families who receive it, they can incur the expenses of harvesting, rituals, preparation of monastic dance, etc.

Now focusing on the Dzumsa system of Lachung region, there are two Pipons and two Gyapons only. One of the Pipon is Khay-dung Pipon and the other one is Lema Pipon.

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<sup>231</sup> *Supra* note 174.

<sup>232</sup> The Dzumsa of Lachen: An example of a Sikkimese Political Institution, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2004\\_01\\_04.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2004_01_04.pdf) (last visited on March 10, 2020).

<sup>233</sup> *Ibid.*

<sup>234</sup> Information gathered while conducting interview with Mr. Dorjee Lachenpa, Lachen, North Sikkim on December 12, 2019 at 11:20 a.m.

<sup>235</sup> Theumi means group of people who were the most respected, honest and experienced members of the community.

And the two Gyapons are their assistant.<sup>236</sup> In Lachung, the people are divided into two groups and in accordance to the group, they have their Pipon. The ones who have their land in Khay-dung falls under the Khay-dung group and the one who have their lands in Lema falls under the Lema group. And in these Khay-dung and Lema area, farming is practiced by the Lachungpas.<sup>237</sup> The one who belong to Khay-dung group has the right to choose the Khay-dung Pipon only, his vote does not count in the choosing of Lema Pipon. Earlier the term for the Pipon was one year but due to some circumstances, the term has been increased to two years (this change has not been more than 7 years). The age to become a Pipon should be at least 40 years and just like in Lachen, only a male member can be Pipon and Gyapons.<sup>238</sup> The Pিপions of Lachung perform the same functions as that of Lachen. Earlier, the meeting to choose new Pিপions was held and the ones who were to become Pিপions did not even have idea that they would be Pিপions. Even if those individuals did not want to become Pিপions they were forced to perform the function of Pিপions once chosen.<sup>239</sup> Now, this has changed, the public of Lachung choose the ones who they think are capable of being Pিপions (house to house campaigns are also carried now) and their names are submitted by the Lachungpas to the Dzumsa and those names are written in one-one paper and put in a bottle, those names which are picked become the new Khay-dung Pিপions and Lema Pিপions of Lachung.<sup>240</sup>

Every house of Lachung have to perform the rituals in the Monastery every month and who is to perform is selected by the Pিপions. Earlier the Pিপions even had the power to outcast anyone out of the Lachung. One such instance had taken place where a family was thrown out of Lachung as they had poisoned someone.<sup>241</sup> The Pিপions were the most respectful personal during the earlier days and the system was good as well. Everyone lived respectfully during that time. With the passage of time, the system has changed which has even changed the Pিপions as well. People do not respect the Pিপions like they used to.<sup>242</sup>

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<sup>236</sup> *Supra* note 128.

<sup>237</sup> *Supra* note 230 at 214.

<sup>238</sup> *Ibid.*

<sup>239</sup> *Supra* note 186.

<sup>240</sup> *Supra* note 175.

<sup>241</sup> *Ibid.*

<sup>242</sup> *Supra* note 186.



When a person migrates or settles in a place, then he or she brings his or her own TK with him or her and this is not possible in the valleys of Lachung and Lachen due to the Dzsuma system as it restricts anyone except the Lachungpa and Lachenpa to settle there. This System in many ways have protected the TK by enacting certain rules and regulation.

#### **2.4.1.8. Traditional Games**

- a) Archery:** It is an aged-old traditional sport of the Lhopos and the Renjongmu of Sikkim. This was earlier a very popular sports but had lost its glory. But these days the Sikkimese are seen indulging in Archery and in various part of Sikkim, archery tournaments are held. To take part in these competitions, teams from Bhutan travel to Sikkim to take part. This traditional sport is promoted these days and the young generations are encouraged to learn and take part in it. Sonam Bhutia, member of Kyongsa Samaj who had organized cultural events stated that the aim of their Samaj by including the traditional sports of archery was to popularize the old system of sports and keep it alive in their rural areas. It was played during the losoong time when all the people from the village gathered.
  
- b) Shotput:** A round big size stone was used to play this traditional game. This game was played to test the strength and to show off one' strength. These days this game is played only in few villages of Sikkim. During losoong festival, a competition of shotput is held along with cultural programs and other traditional sports.
  
- c) Jumping Competition:** This traditional game was similar to long jump and pole vault. These games were mostly played in the paddy field. In the long run game, a line is drawn and the contestant had to jump without crossing the line. The elder Lhopo generations stated that people had very strong feet during those days as they did not use shoes, etc. and they would jump bare foot and land without injuring them. In the pole vault, they used bamboo as pole and made the bar using the bamboos. It was played during the losoong festival or anytime when the people would gather.

## 2.5. The Lepcha Community of Sikkim (Renjongmu)

The Lepcha people are considered to be the original inhabitants of Sikkim. They believe to belong from the kingdom of Mayel, which is in the vicinity of Mt. Khangchendzonga. They are said to have been migrated from Sichuan to Brahmaputra Basin and from there to parts of South-East Asia and Assamese Hills.<sup>243</sup> There has been anthropological evidence that there was habitation in the land of Sikkim since pre-historic times and the Lepchas have been residing in the Sikkimese hills from at least 5000 BC.<sup>244</sup> The State Government of Sikkim has accorded Lepcha community as the Primitive tribe of Sikkim with regards to notification number 3(54)PA/518/2006 which was passed in the Sikkim Legislative Assembly Session held from 21<sup>st</sup> to 28<sup>th</sup> February, 2005.<sup>245</sup> Their language is ‘Rongring’ and their script is called ‘Mutanchi Rong Aming’. It has been accorded as one of the official languages along with Bhutia and Limboo languages. The word ‘Lepcha’ is said to be derived from Nepali word ‘Lap che’ or ‘Lap cha’ which had a derogatory connotation of ‘inarticulate speech’.<sup>246</sup> Most Nepali words or names ending with ‘ey-sound’ have derogatory connotations and most Lepchas do not like being called as ‘Lap che’.<sup>247</sup> They call themselves as Rongkup or Rumkup which means the children of snowy peak or God’s children. The Lepchas consider themselves as ‘Mutanchi RONG “KUP” which means beloved sons of the Mother of Creation. As they are nature worshipper they have a great believe on nature and always portray their belief by doing various rituals to please the nature. Their sentiments are attached more towards the nature. In the past Sikkim was known as ‘RONG-LYANG’ i.e. the waiting place. At as the time passed by the people residing at Ronglyang came to be known as the ‘rong’. They have been accorded the status of Scheduled Tribe through the Constitution (Sikkim) Scheduled Tribes Order, 1978.

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<sup>243</sup> *Supra* note 110 at 7.

<sup>244</sup> *Supra* note 110 at 9.

<sup>245</sup> Notification, *available at*: <http://sikkimsocialwelfare.gov.in/wp-content/uploads/2015/10/Recognition-Declaration-of-Lepcha-Tribal-Community-as-the-Primitive-Tribe-Group-in-the-State.pdf> (last visited on March 15, 2020).

<sup>246</sup> A brief introduction to Lepcha Orthography and Literature, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2005\\_01\\_02.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2005_01_02.pdf) (last visited on March 18, 2020).

<sup>247</sup> Development of a Strategy to Reach the Folk-Buddha Lepcha Community of Sikkim, *available at*: <https://digitalcommons.andrews.edu/cgi/viewcontent.cgi?article=1644&context=dmin> (last visited on March 18, 2020).

The Lepchas are also divided into different sub-clans which are derived from the places of their settlement. They are as follows:

- a) Singyang-mo
- b) Luksom-mo or Yoksom-mo
- c) Si-ming or Sungut-mo
- d) Tuk-nyil-mo
- e) Sambo-mo or Sumba-putsho
- f) Turgok-mo
- g) Rong-gong-mo
- h) Kheng-bo
- i) Nam-chhyo-mo
- j) Guling-mo
- k) Samdar-mo
- l) Kotha-mo
- m) Barmyak-mo
- n) Sungphung-mo
- o) Namtchi-mo
- p) Sam-ling-mo
- q) Mong-mong-mo
- r) Talong-mo
- s) Sang-pu-mo
- t) Song-mo
- u) Namphak-mo
- v) Re-doo-mo
- w) Kubbi-mo

- x) Fork-ram-mo
- y) Rongeu-ram-mo
- z) Rangit-ram-ro
- aa) Rathong-ram-mo
- bb) Rangbi-ram-mo
- cc) Lo-so-mo
- dd) Kalet-ram-mo
- ee) Lingdam-mo
- ff) Rhenok-mo
- gg) Yong-bi-mo
- hh) Chong-khey-mo
- ii) Lingdong-mo
- jj) Yok-cho-mo
- kk) Re-ma-song
- ll) Na-be-mo
- mm) Sangmi-po<sup>248</sup>

Lepcha people inhabit in different regions of the Himalayas mostly at Kalimpong, Kurseong, Mirik and Darjeeling (West Bengal); Sikkim; Ilam district of Eastern Nepal and Promu of Samste and Chukha in Southwestern Bhutan.<sup>249</sup> The Lepcha of West Bengal are known as ‘Tamsangmu’, Sikkim as ‘Renjongmu’ Ilam as ‘Ilammu’ and Bhutan as ‘Promu’.<sup>250</sup> This study is based specifically on the Lepchas of Sikkim and will be referred to as ‘Renjongmu’.

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<sup>248</sup> *Supra* note 16 at 35.

<sup>249</sup> *Supra* note 102 at 253.

<sup>250</sup> *Ibid.*

The Lepchas worshipped trees and other natural objects. The concept of Bongthing or medicine man, a belief that man is sons of god is the most remarkable point in lepcha religion.<sup>251</sup> They believed in animal sacrifices and they performed rituals to please God. Slowly the Renjongmu started following Buddhism, the religion was made state religion by the Namgyals at that time. They celebrate various festivals which portrays unity among them all. They have their own language, their costumes and traditions that they have followed since ages. Their language is known as ‘Rongring’. According to Mr. K.P. Tamsang<sup>252</sup> the Lepcha alphabet was invented by Thling Menselong, who was an administrator to the earliest Lepcha King. In the Gazetteer of Sikkim, it is mentioned that the third ruler of Namgyal Dynasty, Chador Namgyal invented the script.<sup>253</sup> It is believed that the script was invented by the Lepcha and was further improved by the King in 17<sup>th</sup> Century. Their traditional dresses are distinct from the other tribal people, the male dress is called ‘dum-par’ and female dress is called ‘dum-bun’. The original dress of both Lepcha men and women consists of knee-length drawers and an undershirt over which a long piece of striped material is worn like a cloak. The men wear hat known as thaktop which is loaf shaped. They wear their traditional dress during the various festivals that are associated with them. The history of Lepcha people in Sikkim is mentioned by many historians.

As Lepcha were nature worshipper they believed that the nature provided them with every essential. They built houses using natural resources and were originally hunters. They depend on the nature for their livelihood. Bamboos are considered to be of great importance to the Renjongmu community. Bamboos are used for religious purposes, for household purposes, etc. Bamboos are cultivated in the Renjongmu villages. They used bamboos for household artefacts they also believe that keeping the bamboo artefacts at their home keep them away from evil spirits.<sup>254</sup> Like the Lhopos, the Renjongmus are mostly farmers and have their roots to farming and agricultural purposes. Agriculture was one of their main occupations. The main crops cultivated by

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<sup>251</sup> *Ibid.*

<sup>252</sup> *Ibid.*

<sup>253</sup> *Supra* note 16 at 41.

<sup>254</sup> S.R. Lepcha, R Gurung, *et. al.*, “Traditional Lepcha craft Sumok-thyaktuk (Lepcha Hat) and its conservation in Dzongu Tribal Reserved Area (DTRA), Sikkim, India” 11(3) *Indian Journal of Traditional Knowledge* 537 (2012).

them included rice, millets, cardamom, maize, etc. There are many techniques and methods developed by them. Along with farming and hunting they are good weavers, and make beautiful baskets, hats and carpets.

The Renjogmu follows Buddhism but along with it there is a trace of Animism as well. The religious priest is known as Mun or Lamas, they appease the evil spirits who bring sickness and misfortune upon the people. Previously to appease the evil spirits animal sacrifices were made but with certain change in time animal sacrifices lessened. The Renjongmu acknowledges the existence of various deities. People are of the opinion that Buddhism was introduced from Tibet around 1641, with the first monasteries founded towards the end of the 17<sup>th</sup> century.<sup>255</sup> They celebrate many festivals and Mun and Lamas are the most important part of the functions. Though in the recent times a huge number of Renjongmu families have converted to Christianity.

The Renjongmu performs many ceremonies for benefits of households and individual. Along with this they also perform important functions for communal benefits too. In Sikkim, Renjongmus are scattered in every district but majority of them have settled at North Sikkim. Their village consists of 15 to 20 houses and they had a typical style of houses. The dwelling place was rectangular in plan with a circular or rectangular roof which was made of straw, wood was used to make the flooring and the house was raised 1m or so above the ground, with the space underneath to keep the domesticated animals. The walls were built of thatch covered by the clay. The house had three rooms: a bed room, guest room, and kitchen/store room. Not even a single nail is used to build the house. Most villages have a gompa<sup>256</sup> or place for worship.

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<sup>255</sup> Lepchas, *available at*: <https://www.encyclopedia.com/humanities/encyclopedias-almanacs-transcripts-and-maps/lepchas> (last visited on November 14, 2017).

<sup>256</sup> Monastery where Mun and Lama reside and study the Buddhist Scriptures. Even the people visit to seek blessing from the God.

They usually eat salt tea and the left over from the previous evening and start their day. Rice is the staple food, though wheat or maize is alternative when rice is not available. Buckwheat is ground into flour and baked into cakes. They are non-vegetarians and adhere to their religious practices. They are passionate about celebrating their festivals with full passion. They celebrate New Year also known as ‘Namsung’ or ‘Lossong’, this festival marks the end of the harvest season and the farmers thank God for the good harvest in the present year and also pray for good harvest in the coming year. People wear colourful costumes and participate in folk dances. The new year in Sikkim is marked by the famous ‘Chaam Dance’ which signifies victory of good. Traditional archery competitions are held and together with this they visit Gompas to thank God.<sup>257</sup> The community celebrate Tendong Lho Rum Faat every year. It is regarded to be one of the most sacred festivals in Sikkim. They pay tribute to Mount Tendong through this event, it is a three days long event celebrated all over the state. It is believed that their community in Sikkim was saved by the Mount Tendong when a disastrous deluge caused by incessant rain was about to destroy the area.<sup>258</sup>

In Sikkim, they are considered to be the indigenous and are given numerous protection and rights. As they are regarded as the primitive tribe, major relaxations are given to them in matters of education, job etc. There are many practices and methods that the ancestors have come up with, the same has been followed from past generations. There are some methods and techniques that are now being researched by the scientists and researchers for creation of new inventions. They have also developed techniques for fishing, the idea of slash and burn for agriculture was also thought by them. Apart from all this one of the well-known crafts *Sumok-thyaktuk (Lepcha Hat)* has been applied for registration of Geographical Indication (hereafter referred to as GI).<sup>259</sup> There are numerous practices that are associated with them. They also have knowledge about medicinal plants and the various uses of it. Earlier they treated themselves and didn't go to doctor, the practices of threading certain diseases are still followed by present generations. They also had different methods of planting various crops, those methods

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<sup>257</sup> Lepcha and Bhutia New Year, *available at*: <https://www.fts.travel/m/festival/lepcha-and-bhutia-new-year> (last visited on November 2, 2017).

<sup>258</sup> Tendong Lho Rum Faat Festival of Lepcha Tribe, *available at*: <https://www.nelive.in/sikkim/art-culture/tendong-lho-rum-faat-festival-lepcha> (last visited on November 24, 2017).

<sup>259</sup> *Supra* note 123.

were developed after many trials by the earlier people. With the advancement and development there are number of traditional practices has been forgotten. Most of the knowledge are being used by the researchers for availing profits, this way the indigenous people are slowly losing their rights over the knowledge and practices that they developed. Without a strong protection measure the old tradition is being misutilized.

### **2.5.1. Traditional Knowledge of the Renjongmu Community**

The TK of the Renjongmu is also quite similar to the communities living in the Himalayan regions.

#### **2.5.1.1. Cultural Knowledge**

##### **2.5.1.1.a. Traditional Food**

- i) Ponyu zom:** This food is prepared in a bamboo. First raw foods such as rice, fish, and vegetable are placed inside a green bamboo, and salt is added to it. The open edge of the bamboo is covered by green leaves, which are then tied with a string. The bamboo is then placed over a burning fire and is continually turned until the green bamboo changes color (usually brown). The bamboo is taken out from the fire and cut open horizontally so that the item inside the bamboo remains undisturbed. The baked food inside the bamboo is ready to be eaten.<sup>260</sup>
  
- ii) Seujom:** Seujom is a traditional meat-based food of the Renjongmu. In ancient days, meat was baked under the earth. Depending on the quantity of the meat, a pit is prepared with a depth of at least 2 ft. Flat stones are placed at the bottom of the pitch. Then, banana leaves or other leaves are placed on the stone.<sup>261</sup> The chopped meat pieces are placed inside the pitch and hot stones burned in the fire are kept on the meat. The hot stones are covered with leaves and the pitch is

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<sup>260</sup> Information gathered while conducting interview with Mrs. Sonam Doma Lepcha, Marchak, East Sikkim on October 1, 2019 at 12:12 p.m.

<sup>261</sup> Information gathered while conducting interview with Mr. Kung Dorjee Lepcha, Marchak, East Sikkim on October 1, 2019 at 5:12 p.m.



filled with earth. The hot stones bake the raw meat within a night or a day. The meat inside the pitch is then taken out.<sup>262</sup>

**iii) Bamboo Fish:** The Renjongmu have a special way of cooking fish and even catching it. In Tingvong, a Lepcha village in Dzongu, North Sikkim, the Renjongmus catch fishes with a technique called ‘Yet tsok’.<sup>263</sup> It is a trap laid on the river, which is made of long bamboos which are split into four or parts from one end and is laid down in the ground and tied with the bamboo ropes. This huge trap requires plenty of people to carry it to the river and place it on the river. On the river the trap is supported by the tree trunks. The trap is left on the river for a night or more. Once the fishes get on the trap, they cannot swim back. Now the caught fishes are placed in the bamboo woven basket. Thereafter, the fishes are put inside the bamboo container along with salt (even tomatoes, onions, etc. are used if available) covering the opening of the container with plants. Then the bamboo container is shaken well for the mixture of fishes and other ingredients and is placed on the burning charcoal till the fishes are cooked.<sup>264</sup>

**iv) Khudee:** This food is the same as that of the Lhopos. It is like a thin bread of millet or buck wheat flour rolled with vegetables.

There are more of renjongmu foods which are buk mut made from edible roots baked in fire, tok tok which is a gruel made from boiled edible roots and is also prepared by grinding millet or white millet, khuzom a bread which is baked on hot stones made from millet or maize powder rolled with green vegetables, sukyor syer made from fermented bamboo shoots, sorong bee curry or soup prepared from the leaves of khuzu or urtica dioica plants with butter and salt, mong-noungthuk is also curry like soup which is prepared with meat or with vegetables along with the paste of millet, flour, water, ginger, salt and chillies,<sup>265</sup> cho-nyok prepared from rice, butter and vegetable

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<sup>262</sup> Some nonfermented ethnic foods of Sikkim in India, *available at*: <https://www.sciencedirect.com/science/article/pii/S2352618114000092> (last visited on March 21, 2020).

<sup>263</sup> Tibetology Sikkim, *Tingvong: A Lepcha Village in Sikkim*, 2005, *available at*: <https://www.youtube.com/watch?v=6HkdE155PdM&t=177s>

<sup>264</sup> Information gathered while conducting interview with Mr. Simon Lepcha, Pakyong, East Sikkim on October 5, 2019 at 10: 35 a.m.

<sup>265</sup> *Supra* note 121 at 36.

which is cooked as porridge, kasalok and moongarbuk (boiled sweet potato/yam). Chee is the traditional beverage prepared by the renjongmu. It is prepared from millet or rice.

#### **2.5.1.1.b. Traditional Music and Dance**

The musical instrument used by the communities belonging to the Himalayan belt are almost similar. The musical instrument used by the Lepchas are Palitkeng (flute with four holes), Pentong (flute), Pentong palit (bigger flute with four holes), Nibryk Palit (double barrel flute), satsang (sarangi), Tanbuk (a kind of sarangi or vina), Tang Dar (a small round drum), Chakpurjang (Longish drum), Bom Pochuat (a kind of whistle), Tangué (small instrument made from bamboo and played by tongue), Sahnai.<sup>266</sup>

- i) Folk Songs:** The folk songs of the Renjongmu is classified into different types. They are Lenchyyovom (love songs), Thanung Savom (songs full of humour), Asyot Vom (Ceremonial songs), Rum kat Vom (songs relating to agriculture), Bivom (songs sang during bree), Lyang-Niro-Chyko-Vom (patriotic songs), Apart-Apok-Vom (planting season songs) and Aprya-Vom (prayers).<sup>267</sup> The Renjongmu songs also consist of Ragas and according to the Renjongmu community, the Ragas came from the mouth of the holy Mun and with time these Ragas evolved and were classified with regards to the sounds made by the bee, hedge sparrow, humming bird, etc. The Ragas are Tashekyonto Saat, Apik Saat, Pildon Saat, Heet Saat, Tang Sang Saat, and Palik Saat.
  
- ii) Folk Dance:** The Lok (folk dance) of the Renjongmu community is classified into different categories and among all them Zo Mal Lok is the most famous one. The different types of dance are Nature Dance, Zo Mal Lok (dance related to agriculture), Fen-Lok (war dance), Pasyalyon or Guru-lok (historical dance), Yaba-lok (mystic dane) and dance related to Mythology.<sup>268</sup>

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<sup>266</sup> *Supra* note 102 at 256.

<sup>267</sup> *Supra* note 102 at 257.

<sup>268</sup> *Ibid.*

Every form of dance has its own specialty. The nature dance moves are the imitation of various creatures. The Zo Mal Lok dance portrays the ploughing, sowing, reaping, harvesting and thrashing of the paddy. The costumes of the dancers are maroon colour head band, crown on head, colourful home woven cotton clothes wrapped around their bodies attached by bamboo pins. The hair of the girls is done in such a way that they resemble the tail of Chahem fo bird.<sup>269</sup> The Fen-lok is the war dance. Pasyalyon or Guru-lok portrays the history and the Yaba-lok is the mystic dance.

#### **2.5.1.1.c. Language**

Just like any other tribes, the Lepchas also have their own language and is known as ‘Rongring’, it also has its own script called ‘Mutanchi Rong Aming’ consisting of 28 consonants and eight conjoint letters.<sup>270</sup> Along with the Bhutia language, the Lepcha language had been accorded the status of official language since the time Sikkim was a kingdom and it continues till date. It is one of the indigenous languages of Sikkim and is even taught in schools, colleges and university in Sikkim. UNESCO had listed a total of 197 languages as endangered from India and the Rongring makes is also included. Rongring is spoken by people of Sikkim, parts of West Bengal, Nepal and Bhutan.<sup>271</sup> This language belongs to the Bodish-Himalayish group of Tibeto-Burman languages.<sup>272</sup> The old Lepcha manuscripts’ largest collection is kept in Leiden which consist of over 180 Lepcha books.<sup>273</sup> The Lepcha Script dates back to the 18<sup>th</sup> century and is written from left to right with spaces between words. There is no distinction between capital and small letters and there is similarity in the punctuation marks used with the Tibetan orthography. These days punctuation marks like full stops, commas, question marks, etc. from the Roman alphabet can be seen to be used.<sup>274</sup> There is a government

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<sup>269</sup> *Ibid.*

<sup>270</sup> *Supra* note 102 at 258.

<sup>271</sup> Reviving Lepcha, *available at*: <https://www.thehindu.com/education/reviving-lepcha/article24601118.ece> (last visited on March 25, 2020).

<sup>272</sup> Sikkim girl breathes ‘Rong Ring Font’ into Lepcha language script, *available at*: <http://www.curriculum-magazine.com/sikkim-girl-breathes-rong-ring-font-into-lepcha-language-script/> (last visited on March 25, 2020).

<sup>273</sup> Culture, *available at*: <http://www.unesco.org/archives/multimedia/document-1782> (last visited on March 27, 2020).

<sup>274</sup> A brief introduction to Lepcha Orthography and Literature, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2005\\_01\\_02.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2005_01_02.pdf) (last visited on March 28, 2020).

newspaper, Sikkim Herald, in Lepcha edition and even in the government radio station, news bulletins and cultural programmes are broadcasted in the Rongring language.<sup>275</sup>

Avani Lakhotia, a post graduate in communication design from Pearl Academy, Delhi, had visited Sikkim to revive interest and work in Lepcha script through her newly designed font beautifully named as Ring Rong font. In her mission, she understood that “Nepali is a dominating luggage in Sikkim and almost every Lepcha community member is fluent in Nepali and therefore nobody uses Lepcha language even at home. Also, there is no economic value added to script, new generation don’t take interest in it.”<sup>276</sup> While conducting survey, “many were of the view that the young generation have no interest in learning their language, they are more interested in the Korean culture and their language. Instead of learning and speaking their language, the young are keen to speak Korean and English.” In another instance shared by a school going Rong, she used some Lepcha words while having a conversation with her friends and she got criticized for using words which were not understandable by her friends. Some even said that, like the Denjong Lho khay and the Ring Rong lost their value, the same might happen with the nepali language in Sikkim with the influx of Hindi speaking people to Sikkim. As it can be seen these days that in certain shops in urban areas like Gangtok, Ranipool, Singtam, Rangpo, Jorethang, etc. one has to speak hindi with the shopkeepers. And with the Pharmaceuticals companies in risk and various other such projects, hindi language is gaining importance. Within a span of 50 years, Nepali language might be just like the Denjong Lho khay and the Ring Rong which will be spoken within communities.

#### **2.5.1.1.d. Traditional Attire**

Apart from varieties of traditional foods, they have their own traditional dress. The Lepchas developed their own dress from time immemorial, both men women wear it with full pride and respect.

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<sup>275</sup> *Supra* note 270.

<sup>276</sup> *Supra* note 272.

- i) **Male Attire:** The male wears “Dum-praa”, “Dampraa”, or “Thokro-Dum” which is woven by the women of the community. There are many Lepcha patterns and designs while weaving “Dum-praa”, but usually three patterns are used they are: -
- a) **Tagaap** – it is the oldest Lepcha pattern or designs and it is woven with a floral designs or patterns.
  - b) **Khemchu** – it is a scissors design or pattern of inverted and upright V’s.
  - c) **Tamblyoak** – it is based on the butterfly’s patterns or designs.<sup>277</sup>

The Dum-praa is also known as “Koojoo Vadoah”, and this dress shows the genuine character of the Lepcha community. Koojoo is Lepcha name for nettle plant, from where the fiber is made to make the dress and has embroidery on but, “Thokroah”, is made from soft fibers, and its normally black and white with no embroidery on it.<sup>278</sup> The Lepcha men wear a “Tago” meaning a loose shirt with stiff high neck at the back and slightly opened in the front. Lepcha men wears trousers known as Tomoo it is made of thick cotton fibers and is white in colors. They wore Tago and Tomoo while they worked in the field or at home.<sup>279</sup> A bag known as ‘Tanggyip’ is also an important part of the attire of the Lepcha community. The old name for a Lepcha bag is “Takvyoal’ meaning a hanging bag and its pattern is called ‘Taak Tik’ meaning marked with spots.<sup>280</sup> “Bankpok” meaning a short knife used for various purposes, is tied around the waist would complete the dress of Lepcha male. “Sali”, is a bow and the quiver containing arrows. As they depended on hunting they used Sali for hunting down animals. The quiver is made

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<sup>277</sup> Shera Pandi Molommu, “The Indigenous Ethnic Attire of the Lepchas of India: A Case Study” 4 (4) *Indian Streams Research Journal* 3 (2014).

<sup>278</sup> *Ibid.*

<sup>279</sup> D.C. Roy, “Lepcha Dress: A Marker of Cultural Identity” 4 *Journal of the Department of Sociology of North Bengal University* 72 (2017).

<sup>280</sup> Lepcha Dress, available at: <https://aachuley.wordpress.com/2010/10/28/lepcha-dress-2/> (last visited on March 30, 2020).

from bamboo, the hallow between the nodels of the bamboo hold the arrows.<sup>281</sup>

- ii) **Lepcha Hat, Thyaaktuk:** Thyaaktuk is the hat, which the Renjongmu males wear and is a mark of their uniqueness. Thyaaktuk varies in accordance to the shape size and size and the different types are Sumok Thyaaktuk, Paapree Thyaaktuk, Auanaok Thyaaktuk, Syeraaboo Thyaaktuk and Soring Thyaaktuk.<sup>282</sup> Sumok Thyaaktuk is the most prestigious among them all. It is woven with Ru or cane and Po-young (local name for small bamboo). The process to prepare the hat is very time consuming and to complete one Sumok Thyaaktuk, it takes at least a month.<sup>283</sup> It is made up of 4 identical layers and appears in outer part. The uppermost layer is Sungdyong song which means the web of the spider and is the protective cover made in the shape of the web. The second layer is Ee-mik which means the eye of the tiny local wasp (putka). The third layer is Sumok tsum, meaning design of armour and the basal layer is Afyel which looks like the orchid found in the Himalayan region.<sup>284</sup> The craftsmen uttered mantras while weaving the hat so that the one who will wear it will be bestowed upon with good luck, blessings, good health, etc.<sup>285</sup> Other hats that are seen worn are Papri Thyaaktuk and Anok Thyaaktuk. Paapree Thyaaktuk can be worn on any kind of weather and is made out of bamboo. A spike of porcupine is also added as it is believed to provide protection from negative and hovering spirits.<sup>286</sup> Anok Thyaaktuk is made out of velvet, cloth and jewelry knot on the middle top part of the hat, the central Knot has nine-sub knot which symbolizes ten sub-castes in the beginning of their tribe.<sup>287</sup>

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<sup>281</sup> *Supra* note 277 at 1-2.

<sup>282</sup> *Supra* note 279 at 73.

<sup>283</sup> *Supra* note 254 at 538.

<sup>284</sup> *Id.* at 540.

<sup>285</sup> Information gathered while conducting interview with Mr. Dorjee Thempey Lepcha, Marchak, East Sikkim on October 9, 2019 at 8:01 p.m.

<sup>286</sup> *Ibid.*

<sup>287</sup> *Ibid.*

iii) **Female Attire:** The female attire is known by various name like “Dum-bun” or “Dum-dem” or “Gada”. It is along dress covering the whole body up to the fit and is worn criss-crossing just below the neck.<sup>288</sup> The colour of the dress is sober and simple and not colourful. Inside Dum-bun, a long-sleeved loose blouse named as Tago is worn. A married Lepcha woman wears a “Jyoordong Tago”, a flowing long-sleeved gown over her Dum-bun which indicates that she is married.<sup>289</sup> To hold the Dum-bun, Tago and Jyoordong Tago, a safety pin, Zet is used on both the shoulders. On the waist, to tie and hold the upper dresses, a waist belt, “Naamrek” which is made of cotton cloth is worn. The Namreek is worn in such a way that a portion of the Dum-bun in the front sticks out like a tongue and is called “Dam-pyoom”.<sup>290</sup> Dam-pyoom is used to collect fruits, vegetables, etc. On the head, the female wears “Taroa”, a scarf usually white in colour which protect her from cold, dust, etc.<sup>291</sup>

#### 2.5.1.1.e. Traditional Jewellery

The Renjongmu females are fond of pansaan-palan (jewellery and ornaments). When a renjongmu female reaches the age of 8 to 10, she is given a ‘Ban-hoor’ (which is a sickle) as an ornament as well as weapon to protect herself.<sup>292</sup> To hold Dam-bun, she uses Zet (a pair of silver safety pins) on both her shoulders. In her hands, she wears kakyoop (ring), kakel (bangle). In neck as necklace, she wears roong lyaak, kagyer kaawo (amulet hooked to the silverchain), kwil-lyaak and takvil lyaak.<sup>293</sup> These necklaces enhance the beauty, personality and charm of the Renjongmu female. The most important ornament to the Renjongmu is Sambraang Boor, which is made of silver chains and has a design of Sambraang flower. It is fastened on the right side of her

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<sup>288</sup> *Supra* note 279 at 75.

<sup>289</sup> *Ibid.*

<sup>290</sup> *Supra* note 277 at 6.

<sup>291</sup> *Supra* note 282.

<sup>292</sup> D.C. Roy, “Lepcha Dress: A Marker of Cultural Identity”, 4 *Journal of the Department of Sociology of North Bengal University* 75 (2017).

<sup>293</sup> Information gathered while conducting interview with Mr. Kinlum Lepcha, Lower Marchak, East Sikkim.

waist. The Sambraang Boor is the identity of the Renjongmu female, anyone wearing it is recognized as a Renjongmu female.<sup>294</sup> Most of the ornaments are made out of silver.

The Renjongmu male does not wear any jewellery except amulets which are prescribed by the monks.<sup>295</sup> The male wear gold finger ring.

#### **2.5.1.1.f. Design & Structure of the House**

The house of Renjongmu is similar to that of Lhopo. They call the house as “Lee” and their dwelling house is known by the name, “Dukenculee”.<sup>296</sup> Houses were built according to the status of the people and materials available. As it is a known fact that the entire area of Sikkim lies in Zone IV of the Seismic Zonation Map of India and earthquakes occur now and then, the houses are stable in the face of the earthquake or even if they break they do not do much damage.<sup>297</sup> Dukenculee is rectangular in shape with a circular roof made of straw (siru) which was later replaced by iron sheets. The On the floors, anto (wooden planks) were used and on the walls were made of bamboo matting plastered with a thin layer of clay.<sup>298</sup> To support the roof, dampu (good sized undress timber) were used and to hold each of the dampu nails were not used, interlocking were done or they were inserted through one another in a criss-cross way. It is a single storey house and big trunks of trees are used to construct it 3 feet to 4 feet above the ground which provide protection from the rainfall to enter into the house and from wild animals to climb the house.<sup>299</sup> The space underneath the house is called tanhanp and is use for domestication of domestic animals. The house usually has two bedrooms, one kitchen cum store room and a puja room. All the rooms are made in such a manner that they are well ventilated with one window each. There are verandas on both the front and back portion of the house which is used as sitting or drawing room.

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<sup>294</sup> Information gathered while conducting interview with Miss Dikit Lepcha, Namcheybong, East Sikkim on October 30, 2019 at 11:01 a.m.

<sup>295</sup> Jyoti Dwivedi, “Indian Tribal Ornaments; a Hidden Treasure” 10 (3) *ISOR Journal of Environmental Science, Toxicology and Food Technology* 10 (2016).

<sup>296</sup> *Supra* note 102 at 114.

<sup>297</sup> Vanya Jha & Ajeya Jha, “Traditional Knowledge on Disaster Management: A preliminary study of the Lepcha Community of Sikkim, India” 10 (1) *Indian Journal of Traditional Knowledge* 179 (2011).

<sup>298</sup> *Supra* note 296.

<sup>299</sup> *Supra* note 97 at 180.



### 2.5.1.1.g. Festival

Festival is the time when the Traditional Knowledge of a community is passed on from one generation to another. And it is an integral part of cultural and social life of any community whether tribal or not. In Sikkim, some festivals are of particular community and some state wide and during these festivals, holidays are declared. It is a known fact that Sikkim is the land of three communities; Lepcha (Renjongmu), Bhutia (Lhopo) and Nepalese and the majority follow Buddhism and Hinduism. Most festivals are rooted to these religions and are based on religious scriptures, events or sermons. Some festivals indicate the change in the season and others indicate the time for seasonal agricultural practices like sowing or harvest. Every community have their own new year and that is celebrated as a festival, even certain historic moments, ethnic traditions, etc. are celebrated as festivals.<sup>300</sup>

Tendong Lho Rum Faat is one of the festivals celebrated to honour the hill and the deity in various parts of Sikkim).

Namsoong/Nambun one of the most important festivals of the Renjongmu community. The Lhopo community celebrates lossong and the Renjongmu community celebrates namsoong on the very same day. It is celebrated as the New Year Day by both the communities. Namsoong falls on the first month of the Renjongmu calendar, Kurtik-lavo (falls between December and January) or 1<sup>st</sup> day of eleventh month of Buddhist calendar. Namsoong symbolizes the killing of Demon King, Laso Mung Puno, with who the Renjongmu under the guidance of Bongthing Zor fought for 12 years and claimed victory. During the celebration, Pik Sut is performed by the Mun, Padim/Bongthing or can be even performed by the male head of the family.<sup>301</sup> It is even known as Namtek Namjyuk Sayak which means last day of the year. Hence, Namsoong is the festival of victory and this festival is celebrated by offering the first harvest to God. This festival brings sense of belongingness to the Lhapos and the Renjongmus, unite them and share the beginning of the year with joy and happiness. Namsoong is the Sikkimese New Year. It is the harvest festival which is celebrated by both the

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<sup>300</sup> *Supra* note 154 at 11.

<sup>301</sup> *Supra* note 121 at 32.

Lhupos and the Renjongmus, a time when the farmers show delight and celebrate their harvest which is the result of a whole year hardwork.<sup>302</sup> People gather to pray for a prosperous year ahead.

Muk Zikding Rum Faat is celebrated solely by the Renjongmu community. The Mun and Padim/Bongthing, both, pray to Rum (God) for good weather with timely rainfall, and sunlight for prosperous cultivation and to even protect the world and sentient beings from natural calamities like flood, landslide, famine, earthquake, drought, diseases, etc. In this festival, the altar is decorated with what the nature has offered like all kinds of shrubs, medicinal plants, food crops, flowers, etc. Lungchaok, which is a stone pillar is also erected near the altar.<sup>303</sup>

### **2.5.1.2. Artistic Knowledge**

#### **2.5.1.2.a. Traditional Weaving**

In Sikkim, the handloom weaving is regarded synonymous with the Renjongmu weave. It is practiced mainly by the females. The Renjongmus used to use yarn spun out of sisnu (stinging nettle plant) for handlooms and clothes<sup>304</sup>. Cotton and woolen yarn are also used together with plant dyes and synthetic colours which is followed till date. Sankyong Phentong, a village at Dzongu used to be the place where nettle yarn was made. The Renjongmu weaves are known as ‘thakra or thakro dum’ which is woven in vertical looms with a backstrap.<sup>305</sup> The traditional attire of Renjongmu are also made from thakra. During the time when Sikkim was a kingdom, the dress made from thakra was worn by palace orderlies or Atalis and these were woven in the Palace Namkhang or in Dzongu. The thakra which exists now apparently owe their colour schemes and designs to Gyalmo Hope Cooke. Thakras are also used for making bags, belts, curtains, cushions, bedspreads, table mats, tray clothes, etc.

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<sup>302</sup> Celebrations for Lossong-Namsoong underway in Sikkim, *available at*: [eastmojo.com/sikkim/2019/12/27/in-photos-celebrations-for-losoong-namsoong-underway-in-sikkim](http://eastmojo.com/sikkim/2019/12/27/in-photos-celebrations-for-losoong-namsoong-underway-in-sikkim) (last visited on April 8, 2020).

<sup>303</sup> *Ibid.*

<sup>304</sup> Lepcha handloom of Sikkim, *available at*: <https://spainindustrialdesign.wordpress.com/2020/12/16/lepcha-handloom-of-sikkim/> (last visited on April 10, 2020).

<sup>305</sup> Handloom Weaving, *available at*: <http://sikkimcrafts.gov.in/handloomweaving.html> (last visited on April 10, 2020).

### 2.5.1.3. Medicinal Knowledge

#### 2.5.1.3.a. Traditional Healers and Medicinal System

The key to life of Renjongmu is nature. They claim that they have a mythical connection with particular mountain peaks, lakes which are their deities and they worship them. Just like any other communities of the Himalayans, the Renjongmu also have their own Shamans and they are Mun and Padim. They regard their Shamans as divine gifts sent by the Mother Creator. The Shamans play a vital role in their daily life and in all the functions like birth, marriage, death, or solution to calamity and sickness, the presence of their Shaman is very necessary and without him or her no such functions can take place. Both their Shamans have their own duties to perform. A Padim is always a male where as a Mun can be either male or female. The rituals related to healing, household, clan and community are usually performed by Padim. A Mun can also perform all these rituals but more than performing such rituals, he or she is a medium when she gets possessed by the spirits of ancestors and deities who then makes prophesies and cures illness. Mun is more powerful.

The Renjongmus regard the Muns and Padims as descendants of Nyulik Nyosong. Both Muns and Padims are experts in retelling the origins of the Lepchas, their stories, customs and traditions. Within the Lepcha Reserve, Dzongu, North Sikkim, their traditional healer is referred to as Padim and outside of Dzongu, they are called Bongthing.<sup>306</sup> Muns are said to be Muns in every part of Sikkim. Both the Padim and Mun have to undergo training just like the Pawo and Nejum to perform healing and other rituals. Every Renjongmu village used to have Padim/Bongthing and Mun. The first consecrated Bongthing/Padim was Thikung Azaor Bongthing. The Padim is always male and he plays the roles of psychiatrist, medicine-man, spiritualist and preacher.<sup>307</sup> Both the Mun as well as the Padim can get possessed by various Renjongmu spirits and deities from both patrilineal and matrilineal line. But the Muns are considered more powerful than the Padims and can perform rituals relating to

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<sup>306</sup> The Lepcha Padim of Lingko, Dzongu, North Sikkim, *available at*: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2009\\_02\\_07.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2009_02_07.pdf) (last visited on April 10, 2020).

<sup>307</sup> G.N. Devy, Geoffrey V. Davis, *et.al.* (eds.), *Performing Identities: Celebrating Indigeneity in the Arts*, (Routledge, New Delhi, 2015).

handling malevolent beings and death rituals. Padims do not have the power like of Muns and can only tackle with fewer devils and spirits. Just like the Lhopos, the Renjongmus are also guided by the belief in supernatural which causes good health and illness. Ill health, bad harvest, drought, hailstorm and other such misfortunes are the deeds of Mung (evil spirits) and good health, good harvest, prosperity and such are caused by Rum (good spirits). And to keep both the Mung and Rum happy and satisfied, the rituals are performed by Mun and Padim.

In a Lepcha village, named Marchak, situated in East Sikkim, have two Bongthings as of now and no Mun. They are Pintso Lepcha and Mingma Lepcha.<sup>308</sup> Pintso Lepcha started his practice from the age of 60 and is now 84 years old. Before that he used to practice farming. He regarded himself as a very ordinary Bongthing as compared to those who used to be there in this village. He performs only certain rituals like paying respect to the house deities and in this ritual, he does not use blood or animal sacrifice, instead he uses gingers, chewra, dead fish, flowers, etc. in the rituals.<sup>309</sup> He even performs some healing rituals with the use of ginger, flowers, etc. Not only the Renjongmus but the Nepalis also come to him for healing purposes. He also uses medicinal plants to cure traditional poisoning, Kappad, etc. The medicinal plants which are used are not known to his knowledge but he orders from Dzongu and keep them in stock. As per his information, his supplier has never shared the name of the medicinal plants but provides the medicinal plants according to the illness.<sup>310</sup> Earlier all the Renjongmu of Marchak used to use Bongthing but now he is invited to only few houses in Marchak and have not travelled to any other place outside of Marchak to provide his service. Every village has its own deities and to please them and keep them happy for the prosperity of the villagers, certain rituals are performed. But none of these rituals are performed in Marchak as per him. Earlier, it used to be performed but now there is no one who can perform these rituals. The last Bongthing who used to perform these rituals was his teacher. He was a very knowledge Bongthing and used to perform all the rituals and healing rituals as well. He used to even sacrifice animals like ox, pigs,

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<sup>308</sup> Information gathered while conducting interview with Mr. Pintso Lepcha (Bongthing), Marchak, East Sikkim on November 17, 2019 at 7:02 p.m.

<sup>309</sup> *Ibid.*

<sup>310</sup> *Ibid.*

goats, etc.<sup>311</sup> No one from his family followed his footsteps and became a Bongthing. Pintso Lepcha performs all his house related rituals by himself and do not support animal sacrifice, he follows the way of lamas. He has sons and grandsons but no one is interested in following his footsteps of becoming a bongthing. Furthermore, he added that his grandsons who are educated don't even practice farming. As per the news report of the Telegraph online edition, published on 31<sup>st</sup> October, 2011 by Bijoy Gurung, the last surviving Khangchendzonga Bongthing passed away at his native village Nung located in Dzongu Renjongmu reserve area. His name was Samdup Taso and was 83 years old. His diminish had generated fears in the mind of the Renjongmu community as there is no one after him who can perform as Khangchendzonga Bongthing. It was passed onto him by his father but his son did not want to follow in his footsteps, neither did any other person came to him to learn the ways of Khangchendzonga Bongthing. According to the news report, the passage of Taso Lepcha was a huge loss to the Renjongmu community, along with him, the rituals will become a history and the younger generation will not have any knowledge regarding it. The people of that village still had hope that his son or grandson will continue the Bongthing lineage.<sup>312</sup>

Regarding the social work of the Padim/Bongthing, one such instance happened currently during this pandemic of COVID-19. Every country and their states have been doing all they could to stop the spread of this virus. The Government of Sikkim also followed all the instructions and measures lead down by Government of India. For the benefit of the people and the world, Bongthing Olley Lepcha along with his disciples performed a ritual in his village Naga, located in North Sikkim seeking blessings for safe Sikkim, nation and the world against the pandemic of COVID-19.<sup>313</sup> The Traditional Healers perform such rituals when calamities and such pandemics occur. The tradition of the Padim/Bongthing (Muns have vanished in most villages) is slowing losing its importance.

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<sup>311</sup> Information gathered while conducting interview with Mr. Choda Lepcha, Marchak, East Sikkim September 12, 2019 at 4:09 p.m.

<sup>312</sup> Bongthing dies, custom too-Peak without priest, *available at:* <https://www.telegraphindia.com/states/west-bengal/bongthing-dies-custom-too-peak-without-priest/cid/343010> (last visited on April 11, 2020).

<sup>313</sup> Bongthing performs Shamanic Rituals expelling Corona Virus Demon, *available at:* <http://www.uniindia.com/bongthing-performs-shamanic-rituals-expelling-coronavirus-demon/east/news/1950331.html> (last visited on April 18, 2020).

The Renjongmus were well-known plant collectors and have enormous knowledge regarding medicinal plants. But this medicinal plants-based knowledge has almost disappeared and it is in the Dzongu reserved area, North Sikkim, where this system of medicine is still practiced.<sup>314</sup> The medicine man who uses medicinal plants is Moandoak.<sup>315</sup> He holds tremendous knowledge regarding medicinal plants. Other than him, the commoner Renjongmu also do have some knowledge regarding medicinal plants and their uses. In the Dzongu region, 118 species of medicinal plants are used to cure 66 ailments and diseases by the Renjongmus.<sup>316</sup> The most common of them all are cure for diarrhea, dysentery, gastritis, indigestion, cuts, wounds, inflammation, sprains, joint pains, fever, cough and cold, throat pain. Those medicinal plants are found in other parts of Sikkim as well and the Renjongmu living in those areas also use the same medicine plants for curing the same ailment. Some medicinal plants are found in different places and used in treating different ailments. For instance, the root/rhizome of *Acorus calamus* Linn is used by the Renjongmu to treat skin diseases, cough and fever and the same is used by the Apatani Tribe of Arunachal Pradesh to treat cuts, wounds, skin diseases and bone fracture.<sup>317</sup> The medicinal plants are used for treating ailments and diseases of domestic animals as well. 39 species of medicinal plants are recorded for the treatment and in some cases more than two medicinal plants properties are mixed to make medicine.<sup>318</sup> These ailments are diarrhea, dysentery, bone fracture, wounds, foot-mouth diseases, blood in urine, udder infections, skin diseases, fever, etc. While preparing the medicine, apart from whole plants, in some cases, the seeds, barks, fruits, roots, flowers, and leaves are used.<sup>319</sup> Even some other materials like honey, turmeric, black-salt, charcoal, ashes, slake limes, animal organs, etc. are mixed with the plant's properties.

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<sup>314</sup> Medicinal Plant Resources, *available at*: <http://www.sikkimforest.gov.in/soer/Medicinal%20Plant%20Resources.pdf> (last visited on April 18, 2020).

<sup>315</sup> Bharat K Pradhan & Hemant K Badola, "Ethnomedicinal plant use by Lepcha tribe of Dzongu valley, bordering Khangchendzonga Biosphere Reserve, in North Sikkim, India", 4 (22) *Journal of Ethnobiology and Ethnomedicine* 4 (2008).

<sup>316</sup> *Id* at 1.

<sup>317</sup> *Ibid* at 15.

<sup>318</sup> S.R. Lepcha, "Ethno-veterinary practices by the people Lepcha Primitive Tribe living in the Dzongu Tribal Reserve Area (RTA) in North, Sikkim, India", 14(1) *East Himalayan Society for Spermatophyte Taxonomy* 77 (2020).

<sup>319</sup> *Supra* note 315

The Traditional healers who have vast knowledge regarding the medicinal plants are reducing endangering this aspect of TK. With the establishment of PHCs and Sub-centers, there has been easy availability of allopathy in the village areas which has lowered the dependency on traditional medicinal system. The younger generations show lowest level of interest. The process of preparing medicine is time consuming and tough. It is difficult to specifically identify the plants. Furthermore, the migration to cities or nearby towns in search of the better livelihood has also become a hindrance in the transmission of traditional medicine system to the younger generation. The old generation fears that this knowledge will get lost with time witnessing the disinterestedness showed by the young generations.

#### **2.5.1.4. Biodiversity or Nature based Knowledge**

For the achievement in the conservation of the biodiversity, the prior knowledge of the indigenous people living in that area should be taken into consideration. For the protection of biodiversity and sustainable use of resources, the TK regarding it has been given importance recently.<sup>320</sup> Without the scientific training or studies of biodiversity, the indigenous communities have the full knowledge regarding the flora and faunas of their areas, sustainable use of resources and conservation of them as well. The Renjongmu are one such communities who have good biodiversity-based knowledge. In the Renjongmu reserved land, Dzongu, surveyed was carried on for the identification of bird species and the local Renjogmu volunteers identified the birds in their own traditional way.<sup>321</sup> In the same ways, the locals of the specific areas are asked for volunteering when researchers or scientist from State Government or Central Government or even from foreign countries come to conduct researches in the land of Sikkim. The Renjogmus living in their respective areas have good knowledge regarding the biodiversity of that area. They are known to have immense knowledge regarding the medicinal plants and use of animal organs in medicines. With time the Renjongmus of Dzongu have developed a fishing technique with the use of trap made out of long bamboos. River Teesta and Rongheet have great significance and importance to the Renjongmu communities. Festival related to nature is one way of conservation

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<sup>320</sup> Bhoj Kumar Acharya, Basundhara Chettri, *et. al.*, “Indigenous Knowledge of Lepcha community for monitoring and conservation of birds” 8(1) *Indian Journal of Traditonal Knowledge* 65 (2009).

<sup>321</sup> *Supra* note 331 at 66-67.

of the biodiversity. Even certain taboos and restrictions have kept the biodiversity still alive.

There would be scarcity of food and during that time wild edibles were searched and eaten. Mostly, ghitta and bhya-gur (local names) were searched from the forest or barren land and compensated the scarcity of food. During different seasons, certain wild edibles are found. Gurbey (local name), a wild vegetable also compensated the food which is found during the rainy season. There are many such wild edibles that provide nutrition and were eaten. To compensate the tea leaves, the Renjongmu used the stalk of Tuk-chong-muk, wild plant, along with the tea leaves. It is said that this wild plant has the benefit of cholesterol control.<sup>322</sup>

#### **2.5.1.5. Agricultural Knowledge**

Agriculture is very important to the nation. It has helped in the growth of international trade, provides employment, generates revenue, helped in the development of a country and for most keeps the humans connected to mother earth and supports sustainable development. The agricultural practices of the Renjongmu is same as that of the Lhapos. The Renjongmu of Dzongu (Lingko), North Sikkim, practice dry cultivation of rice where plough, ox, etc. are not used for the process of cultivation. Instead, sticks are used to make holes on the field and rice are cultivated. The agri-knowledge of Sikkim is quite similar to that of Nepal and Bhutan. They also cultivate rice, maize, barley, finger millet, wheat. Pulses, pea, potato, mustard, sweet potato, large cardamom, chilly, turmeric, ginger, mandarin orange, banana, papaya, Litchi, passion fruit, guava, jackfruit, iskus, tomato, cauliflower, onion, pumpkin, tree tomato, radish, tea, etc.

#### **2.5.1.6. Sacred Knowledge**

The sacred knowledge of the Renjongmu is the same as that of the Lhapos. The sacred sites to them are also the same but within their own villages and reserved areas, there are certain mountains, lakes, rivers, etc. which holds great importance to them and are sacred. River Teesta and river Rongget are sacred rivers to them and even the Chogyal

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<sup>322</sup> *Supra* note 261.



used to perform annual ritual with regards to these rivers. Tendong hill another sacred site to the Renjongmu but just a hiking site to others. The Lhopos' traditional healers are scarcely found, whereas the traditional healers of the Renjongmu still hold great importance within their community and holds great sacred knowledge. The festivals of the Renjongmu are totally nature based. And the rituals performed during the festivals hold sacred knowledge as well.

#### 2.5.1.6.a. Rituals

Rituals play a vital role in understanding the communities and support to conserve the nature. While performing certain rituals plants, mud, branches of trees, and such are used which indicate towards the sustainable use and conservation of nature.<sup>323</sup> In Sikkim, the biodiversity had been and is conserving the nature more through the ritual beliefs rather than the regulations or legislations enacted by the Government. It is through rituals various knowledge are passed on from generation to generation and have become the identity of the communities. Just like any other communities, the Renjongmu have their own rituals regarding birth, marriage and death which is similar to other communities of the Himalayan regions.

- i) **Birth:** There are two rituals, i.e., Thung-Chee Faat and Thung-bong Faat which are performed during the birth and after the birth of the child.<sup>324</sup> For the first three days after the birth, the baby is still considered to be in the womb of the mother and all those pre-natal precautions should be observed. The mother is not allowed to touch the ground for those three days (these days birth is mostly given at the hospital, so this practice is not taken seriously).<sup>325</sup> Traditional Food, Chee is prepared and is given to the mother after the birth and few drops are even fed to the new born.<sup>326</sup> All the birth rituals are performed by the Mun. In the birth ceremony, relatives and

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<sup>323</sup> Yanfei Geng, Guoxiong Hu, *et.al.*, "The implications of ritual practices and ritual plant uses on nature conservation: a case study among the Naxi in Yunnan Province, Southwest China", 13(58) *Journal of Ethnobiology and Ethnomedicine* 1 (2017).

<sup>324</sup> Information gathered while conducting interview with Mrs. Marchak, East Sikkim on September 12, 2019 at 2:01 p.m.

<sup>325</sup> Information gathered while conducting interview with Mrs. Laymit Lepcha, Rey Mindu, East Sikkim on September 15, 2019 at 11:23 a.m.

<sup>326</sup> Akash Deep, "Chi: The Revered Beverage of the Lepchas of Sikkim, India" 8 (10) *International Journal of Creative Research Thoughts* 2524 (2020).

neighbours are invited who are offered with three pots of special Chee, cooked rice and meat. Even the baby is fed with tiny ball of pounded butter rice.

- ii) Marriage:** The marriage ceremony of the Renjongmu community is performed by the Bongthing (these days along with the Bongthing, lamas also perform certain rituals).<sup>327</sup> He chants religious prayers to complete the marriage ceremony. The bride and the bridegroom are kept on a high pedestal which represents two mountain peaks of the Himalayas.<sup>328</sup> There are four stages of the Renjongmu marriage which make the marriage a valid one. Some of the customs of marriage are very similar to that of the Lhopo community and the marriage between the two communities is acceptable and valid. The four stages of marriage are Thamvyeth and Kacheyong, Ngyom Ull and Nong Chyom, Ashek and Bree.<sup>329</sup>
- iii) Death:** And lastly the death rituals which is performed by the lamas and the Bongthing. Certain plants are needed in performing the rituals. It is the same as that of the Lhopos.

#### 2.5.1.7. Customary Laws

The Department of Law, Government of Sikkim, had taken the initiative to document the customary laws of the Renjongmus of Sikkim through “Draft Report on Customary Laws and Usages of Lepcha Community of Sikkim”. It was printed in the year 2002 and consists of 146 pages. The customary laws are in accordance to marriage, divorce, maintenance, remarriage, inter-caste marriage, inheritance, will, adoption (kup tsop), debts, minority and guardianship, religious and charitable endowments. The customary laws regarding marriage of the Renjongmu is similar to that of the Lhopos.

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<sup>327</sup> *Supra* note 261.

<sup>328</sup> Anira Phipon Lepcha & Abrona Lee Pandi Aden, “Lepcha Marriage: An Overview” *International Journal of Research* 39 (2016).

<sup>329</sup> *Supra* note 261.

### 2.5.1.8. Traditional Games

- i) **Chongay:** Just like the Lhopos, the Renjongmu also love archery (chongay). This game of archery is played during the Namsoong festival, at Namprikdang village at Dzongu, North Sikkim.<sup>330</sup> It is even played during the festival Muk Zikding Rum Faat, which is celebrated at Dzongu, North Sikkim.<sup>331</sup>
- ii) **Long Tyok:** This is the game of strength and technique which the Renjongmu play. This is a game of throwing flattened stone.<sup>332</sup> This game is played during Namsoong and Muk Zikding Rum Faat festival in some parts of Sikkim.
- iii) **Thahut:** This game is the long jump, pole vault game (uses bamboos).<sup>333</sup> Just like other traditional games, this game is also played during the Namsoong and Muk Zikding Rum Faat in some parts of Sikkim.

### 2.6. Summary

All the aspects of Traditional Knowledge used to be the integral part of the Lhopos and the Renjongmus. With the modernity, urbanization and search for a luxurious and modern life, it is slowly losing its value.

In the present study, an attempt has been made to identify whether the Lhopo and the Renjongmu communities still have adequate knowledge regarding their Traditional Knowledge, the source of Traditional Knowledge, the Importance of Traditional Knowledge, its economic benefits, exploitation, measure taken by the State/Central Government and the communities themselves to protect it, problems faced by them in preserving and protecting it and lastly whether it is vanishing or not, on the basis of 250 respondents from each communities. More emphasis was given to respondents

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<sup>330</sup> *Supra* note 154 at 14.

<sup>331</sup> *Id.* at 15.

<sup>332</sup> *Supra* note 261.

<sup>333</sup> Information gathered while conducting interview with Mr. Nima Lepcha, Rey Mindu, East Sikkim on September 24, 2019 on 11:45 a.m.

between the age group of 16-35 years old. The major variables included in the questionnaire for this study were name, residence, age, qualification and occupation. The information was gathered from both the male and female and in certain cases they were uncomfortable to participate and did not provide any response. Some did not have any idea regarding the questions and provided answers on the basis of other people's opinion. Another disappointment was that their answers were contradicted, reinforced, or complimented by others during the time the interview schedules were being answered. Interviews were also carried of both the male and female members of both the communities who have knowledge regarding their TK and of Traditional Helaers as well. While conducting the interviews, due to not knowing of my mother tongue and the Lepcha language, informations were not shared openly by some and even had to face criticism. Some even looked down upon me and regarded me as someone who do not belong to the Lhopo community. Translators were of great help. The age group of the respondents ranged from 15 to 89 years.

The results of the analysis have been discussed below and the various elements have been taken into consideration to explain the present scenario of importance TK of the Lhopo and Renjongmu Communities.

Firstly, Language is the bridge to protect and preserve the Traditional Knowledge of any community. Nepali being the common and popular language in Sikkim, the number of Lhopos who can read, write, understand and speak their mother tongue have become very less. The number of Lhopos who can understand and speak their mother tongue is higher in the older ages above 50. And the ones who cannot understand and speak are more in the younger ages ranging from 15 to 35. The loss of language is the loss of Traditional Knowledge and the sense of belongingness. There is a social media group named "Denjongke lho kay" which is spreading awareness regarding the importance of language and with their survey conducted recently they came with the result that if the Lho kay language is not taken care of then it will vanish within 20 years. The same is with the Renjongmu, the youngsters do not speak or understand the mother tongue. This possess a great threat to the TK of both the communities. TK is the practices that a community follows in their day to day life. And these days most of the TK are not given importance due to the influence of modernization or westernization. Most of the TK are known to the elder generations but they do not practice it or encourage the

youths to practice it. The architectural design of the houses of both communities are regarded as outdated and mostly concrete RCC buildings are build these days. Sikkim lies in Zone IV of the Seismic Zonation Map of India.<sup>334</sup> And the design and the structure of the house is resistance to earthquake up to some level. Even the Government of Sikkim after the massive earthquake of 18<sup>th</sup> September, 2011, had directed to build the traditional design houses of the Lhopo and the Renjongmu communities. But these days, both the communities rarely build houses as per their traditional design. There are very few Renjongmu and Lhopo who have the knowledge to build their traditional houses because it has been forgotten.

Secondly, Food is the first in the category of TK which gets exploited or misappropriated. But in the case of both these communities, the Traditional food are being forgotten. Only very few traditional foods are prepared like Zhero, Chya-dung Bya-su, Khu-dee, Phi, etc. Mostly, the traditional food is not consumed in a daily manner. People these days do not like the taste of most of the Traditional foods, they regard them as tasteless. More than taste they find it very time consuming and instead of preparing them, they prefer to buy them. This is very saddening to most of the community members that their traditional foods are being commercialized by people other than their own community. The youths do not have much knowledge regarding the preparation of traditional foods and the health benefits of them. Only during festivals and offerings to Gods and Deities, some traditional foods are prepared. Other than this, people have started to have craze for processed foods like KFC, pizzas, etc.<sup>335</sup>

After food, the traditional attire and jewelry are the ones which gets misappropriated. The people of Sikkim were easily influenced by westernization and now Koreanization. The female members of both the communities do wear their traditional attire but the male members only wear it during festivals, ceremonies or such. What has been seen and conveyed during my research is that the youths, especially the Lhopo female members do not wear their traditional attire properly. They wear it mixing with other community's traditional attire, especially with the Bhutanese attire which is a sign of

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<sup>334</sup> Sikkim Earthquake of 18<sup>th</sup> September, 2011, *available at*: [https://dmme.uk.gov.in/files/Sikkim\\_Report.pdf](https://dmme.uk.gov.in/files/Sikkim_Report.pdf) (last visited on April 15, 2020).

<sup>335</sup> Information gathered while conducting interview with Mr. Kaleon, Airthang, East Sikkim on December 5, 2019 at 12:30 p.m.

cultural appropriation. Though it might not seem a big problem right now but in future it might cause confusion and may end up forgetting the proper way to wear attire. Furthermore, most of the Lhopo youth males do not even know how to wear their traditional attire. The Kho of the Lhopo is worn longer (few inches above the feet) than that of the Tibetans (they wear it just below the knees) but this is not taken into consideration while wearing the Kho. Same is with the Renjongmu male, the youths do wear their traditional attire occasionally but most do not know how to wear their thakro/dumpra. Even if they wear they need an assistant to wear it neatly. There are procedures to be followed to wear the female attire (dumbun/dumdyan) of the Renjongmu but these days readymade ones are available in the market which is hassle free to wear.<sup>336</sup>

Both the communities have rich folk culture. They have their own set of folk dances and songs as mentioned earlier. Even their own set of musical instruments. But there are very a smaller number of people who can play the instruments. As per the Beyul Doegar Tshogpo, an association relating to the folk culture of the Lhopo community, who are working towards preservation of the vanishing Lhopo folk culture, stated that the folk culture of the Lhopos are vanishing and the youth are not being able to get involve in learning it. The main barrier is the language which most of the young Lhopos cannot speak. Some of them are not interested in learning as well. Their main objective is to transmit the folk culture to the school students, graduation students and post-graduation students so that further they can transmit it more in their family, villages, etc. They perform pure authentic Lhopo folk dance and even sing the folk songs. They are also working towards uplifting the Lhopo songs and dances, making them more acceptable by the young generations, including some new steps in the modern Lhopo dances. They have even released three Lhopo song albums. From their point of view, the Lhopo folk culture had flourished and after that it was not taken care of, all there was a monotonous dance step which did not excite the people of the community which lead to diminishing of it. They even stated that there are above 8 but below 15 people who can play the traditional instruments of the Lhopos. The people of Lhopo community should come forward and learn their folk culture or in the next 50 years it

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<sup>336</sup> Information gathered while conducting interview with Mrs. Laden Lepcha, Chakung, West Sikkim on January 23, 2020 on 12: 23 p.m.

will totally vanish from the community and the Government of Sikkim through Culture Department will take benefit of it. The reality with Renjongmu is more disheartening. There is no such association who are working towards the preservation of their folk culture. But there is one Renjongmu named Mickma Tshering Lepcha,<sup>337</sup> who is working really hard to promote, preserve their folk culture. If there is anyone who has the enthusiasm to learn the folk culture, he with all his heart teaches it. He travels to different parts of Sikkim, India promoting the folk culture of the Renjongmu.

The traditional art of Lhopos are thangka painting, wood carving and painting, mask carving and painting, blanket and carpet weaving, etc. And the Renjongmus are expert weavers, they weave Thyaaktuk (their traditional hat out of cane and bamboo), nettle clothes<sup>338</sup>, etc. But the people of both communities are not that much interested in weaving, painting or carving. Though all these are taught in the Directorate of Handloom Department of Sikkim (except Thyaaktuk and nettle clothes weaving), there are very few from both the communities who are actually interested in learning all these art. The people from age group 50 to 65 years are more in number as compared to the youths who knows these arts. The most upsetting part is that there are only 5-8 people who weaves Thyaaktuk and the nettle cloth weave is on the verge of vanishing. The learning process of all these arts are very complex and needs lots of hard work, dedication and patience. And if one cannot excel then all the years spend in learning will be a lost. There are very less youths who have knowledge regarding these arts. The art of wood carving and painting are even taught in State Jail of Sikkim regardless of belonging to any community. Even the Directorate of Handloom Department of Sikkim give admission in learning these arts regardless of belonging to any community, only the COI is a requirement.

Lastly, it is a known fact that the customary laws are the agents which work towards protection and preservation of TK of a particular community and are applicable to all the members of the communities. Dzumsa, the legal system of the Lachungpas and Lachenpas are still prevalent in Lachung and Lachen valley and are obeyed and respected by them all. This makes the customary vital and helps in the protection and

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<sup>337</sup> Lepcha folk music band, Sofiyum, member.

<sup>338</sup> Sankyoung Phentong, the only village in Dzongu where nettle clothes are weave.

preservation of TK. But in other parts of the State, the story is a bit different. The customary laws are not given much importance and in place of that the legal laws are preferred. The customary laws were prevalent during the time of Mandals and Kazis but now with the abolishment of Mandals and Kazis and the implementation of Panchayati Raj System, the legal laws have gained importance and are more accepted. Even though the Scheduled Tribes are not governed by the Hindu Marriage Act as per Section 2 (2) of the Act, the Lhopos and Renjongmus have to seek divorce in the court under the Hindu Marriage Act. Not only divorce, even the matters which are handled by customary laws are taken to Court as they do not have much idea regarding the customary laws of their communities. The Government of Sikkim in 2002, which can be stated as recent, had taken the initiative to document the customary laws of both the communities but their applicability is still a question.

Sikkim is one of the biodiversity hotspot and home to plenty of medicinal plants and traditional medicinal system. Each community have their own traditional healers who uses mantras and medicinal plants to treat illness. Both the communities use medicinal plants or trees since the time a child is born. But these days this practice is losing its value. And the medicinal plants cannot be identified by most of the youths of both the communities. Even if a medicinal plant is taken in front of them, they cannot identify it. The Renjongmus are known to have immense knowledge regarding the medicinal plants and their Traditional Healer also uses them. But these days this knowledge is vanishing. Very few have knowledge regarding it. Each and every part of Sikkim where sizable amount of the Lhopos or Renjongmus live are surrounded with some medicinal plants but very few have knowledge regarding it. The first hospital in Sikkim, “Sir Thutob Namgyal Memorial Hospital” was built in 1917. Traditional Healers were the ones who used to treat most of the illness before that and after as well. But due to the advancement in medical science and availability of allopathy, people started to use the Traditional Healers less and only to perform certain rituals they were referred to. But in the valley of Lachung and Lachen, the inhabitants still refer to Pawo or Neejum before taking the patient to the hospital. If the healer directs to take hospital then the patient is taken to hospital, if not then certain rituals are performed. People have more faith upon allopathy than the treatment of medicinal plants. If the medicines do not work then people seek refuge in medicinal plants treatment or rituals.



Apart from all, there are still some villages in Sikkim like Gangyap, Tashiding Gyempa area, Lachung, Lachen, Rey Mendu, Badong, etc. where the TK are still prevalent and have not lost its value like it has in some parts of Sikkim. This is the right time to document every aspects of TK as the ones after the eldest generation of both the communities do not possess every knowledge of the TK. In the run to better their lives as well as their families, the practices of some of the TK slowly got forgotten and were not practiced.

Hence, it can be seen that both the Communities are rich in TK and have preserved it in their own manner, but there is a rapid decrease in the number of people who have the knowledge regarding their culture, religion etc. The lack of awareness and lack of belongingness to the Community has also led to loss of TK. While taking interviews most of the questionnaires were never answered which provides an outlook of what is happening in the recent times. They do not have the understanding about TK therefore they failed to reply the questions. It is necessary that the importance of TK is spread, or a whole community can lose its identity.

## CHAPTER III

### CONSTRAINTS IN THE PRESERVATION OF TRADITIONAL KNOWLEDGE IN INDIA

#### 3.1. Constraints in preserving Traditional Knowledge in India

India, which is also known as the Republic of India, is a country in South Asia consisting of 29 states and 7 union territories. With regards to its area, it is the seventh largest country and has a population of more than 1.3 billion. It is very well known for its rich heritage of biodiversity, harbouring nearly 7-8% of the recorded species of the world and India as well represents 4 of the 34 globally identified biodiversity hotspots, i.e., Himalaya, Indo-Burma, Western Ghats and Sri Lanka, Sundaland.<sup>339</sup> Over 5,000 years, India has been nurturing a tradition of civilisation.<sup>340</sup> India's ancient scriptures consist of 4 Vedas, 108 Upanishads, 2 epics, Bhagavad-Gita, Brahma sutras, 18 Puranas, Manusmriti, Kautilya Shastra, and Smritis.<sup>341</sup> With the richness in biodiversity, it has been recorded that India has over 91,200 species of animals and 45,500 species of plants in its 10 bio-geographic regions.<sup>342</sup> With so much richness in biodiversity and tradition of civilization, India has a vast repository regarding traditional knowledge associated with biological resources.<sup>343</sup>

As it a known fact that Traditional Knowledge is used reciprocally with indigenous knowledge<sup>344</sup>, India is home to around 700 tribal group estimating a population of 104 million as per 2011 census, resulting in the constitution of the second largest tribal

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<sup>339</sup> India – Country Profile, *available at*:

<https://www.cbd.int/countries/profile/default.shtml?country=in> (last visited on December 16, 2017).

<sup>340</sup> Mangala Hirwade and Anil Hirwade, "Traditional Knowledge Protection: An Indian Perspective" 32(3) *DESIDOC Journal of Library & Information Technology* 242 (2012).

<sup>341</sup> Indigenous Technological Knowledge and its sustainability in rice weed management, *available at*: <http://imotforum.com/2018/04/indigenous-technological-knowledge-in-rice-weed-management/> (last visited on December 21, 2017).

<sup>342</sup> *Supra* note 339.

<sup>343</sup> Mangala Hirwade & Anil Hirwade, "Traditional Knowledge Protection: An Indian Perspective" 32 (3) *JLIT*. 242 (2012).

<sup>344</sup> Biba Jasmine Kaur, Yashaswi, *et. al.*, "Traditional Knowledge Systems in India for Biodiversity Conservation" 15(2) *Indian Journal of Traditional Knowledge* 304 (2016).

population in the world after Africa.<sup>345</sup> In other words, it comprises of 8.6% of the nation's population. Apart from these recognized Scheduled Tribes of India, there are several other tribal groups that are considered as Scheduled Tribes but are not officially recognized.<sup>346</sup> Therefore the total number of tribal populations is relatively higher than the official figure of the census. With the name given as the 'seven sisters' to the seven north eastern states of India, the concentration of indigenous people is largest in this region.<sup>347</sup> There is another region known as "central tribal belt" in India which stretches from Rajasthan to West Bengal.<sup>348</sup> With this number of indigenous people, it is difficult to measure the uniqueness in Traditional Knowledge present in India. The vast varieties of Traditional Knowledge that are part of Indian culture, religion, are not safeguarded and protected in the appropriate manner as it should be. The various measures adopted are not sufficient and satisfactory. This chapter highlights various constraints in the preservation and protection of Traditional Knowledge. The various legal and administrative measures adopted for providing protection the Traditional Knowledge are discussed below.

### **3.1.1. Legal Framework for Protection of Traditional Knowledge**

The protection measures adopted by different countries are different from each other. Some have made strict legalisation for the protection of traditional knowledge whereas some countries haven't even provided a protection measures for the same. India is known for its diversity from language, religion, customs, cultures etc. It is regarded as one of the "mega diverse" countries under the CBD due to its immeasurable genetic resources that are associated TK. With various developments in technology around world, TK has become one of the most vulnerable entities. The issues of biopiracy and similar types of threats are increasing. With the view to protecting TK, not much legislation is enacted.

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<sup>345</sup> Indigenous people in India and the web of indifference, *available at*: <https://www.downtoearth.org.in/coverage/governance/indigenous-people-in-india-and-the-web-of-indifference-55223> (last visited on January 1, 2018).

<sup>346</sup> Indigenous peoples of India, *available at*: <https://www.iwgia.org/en/india> (last visited on January 1, 2018).

<sup>347</sup> *Ibid.*

<sup>348</sup> *Ibid.*

### 3.1.1.a. The Constitution of India

The Constitution of India do not provide any expressed provisions regarding the protection of the TK but in various provisions of the Indian Constitution, the need for the protection of the TK can be found.<sup>349</sup> They are:

- a) Article 48 (A) of the Constitution of India obligates every state to protect and improve the environment and safeguard the forest and wildlife.
- b) In accordance to Article 51 (A) (g) of the Constitution of India, a duty is imposed upon the citizens of India to protect and improve the natural environment, including forests, lakes, rivers and wildlife. Furthermore, Article 51 (A) (f) of the Constitution of India imposes a fundamental duty to every citizen of India “to value and preserve the rich heritage of our composite culture”.
- c) With due consideration to the special cultural identity of the tribal people in India, the Constitution of India provides special protection to the indigenous communities. The areas where only the tribal communities live, as per Article 371 read with the Schedule VI of the Constitution of India are allowed to set up separate Autonomous Council for self-governance with special reference to their customary laws.<sup>350</sup>

India is a party to TRIPs and India has adopted various legislations in compliance to it. TRIPs nowhere have mentioned about Traditional Knowledge. Though various IPR laws i.e. Patent Act, Trademark Act, Copyright etc are farmed, it protects only specific rights and to avail such protection certain requirement must be fulfilled. Hence, when we go through the various legislations the concept of Traditional Knowledge has not been mentioned. The issue regarding to Traditional knowledge has been left behind.<sup>351</sup>

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<sup>349</sup> Topi Basar, Kankana Baishya, *et. al.*, (eds.), *Traditional Knowledge and Traditional Cultural Expressions: National and Community Perspectives* 140 (National Law University and Judicial Academy, Guwahati, 2019).

<sup>350</sup> *Id.* at 141.

<sup>351</sup> Intellectual Property Rights and India, *available at*: <https://www.insightsonindia.com/2016/03/21/intellectual-property-rights-india/> (last visited on May 9, 2018).

### **3.1.1.b. The Indian Forest Act, 1927**

It is one of the earliest Acts framed for protection of biological diversity in India. The main aim of this act was to provide a strong law for protection of forest, the transits of forest produce. Though it is difficult to point out the protection awarded by this act to traditional knowledge, it indirectly provides protection to medicinal plants which is part of traditional knowledge of indigenous communities. It is the duty of Forest Authority to see that the wild medicinal plants are not exploited or smuggled out of the country. The various cases of biopiracy are off the record. There must be stringent provision to check all these issues and the Forest Act is not sufficient enough to fulfil its purpose.

### **3.1.1.c. The Copyright Act, 1957**

Under Copyright Act, right of authorship is given to a creator of a work and no one can misuse his work. The right recognizes the author's right and their right to restrain distortion, modification etc. which prejudice reputation of his work.<sup>352</sup> The major issue relating to copyright arises in relation to traditional knowledge related to folk materials. The Folk materials include traditional cultural expressions including folk songs, dance, arts etc. There are number of cases of infringement of folk arts. The folk art is misused, diluted and exploited.<sup>353</sup> Certain folklore can be protected under the Copyright Act but the main issue is that the Act does not recognize community rights. So even with the Copyright Act the issue of misuse cannot be avoided. Copyright Act is also inadequate to provide protection to arts of the indigenous communities.<sup>354</sup> Traditional handicrafts do fall under the subject matter of Traditional Knowledge whereas, Section 2(c) of the Copyright Act 1957 includes handicrafts. The question that arises here is does this Section cover Traditional handicrafts? Since to obtain a copyright in traditional handicrafts, there is a need for tracing the authorship to one individual author's

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<sup>352</sup> India: Moral Rights under Copyright Law, *available at*: <http://www.mondaq.com/india/x/537094/Copyright/Moral+Rights+Under+Copyright+Law> (last visited on May 10, 2018).

<sup>353</sup> Protection of Traditional Knowledge under the Existing Modes of Intellectual Property Rights and the Surrounding Issues, *available at*: [http://shodhganga.inflibnet.ac.in/bitstream/10603/22605/11/11\\_chapter4.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/22605/11/11_chapter4.pdf) (last visited on May 10, 2018).

<sup>354</sup> Moral Rights of Author, *available at*: <https://www.lawctopus.com/academike/moral-rights-author/> (last visited on May 10, 2018).

originality and the imprint of his personality.<sup>355</sup> Furthermore, originality is not defined under the Act. Traditional Knowledge is the knowledge of a community and no individual can solely claim ownership over it and if ownership under the Copyright Act is granted then the whole of the community is to have that right which will result in ‘tragedy of anti-commons’.<sup>356</sup> Thus, traditional handicrafts which falls under the subject matter of traditional knowledge is not provided protection under Section 2(c) of the Copyrights Act, 1957.

#### **3.1.1.d. The Patent Act, 1970**

According to the United Nation Organisation, a patent is a legally enforceable right granted by countries government to its inventor.<sup>357</sup> Under the Indian Patent Act, 1970 there is no such particular protection given to traditional knowledge as Traditional Knowledge in itself is a public domain and does not qualify as an invention under Section 2 (1) (j) and Section 3 (e) of the Patent Act, 1970. There is another unique provision under Section 3 (p) where it is stated “an invention which, in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components” is not an invention and hence not patentable.<sup>358</sup> With regards to Section 3 (p) of the Patent Act of India, a question can be raised stating whether the indigenous communities can patent their own Traditional Knowledge even if such knowledge is known only to that community and is a “trade secret” in this sense?<sup>359</sup> Section 3 (p) of the Act is regarded as a defensive provision with regards to the protection of Traditional Knowledge but this makes it difficult to use the existing patent system for the protection of Traditional Knowledge.<sup>360</sup> Patent is granted to any invention that satisfies three tests of novelty, inventive steps and

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<sup>355</sup> J Sai Deepak, “Protection of Traditional Handicrafts under Indian Intellectual Property Laws” 13 *Journal of Intellectual Property Rights* 201 (2008).

<sup>356</sup> *Ibid.*

<sup>357</sup> Anand Chaudhary & Neetu Singh, “Intellectual Property Rights and Patents in Perspective of Ayurveda” 33(1) *International Quarterly Journal of Research in Ayurveda* 20 (2012).

<sup>358</sup> Guidelines for processing of patent applications relating to Traditional Knowledge and Biological Material, *available at*: [http://www.ipindia.nic.in/writereaddata/Portal/IPOGuidelinesManuals/1\\_39\\_1\\_5-tk-guidelines.pdf](http://www.ipindia.nic.in/writereaddata/Portal/IPOGuidelinesManuals/1_39_1_5-tk-guidelines.pdf) (last visited on May 11, 2018).

<sup>359</sup> Patent Discrimination Against Indigenous Communities? *available at*: <https://spicyip.com/2011/07/patent-discrimination-against.html> (last visited on May 12, 2018).

<sup>360</sup> Problems and Issues related to Biodiversity Protection in India with special reference to Patent Laws, *available at*: [http://shodhganga.inflibnet.ac.in/bitstream/10603/5218/12/12\\_chapter%206.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/5218/12/12_chapter%206.pdf) (last visited on May 12, 2018).

industrial application.<sup>361</sup> But, traditional knowledge cannot be awarded patent as it does not satisfy the requirements laid down for availing patent because it is not novel, and it is hard to examine whether it has an industrial application and involve any inventive steps.<sup>362</sup> For instance; Ayurvedic knowledge is the Traditional Knowledge of India and with regard to the rules to get permission of Patent, it has to be a new invention, which should consist of nobility with commercial industrial application. Ayurvedic knowledge is in 'public domain' and 'prior art' as per the provisions of Patent Act, 1950 patent cannot be granted.<sup>363</sup>

In most of the cases TK has been awarded patent. The various cases as discussed in preceding pages like neem case, turmeric case etc. This not only infringes the rights of the TK holders, communities, etc. but also make them pay for the use of such products, even when the product is the outcome of their Traditional Knowledge.<sup>364</sup> The provisions of the Patent Act, 1970 of India have this obstructive nature which states that TK cannot be patented<sup>365</sup> but in practical sense it is being misappropriated and misuse. Traditional Knowledge cannot be regarded as novel ideas because they have been known to everyone belonging to the particular community and had been practicing from time immemorial passing on from generation to generation. Hence, the requirement of novelty is defeated as the information is already available to public. The main aim of inventive step is to know that the individual claiming has used his intellectual labour to come up with such invention. Whereas Traditional knowledge has been passed on from generations and the present generation cannot claim rights over it because they haven't come up with such knowledge. Hence, the requirement for inventive step is also not satisfied. The main aim of inventing something is that it must be capable of industrial application. So, the invention must have industrial capability. Most of the traditional knowledge does not have an industrial application.<sup>366</sup> So the

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<sup>361</sup> Fields of Intellectual Property Protection, *available at*:

<https://www.wipo.int/export/sites/www/about-ip/en/iprm/pdf/ch2.pdf> (last visited on May 13, 2018).

<sup>362</sup> India: Patent Laws in India, *available at*:

<http://www.mondaq.com/india/x/656402/Patent/Patents+Law+In+India+Everything+you+must+know> (last visited on May 13, 2018).

<sup>363</sup> *Supra* note 357 at 21.

<sup>364</sup> India: Traditional Knowledge and Scope for Patent Protection, *available at*:

<http://www.mondaq.com/india/x/668414/Patent/Patent+Claims+And+Their+types> (last visited on May 15, 2018).

<sup>365</sup> Section 3 (p) of the Patent Act 1970 (as amended in 2005), TK is not an invention.

<sup>366</sup> J.K. Das, *Intellectual Property Rights* 250-258 (Kamala Law House, Kolkata, 2008).

question here is, is it for the protection of Traditional Knowledge that certain provisions of Patent Act 1970 prohibits the grant of patent based on Traditional Knowledge or is the Patent Act framed in such a way that though patent based on traditional Knowledge cannot be granted under this act but it is still granted? The answer to this question must be given because due to this, various cases of biopiracy, misuse and misappropriation of Traditional Knowledge and failure to acknowledge the rights of indigenous and local communities is occurring over and over again.

### **3.1.1.e. The Wildlife (Protection) Act, 1972**

The main objective of Wildlife (Protection) Act is to protect wild animals, birds and plants. The law strictly restricts picking, uprooting, collection and possession of plants for sell or transfer.<sup>367</sup> The indigenous people, tribes living near the forest areas have been collecting or possessing medicinal plants, wild edibles since time immemorial. And restricting them from using those will result in the loss of TK. If not taken care of, then it might also lead to issue of biopiracy and illegal marketing of such resources. The lack of awareness among the TK holders has led to misappropriation, misuse and vanishing of their TK.

### **3.1.1.f. Environment (Protection) Act, 1986**

The main objective of the act is to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting or operation of any industrial facility on environmental grounds. It empowers the Central Government to establish authorities charged with the mandate of preventing environmental pollution in all its forms and to tackle specific environmental problems that are peculiar to different parts of the country.<sup>368</sup> More than the legislations, the rituals, folklores, customs, customary laws protecte and preserve the environment more.<sup>369</sup>

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<sup>367</sup> The Wild Life (Protection) Act, 1972: An overview, *available at:* <https://blog.ipleaders.in/wild-life-protection-act-1972-an-overview/> (last visited on May 24, 2018).

<sup>368</sup> Environment Protection Act 1986- Protecting India's Environment, *available at:* <https://www.mapsofindia.com/my-india/society/environment-protection-act-1986-protecting-indias-environment> (last visited on May 24, 2018).

<sup>369</sup> The implementation strategy of customary law aspect in protecting local environment, *available at:* [https://www.e3s-conferences.org/articles/e3sconf/pdf/2018/27/e3sconf\\_nrm2018\\_00041.pdf](https://www.e3s-conferences.org/articles/e3sconf/pdf/2018/27/e3sconf_nrm2018_00041.pdf) (last visited on January 2, 2019).



### **3.1.1.g. The Geographical Indications of Goods (Registration and Protection) Act, 1999**

Under this said Act, Geographical Indication (hereafter referred to as GI) is awarded in relation to goods. It is an identification given to such goods as agricultural goods, natural goods or manufacturing goods which has originated or manufactured in a territory of a country.<sup>370</sup> It identifies the territory or region where the quality, reputation or other characteristics of such goods is attributed to it because of its geographical origin. Similar, to the Trademarks, Geographical Indication can be used to attribute to identify a tribe or group. There are numerous products that are result of knowledge and traditional practices of indigenous communities hence, they can claim for Geographical Indication for such products. Once, Geographical Identifications are awarded then better exploitation and promotion of traditional knowledge can be availed. For the Geographical Indication Act to work efficiently there needs to be an effective post-GI mechanism which is near to completely absent in India.<sup>371</sup> The Act is also silent on the matters where there is infringement, as under the Act, there is no provisions or mechanism to fight against infringement. Only in the case of Darjeeling Tea, the Tea Board has made some defences against misappropriation in few countries as the board has the financial capacity to do so.<sup>372</sup> Dr. Rajnikant Dwivedi, Director of Human Welfare Association, an association based on Varanasi working with handloom weavers, is of the view that the benefits of GI protection under the GI Act will totally depend on the effectiveness of the post-GI mechanism. The example set by Banarsee saree can be regarded as a very good example in the lack of effectiveness of GI Act. In the name of Banarsee, imitated products are being sold which has made the weavers of the Banarsee saree to quit the weaving. In this case it can be seen that the GI has not yet delivered its proposed benefits. The question relating to this matter is, “will GI be helpful in bringing back those thousands of weavers back into this famous craft who

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<sup>370</sup> Geographical Indications in Indian Agriculture on the Anvil, *available at*: [https://www.jbino.com/docs/Issue05\\_16\\_2017.pdf](https://www.jbino.com/docs/Issue05_16_2017.pdf) (last visited on May 17, 2018).

<sup>371</sup> Geographical Indications of India, *available at*: [http://www.switch-asia.eu/fileadmin/user\\_upload/Project\\_Downloads/Batch\\_1/policy-briefs-geographical-indications-india-socio-economic-development-issues.pdf](http://www.switch-asia.eu/fileadmin/user_upload/Project_Downloads/Batch_1/policy-briefs-geographical-indications-india-socio-economic-development-issues.pdf) (last visited on May 18, 2018).

<sup>372</sup> The Protection of Geographical Indication in India-Case Study on ‘Darjeeling Tea’, *available at*: <https://www.altacit.com/wp-content/uploads/2015/03/The-Protection-of-Geographical-Indication-in-India-Case-Study-on-Darjeeling-Tea.pdf> (last visited on May 18, 2018).

gave up weaving as their livelihoods were destroyed due to almost the same reasons GI protection is supposed to address?”<sup>373</sup> Another drawback of the Act is that the definition of ‘Producer’ does not distinguish between a real producer, retailer or dealer.<sup>374</sup> As a result of this, the benefit that the real producer is to enjoy may not reach to him. Furthermore, the real producers may have to be dependent on the economically powerful intermediaries to have access over the markets and these intermediaries may still have the control over the market.<sup>375</sup> Even if GI protection provides financial benefits, firms economically powerful may end up appropriating a disproportionate share of the economic value generated from securing protection.<sup>376</sup> GIs are not individual rights and are mostly collective rights. Bagh Print and Madhubani Painting are instances where it can be seen that the very purpose of the GI Act has been violated.<sup>377</sup> In the case of Madhubani painting, Madhubani Painting on paper is registered as GI under Class 16 which implies that Madhubani painting on cloth is not protected. In the case of Bagh Print, the map submitted during the application of GI registration, some areas where Bagh printing had existed for decades had been excluded. Hence, the above-mentioned instances show that the GI Act is not successful in providing protection to the Traditional Knowledge.

### **3.1.1.h. The Trademark Act, 1999**

Trademark is protection given to use of marks, words, symbols, designs or any combination of these associated with goods or services. Trademark is used to provide identity and differentiate goods and services which are of similar nature.<sup>378</sup>

Many suggest that through Trademarks some forms of indigenous arts can be protected. Trademark can be used to refer to a particular tribe, or an artist, etc. There are many countries which has provided collective trademark and certification trademarks, which allow the community to have collective control over the goods sold.<sup>379</sup> The only issue with trademark is that it gives protection to TK in certain extent but it cannot protect

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<sup>373</sup> *Supra* note 370.

<sup>374</sup> *Ibid.*

<sup>375</sup> *Ibid.*

<sup>376</sup> *Ibid.*

<sup>377</sup> *Ibid.*

<sup>378</sup> Trademarks, *available at*: <https://www.wipo.int/trademarks/en/> (last visited on May 19, 2018).

<sup>379</sup> *Ibid.*

the substance of such knowledge. It is only defensive protection and not much can be done if various issues arise.

### **3.1.1.i. The Protection of Plant Varieties and Farmers' Right Act, 2001**

India adopted a sui generis option made available under Article 27.3 of the TRIP's. Under the Article the members are allowed to exclude from patentability inventions related to diagnostic, therapeutic and surgical methods for treatment of humans or animals. It also provides for protection of plant varieties either by patent or by an effective sui-generis system or by any combination thereof.<sup>380</sup> One of the benefits of adopting sui generis laws is that it will provide protection to the rights and interests of TK holders and provides legal protection to traditional knowledge.<sup>381</sup>

But it is not so in India, the Indian Parliament adopted the Plant Variety Protection and Farmer's Rights Act in 2001. The main objective of this Act is to provide strong proactive farmers rights, registration of farmer's varieties, provision of benefit sharing and upholding the requirement of prior informed consent in breeding. Through this Act, the rights of farmers have been recognized, they are recognized as conservers of the agricultural gene pool and a breeder. But the Act has no provision relating to protection of traditional knowledge. Most of the indigenous communities are dependent upon agriculture and their rights must be recognized. The Act provides with various confusion relating to registration of the seeds, furthermore the Act says that the farmer "shall be deemed to be entitled to save, use, sow, re-sow, exchange, share or sell his farm produce including seed of a variety protected under this Act in the same manner as he was entitled before the coming into force of this Act."<sup>382</sup> The seed variety which is protected by this Act is not allowed to be sold by the farmers.<sup>383</sup> The Act even does not direct the Authority to compel the plant breeder to make the protected variety available at reasonable price.<sup>384</sup> The real cultivator or breeder might never avail the

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<sup>380</sup> Parbhudha Ganguli, *Intellectual Property Rights Unleashing the Knowledge Economy* 121 (Tata McGraw Hill Publishing Company Ltd., New Delhi, 2001).

<sup>381</sup> Balavanth S. Kalaskar, "Traditional Knowledge and Sui Generis Law", 3 (7) *International Journal of Scientific & Engineering Research* 5-7 (2012).

<sup>382</sup> The Protection of Plant Varieties and Farmers' Right Act, 2001, s. 39 (1) (iv).

<sup>383</sup> The Indian Scenario-Farmers' access to the PGR of the Plant Breeders and Farmers' Rights over their PGR and TK-the Protection of Plant Varieties and Farmers Rights Act, *available at*: [http://shodhganga.inflibnet.ac.in/bitstream/10603/5218/12/12\\_chapter%206.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/5218/12/12_chapter%206.pdf) (last visited on May 21, 2018).

<sup>384</sup> *Ibid.*

right as has been laid down under this Act. Traditional knowledge that are related to agriculture and farming techniques must also be taken note of.<sup>385</sup> For the protection of the seeds and plant varieties, the provisions of the Act have to be implemented effectively and for that awareness regarding it has to be created which is not been initiated in India.<sup>386</sup> The communities or the farmers or the breeders are not aware of the protection provided by this Act and the reason for such protection as well which makes the Act ineffective in nature. The farmers and the tribal people have a big role in conservation and enhancement of agro-diversity and they should be recognized and provided rewards for their contribution which the Act lacks to provide.<sup>387</sup> The idea of benefit sharing must be made simpler so that it can be implemented easily. The benefits must be shared equally and the concerned authority must take a look at whether each farmer knows about their rights.<sup>388</sup>

Sui generis Act such as this has not been able to provide protection to traditional knowledge. It only identifies agricultural based traditional knowledge and the communities who have been practicing it since ages. But traditional knowledge consists of many other things and it is yet to be protected.<sup>389</sup>

### **3.1.1.j. The Biological Diversity Act, 2002**

India adopted Biodiversity Act, 2002 in compliance with the Convention on Biological Diversity, 1992. Apart from conservation and sustainable utilization of biological resources, it has a provision which states that the traditional knowledge of the indigenous communities must be recognized and protected. All that the Act has done on this behalf is make a call to the Central Government to take measures to ensure respect and protection. The authority must look at the problems of benefit sharing issues and also guide the local communities while giving consent for access of the biological

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<sup>385</sup> S Bala Ravi, "Effectiveness of India Sui Generis Law on Plant Variety Protection and its Potential to Attract Private Investment in Crop Improvement" 9 *Journal of Intellectual Property Rights* 535 (2004).

<sup>386</sup> M S Swaminathan, "The Protection of Plant Varieties and Farmers' Rights Act: From Legislation to Implementation" 7 *Journal of Intellectual Property Rights* 325 (2002).

<sup>387</sup> *Id.* at 326.

<sup>388</sup> Access and Benefit Sharing: Issues and Options, *available at*: [http://shodhganga.inflibnet.ac.in/bitstream/10603/12824/13/13\\_chapter%207.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/12824/13/13_chapter%207.pdf) (last visited on May 23, 2018).

<sup>389</sup> Srividhya Ragavan, Protection of Traditional Knowledge, 2 *IEEE MIPR*, 16 (2001).

resources. The indigenous people having traditional knowledge are nowhere present to bargain over their knowledge. They have no real power in the decision-making process.<sup>390</sup> The common people are not well informed about the system of IPRs. They have little knowledge as to what they will get if they give their consent, most of the times they are not even provided the benefits that arise out of the commercial use of the products.<sup>391</sup> The indigenous communities having traditional knowledge must understand their power and must be aware about the rights that they have. There are many issues of bio piracy in India and this is because of lack of information to indigenous people. Thus, the Biodiversity Management Committee members must share the various information regarding the rights of indigenous communities, only then they can protect traditional knowledge.<sup>392</sup> The need of the hour is awareness among the indigenous people and the development of traditional knowledge database<sup>393</sup> as directed by the Biodiversity Rules to the National Biodiversity Authority.

#### **3.1.1.k. The Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006**

Under this Act the right of ownership, access to collect, use, and dispose of minor forest produce which is traditionally collected within or outside village boundaries is recognised. The Act recognizes the rights over ancestral lands and that the forest-dweller especially the Schedule Tribes are integral part for survival and sustainability of forest ecosystem.<sup>394</sup> The rights recognized under the Act does not clearly talk about protection of traditional knowledge. Due to this over exploitation of traditional knowledge is taking place.

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<sup>390</sup> Grethel Aguilar, "Access to Genetic Resources and Protection of Traditional Knowledge in the Territories of Indigenous Peoples" 4 (4-5) *Environmental Science and Policy* 244 (2001).

<sup>391</sup> *Ibid.*

<sup>392</sup> Avantika Gupta, Tripathi Vinil, *et. al.*, "Bio-piracy in India: A Decline in Cultural Values" 4(9) *International Refereed Journal of Engineering & Science* 81 (2015).

<sup>393</sup> Biological Diversity Rules 2003, s. 12 (xiii).

<sup>394</sup> The Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, *available at*: <https://indiacode.nic.in/bitstream/123456789/2070/1/A2007-02.pdf> (last visited on May 27, 2018).

### 3.1.2. Administrative Framework for the Protection of Traditional Knowledge

Apart from the legal constraints there are administrative as well as other constraints that hamper in the preservation of Traditional Knowledge. For the developing countries including India, protection and preservation of traditional knowledge has become a matter of great concern. After the Government of India successfully revoked turmeric and basmati rice patent granted by United States Patent and Trademark Office (hereafter referred to as USPTO) and the neem granted by European Patent Office (hereafter referred to as EPO) in the later 1990s, the need was felt for the preservation and protection of the Traditional Knowledge of India. There were more such patent claims that came to light relating to the Traditional Knowledge of India and to stop such further suffering relating to it, the Government of India had come up with an initiative i.e. the Traditional Knowledge Digital Library (hereafter referred to as TKDL).

#### 3.1.2.a. Traditional Knowledge Digital Library

Though India has a vast traditional medicine knowledge but it existed in languages like Sanskrit, Hindi, Arabic, Persian, Urdu, and Tamil, which made it inaccessible for examiners at international patent offices to verify claims.<sup>395</sup> This led to the granting of wrong patents at international level as there was non-availability of information in a language known to the International Patent Examiner which made it necessary for the adoption of a practical and scientific approach to overcome the problem of grant of wrong patents at international level with regards to the Traditional Knowledge of India.<sup>396</sup> The Ministry of AYUSH in collaboration with Council for Scientific & Industrial Research (hereafter referred to as CSIR) established Traditional Knowledge Digital Library (TKDL).<sup>397</sup> As of 2010, it is recorded that it has transcribed 148 books on Ayurveda, Unani, Siddha and Yoga into 34 million pages of information, translated into English, German, French, Spanish and Japanese.<sup>398</sup> Furthermore, for the protection of Traditional Knowledge, it has signed agreements with leading international patent

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<sup>395</sup> Traditional Knowledge Digital Library, *available at*:

[https://en.wikipedia.org/wiki/Traditional\\_Knowledge\\_Digital\\_Library](https://en.wikipedia.org/wiki/Traditional_Knowledge_Digital_Library) (last visited on January 5, 2018).

<sup>396</sup> Traditional Knowledge Digital Library, *available at*: <http://itt.nissat.tripod.com/itt0103/tkdl.htm> (last visited on January 12, 2018).

<sup>397</sup> TKDL to Protect Traditional Knowledge of Indian Medicinal System, *available at*:

<http://pib.nic.in/newsite/PrintRelease.aspx?relid=148831> (last visited on January 14, 2018).

<sup>398</sup> *Supra* note 395.

offices such as United Kingdom Trademark & Patent Office (hereafter referred to as UKPTO), European Patent Office (EPO), and the United States Patent and Trademark Office, by giving patent examiners at international patent offices access to the TKDL database for patent search and examination.<sup>399</sup>

Since the formulation of TKDL, in just two years, India has succeeded in cancellation and withdrawal of 36 applications to patent traditionally known medicinal formulations, in Europe alone.<sup>400</sup>

### **3.1.2.b. Drawbacks of Traditional Knowledge Digital Library**

TKDL was created with a view of protecting Traditional Knowledge of indigenous communities of India and preventing others from wrongfully using it,<sup>401</sup> but has it really been successful in doing so is still a question. There is no denial with the fact that TKDL has prevented the misappropriation of Traditional Knowledge related to Genetic Resources (hereafter referred to as TKGRs) but the number of such success stories is very less is the fact.<sup>402</sup> If the success stories which are mentioned on the TKDL website is put to scrutiny, it will be found that most of the applications mentioned therein are cases of deemed withdrawals and there is always the option of re-examination after of certain amount of fee is paid. Council of Scientific & Industrial Research (hereafter referred to as CSIR) though have become successful for the withdrawals of applications but it does not follow up the position afterwards to ensure that the withdrawal is actual withdrawal and no such re-examination will occur which ultimately results in patent grant.<sup>403</sup>

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<sup>399</sup> *Ibid.*

<sup>400</sup> Protecting India's Traditional Knowledge, *available at:*

[https://www.wipo.int/wipo\\_magazine/en/2011/03/article\\_0002.html](https://www.wipo.int/wipo_magazine/en/2011/03/article_0002.html) (last visited on January 14, 2018).

<sup>401</sup> Abha Nadkarni & Shardha Rajan, "Capitalising the Benefits of Traditional Knowledge Digital Library in favour of Indigenous Communities", 9 (1-2) *National University of Juridical Science Law Review* 183 (2016).

<sup>402</sup> Guest Post-TKDL: A success- Really?, *available at:* <https://spicyip.com/2012/04/guest-post-tkdl-success-really.html> (last visited on January 22, 2018).

<sup>403</sup> *Ibid.*

Furthermore, many scholars have criticized the functioning of the TKDL stating it to be inefficient, lack of availability to the public as well as the free access agreements signed by the patent offices of various countries.<sup>404</sup> The various drawbacks of the TKDL are: -

- a) **Inefficiency:** In the case of patent application number EP1520585, the inefficiency of TKDL can be rooted. CSIR had mistranslated one of the main ingredients relating to the patent application number EP1520585. This patent application was regarding the cancer healing property of the pistachio plant. In TKDL, there had been a mistake regarding the translation of the book 'I'laaj-al-Amraaz' by Mohd. Shareef Khan, there is a plant grown beside the pistachio nut and that plant was one of the ingredient according to the original source but in TKDL pistachio nut was the ingredient.<sup>405</sup> It is not expected from CSIR to make such blunder mistake of mistranslation, it has to be accurate or else it would provide a loophole for patent applications to exploit and furthermore defeat the very purpose of digital library.<sup>406</sup> Such mistranslation of ingredients can be used as a defence like in the case of EP1520585 and it may also prevent research as well as patenting.
  
- b) **Public Access:** TKDL is said to be made public and accessible to all, and the reason is to prevent the often-used defence of ignorance of a particular formulation's 'prior art' status.<sup>407</sup> But it has not been made public. The world has so less knowledge about the Traditional Knowledge system of India therefore patent applications are being filed with regards to the TK of India. It is a very difficult task to fight each patent application related to the TK, so in order to prevent patent applications in the first place these indigenous knowledge systems need to be so publicised, so that patents cannot possibly be applied for the conspicuous lack of novelty.<sup>408</sup> One of the best example relating to it can be the databases created by China, which are available to the public at

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<sup>404</sup> *Supra* note 401 at 189.

<sup>405</sup> *Supra* note 402.

<sup>406</sup> *Supra* note 401 at 190.

<sup>407</sup> *Ibid.*

<sup>408</sup> *Ibid.*



the payment of a fee and therefore prevents biopiracy. This essentially ensures that there is no such patent application related to it on the first place.

- c) Free Access Agreements:** The most devastating defect in the functioning of TKDL has been the concept of ‘free access’ agreements, which gives permission to the international patent offices to exploit the database created by CSIR without paying any fee.<sup>409</sup> This free access to them provides them opportunity in improving the quality of patents in their countries by making better the quality of examination itself.

Another drawback regarding TKDL can be stated is the investment that had been made by the Government of India to establish it. It is said that approximately Twenty Crore Rupees were spent for the establishment<sup>410</sup> and this investment has to be incurred from the TKDL itself. China has also developed such a database and its expense is incurred from the database itself by making it publicly available by charging a hefty fee for access.<sup>411</sup>

- d) High level of Confidentiality:** A concerned citizen of India had filed a Right to Information (hereafter referred to as RTI) application with CSIR requesting for certain information on the TKDL.<sup>412</sup> In response to this RTI, CSIR stated that the accessibility of TKDL is permissible to the foreign patent offices and is not made available to the Indian Patent Office or to CSIR scientists.<sup>413</sup> Furthermore in the same response, it was mentioned that the decision for the high confidentiality of TKDL was taken during a cabinet meeting in 2006. This high confidentiality decision is not supported by any legal instrument that mandates such confidentiality.<sup>414</sup> TK databases in other countries do not impose access restrictions.

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<sup>409</sup> *Supra* note 401 at 191.

<sup>410</sup> TKDL to Protect Traditional Knowledge of Indian Medicinal System, *available at*: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=148831> (last visited on January 14, 2018).

<sup>411</sup> *Ibid.*

<sup>412</sup> Is the TKDL a ‘confidential database’ and is it compliant with Indian copyright law?, *available at*: <https://spicyip.com/2012/03/is-tkdl-confidential-database-and-is-it.html> (last visited on March 1, 2018).

<sup>413</sup> The Digital Protection of Traditional Knowledge: Questions raised by the Traditional Knowledge Digital Library in India, *available at*: <https://giswatch.org/en/economic-social-and-cultural-rights-escrs/digital-protection-traditional-knowledge-questions-rais> (last visited on February 5, 2018).

<sup>414</sup> *Ibid.*

The main source of information to the TKDL were the 151 books on Ayurveda, 33 books on Unnani, 137 books on Siddha & 38 books on Yoga. Many of these publications are quite recent and are translations or compilations of existing information done with an element of creativity which can be protected as literary works under the Copyright Act, 1957.<sup>415</sup> Another interesting part of the RTI was the question that had been posed to CSIR regarding the permission taken from the copyright owners before these books had been digitized and translated. The reply was quite surprising, stating that all these texts can be put outside the purview of copyright laws as the text of these books date back to several hundred years, up to 2500 BC. This answer provided by CSIR clearly demonstrate that it has broken the law of the land and did not think it necessary to negotiate for any permission with the copyright owners.<sup>416</sup> On one hand CSIR has spent crores of public money in the work of protection of India's intellectual property and on the other hand it does not think it to be necessary to protect the intellectual property of the citizens as well who have individual copyrights over the publications.

TKDL therefore has not been really successful in the protection of TK in real terms. It does provide some constraints regarding the preservation of TK in India. It needs some improvement for the betterment of the country and the society as a whole.

### **3.1.3. Other issues regarding Protection of Traditional Knowledge**

There are other constraints that also causes a problem in providing protection to the Traditional Knowledge of India.

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<sup>415</sup> *Supra* note 412.

<sup>415</sup> *Supra* note 413

<sup>416</sup> *Ibid.*

### 3.1.3.a. Biopiracy

*“Life forms, plants and seeds are evolving, self-organized, sovereign beings. They have intrinsic worth, value and standing. Owning life by claiming it to be a corporate invention is ethically and legally wrong.”*

*-Dr. Vandana Shiva, a well-known Activist*

Biopiracy consist of two words ‘bio’ which is a short form of ‘biology’ and ‘piracy’.<sup>417</sup> There has been various definition relating to biopiracy. Issac and Kerr described biopiracy as a theft of valuable resources for the commercial gain by developed countries and multinational corporations.<sup>418</sup> Another definition of biopiracy is provided by Vandana Shiva, “when the intellectual property systems are used to legitimize the exclusive ownership and furthermore provide control over biological resource and biological products and processes that have been used since time immemorial in non-industrialized cultures can be referred to as biopiracy”.<sup>419</sup> Biopiracy can be regarded as an act of claim of patent over Traditional Knowledge of the people of the developing and under developed countries.

Biopiracy in simple words can be described as a practice in which traditional knowledge relating to nature having its origination with indigenous peoples, is one way or the other used by other individuals or companies or whosoever for the generation of profit without the prior authorization from the knowledge holder or without providing them any compensation for the use of the said knowledge.<sup>420</sup> Traditional Knowledge of indigenous communities and genetic resources of developing countries are being exploited by the developed countries in the name of patents.<sup>421</sup> India has always been

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<sup>417</sup> Narcissus tazetta-a case study of biopiracy, *available at:*

<https://www.currentscience.ac.in/Volumes/103/09/0978.pdf> (last visited on February 9, 2018).

<sup>418</sup> Grant E. Issac and William A. Kerr, “Bioprospecting or Biopiracy?: Intellectual Property and Traditional Knowledge in Biotechnology Innovation” 7(1) *Journal of World Intellectual Property* 37 (2014).

<sup>419</sup> Vandana Shiva: Controversy over Biopiracy in India & developing World, *available at:*

<https://www.organicconsumers.org/news/vandana-shiva-controversy-over-biopiracy-india-developing-world> (last visited on February 11, 2018).

<sup>420</sup> Bioprospecting, *available at:* <https://en.wikipedia.org/wiki/Bioprospecting> (last visited on February 17, 2018).

<sup>421</sup> Biopiracy related Traditional Knowledge & Patenting issues, *available at:*

<http://www.birac.nic.in/webcontent/dib.pdf> (last visited on February 18, 2018).

at the forefront when there is always a debate related to the misappropriation of Traditional Knowledge by MNCs and foreign research organizations.<sup>422</sup>

There has been lots of instances where the Traditional Knowledge of India has been invaded again and again by individuals, MNCs and foreign research organizations. Such instances make it a living proof that the preservation and protection of India's Traditional Knowledge is hard.

Cases regarding the right to Patent obtained by other countries in neem, basmati rice, haldi (turmeric), karela (bitter gourd), etc. are fair enough to prove it.

- i) **Neem case:** *Azadirachta indica* is the botanical name for neem and has its root in Persian language, *Azad-Darakth*.<sup>423</sup> In India, the neem tree is termed as *azaddarakht-i-Hindil*, which literally means 'the free tree of India'. The neem tree is mainly cultivated in the Indian subcontinent and can live upto two centuries.<sup>424</sup> Since time immemorial the neem tree has been used for agriculture applications as an insect and pest repellent and other veterinary medicine, toiletries and cosmetics purposes and the same has been mentioned in the ancient texts of India. In India, from its root to bark, leaves and seed, every part had been used and is still use for medicinal purposes. Till 2005, 65 patents for products derived from the Neem tree were filed with the EPO, among them 22 were granted, 28 dead for some reasons and 9 were under examination.<sup>425</sup> It is of great importance to know that neem patents do not involve a genetically engineered product, neither the tree or any of its parts have been patented.<sup>426</sup> In 1985, Robert Larson obtained patent right over the neem seed extract called as Margosan-O and it was later on sold to a US company WR Grace.<sup>427</sup> WR Grace in collaboration with the

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<sup>422</sup> India: Bio-Piracy Initiative by India, *available at*:

<http://www.mondaq.com/india/x/720484/Patent/BioPiracy+Initiative+By+India> (last visited on February 18, 2018).

<sup>423</sup> Neem (*Azadirachta indica*): Prehistory to contemporary medicinal uses to humankind, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3695574/> (last visited on February 20, 2018).

<sup>424</sup> *Ibid.*

<sup>425</sup> Freeing the Free Tree. A Briefing Paper in the Neem Biopiracy Case, *available at*:

<http://nwrage.org/content/freeing-free-tree-briefing-paper-neem-biopiracy-case> (last visited on February 21, 2018).

<sup>426</sup> *Ibid.*

<sup>427</sup> The Neem Tree Debate, *available at*: <http://www.biotech-monitor.nl/3004.htm> (last visited on February 21, 2018).

United States Department of Agriculture (hereafter referred to as USDA), in the year 1995, gained a patent right from European Patent Office with patent #436257 for an extraction technique of neem oil for its fungicidal properties.<sup>428</sup> Having been used neem since time immemorial in India, its application as fungicide, insect repellent, soaps, cosmetics and contraceptive was known to India for more than 2000 years and this TK of India proved to be strong enough to object the US claim for the fungicide use of Neem extract named Neemix.<sup>429</sup> This was opposed and there was revocation of patent by the EPO in March 8, 2005. It was not explained under what circumstances the decision was given but it can be assumed that due to lack of two statutory requirements that are needed for the grant of patent, i.e.; novelty<sup>430</sup> and inventive step<sup>431</sup> the patent was revoked, furthermore morality<sup>432</sup> also lacked. It is also recorded that more than 90 patents have been granted over the world with regard to the neem properties. And this revocation has no any effect on Neem patents in other legal regimes.<sup>433</sup>

- ii) Turmeric Case:** This is another instance where the TK of India has been brutally attacked. Most Indian have knowledge about the uses of Turmeric in cooking, skin, and as medicine which has been in practice since time immemorial in India. In 1995, two non-resident Indians who were linked with University of Mississippi Medical Centre got the patent right on the ‘use of Turmeric in wound healing’ issued by the USPTO with patent #5,401,504.<sup>434</sup> Exclusive right to sell and distribute turmeric was also granted to the patent holder according to this patent which created a scenario of chaos in India. India is a country where the use of turmeric can be traced back to thousands of years, and can be said that it is used the most in India. CSIR of India challenged the patent based on the novelty of the University’s

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<sup>428</sup> Madhu Verma, Iti Chauhan, *et. al.*, “India-Victim of Bio-piracy” 4 (1) *Indo American Journal of Pharmaceutical Research* 9347 (2014).

<sup>429</sup> *Ibid.*

<sup>430</sup> The European Patent Convention, art. 54.

<sup>431</sup> *Id.*, art. 56.

<sup>432</sup> *Id.*, art. 53 (a).

<sup>433</sup> *Supra* note 423.

<sup>434</sup> *Supra* note 428 at 9346.

invention and was supported by factual proofs of TK which included age old Sanskrit scripts and a publication dated back to 1953 in the Journal of the Indian Medical Association.<sup>435</sup> In August 1997, after taking in consideration all the facts n details, the USPTO rejected six claims which were present in the patent and furthermore annulled it on the basis of lack of novelty.<sup>436</sup>

- iii) Basmati Rice:** Around 15% of the total land area of India cultivates basmati rice.<sup>437</sup> The fragrance of the basmati rice is what makes it apart from other rice varieties. It has its origination in the soil of India and have been cultivated by the farmers in India and Pakistan.<sup>438</sup> Annually the cultivation of basmati rice in India is 6,50,000 tonnes and India exports the it mainly to the Middle East, Europe and USA.<sup>439</sup>

USPTO granted patent to the Texas based RiceTec Inc. with patent #5663484 on basmati rice lines and grains in 1997.<sup>440</sup> The Research Foundation of Science, Technology and Ecology (hereafter referred to as RFSTE), India and co. took the initiative to safeguard this TK of India and filed an appeal in Supreme Court of India on March 4, 1998, which made the Government of India to file a ‘request for re-examination’ against the patent granted with regards to basmati rice to USPTO. Altogether 20 claims were made in the patent application including a method for the development of novel rice lines. The claim placed forward by India was that genuine basmati rice breed possibly can only be produced from the indo-gangetic plains of India and Pakistan due to the distinctive and complicated union of cultivation factors and genetic code of basmati rice varieties.<sup>441</sup> India threaten to take this case to the WTO as violation of TRIPs which would

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<sup>435</sup> *Ibid.*

<sup>436</sup> *Supra* note 434.

<sup>437</sup> Trade Related Intellectual Property Rights (TRIPs) and Framers’ Rights, *available at:* <https://publications.parliament.uk/pa/cm199900/cmselect/cmenvaud/45/45ap08.htm> (last visited on February 28, 2018).

<sup>438</sup> The origin and history of Basmati Rice, *available at:* <https://medium.com/@amiranaturef/the-origin-and-history-of-basmati-rice-8c04f6bd7759> (last visited on February 28, 2018).

<sup>439</sup> *Supra* note 434.

<sup>440</sup> The Neem Tree Debate, *available at:* <http://www.biotech-monitor.nl/3004.htm> (last visited on February 21, 2018).

<sup>441</sup> *Ibid.*

embarrassed USA. Among the 20 claims, 15 claims were dropped and thus there was victory on the side of India.<sup>442</sup>

- iv) **Karela:** Karela (bitter gourd) is a common vegetable which is eaten in India and is so bitter in taste. What has been found is Karela has incredible curative properties like curing diabetes and cleansing of blood. On May 4, 1999, a New Jersey based company Cromak Research Inc. had been granted patent by the USPTO with patent #5900240, encouraging biopiracy, for an edible herbal mixture consisting of karela (*momordicacharantia*), jamun (*syzygiumcumini*), gurmar (*gymnemasylvestre*) and brinjal (*solanummelongena*).<sup>443</sup> The scientists in this case were also two non-resident Indians who owned the patent and they were Omkar S Tomer and Kripanath Borah and their colleague Peter Gloniski.<sup>444</sup> As it is a known fact that the juice of karela has been used in India since very long time as an anti-diabetic mixture and this has been recorded in authoritative treatises like Wealth of India and the Compendium of Indian Medicinal Plants but still the patent was granted.<sup>445</sup>
- v) **The Indian Ginseng-Ashwagandha:** After the neem and turmeric, the foreign companies had their eyes set on the Indian Ginseng-Ashwagandha. The latin name for Ashwagandha is *withaniasomnifera*. According to the officials of the department of science and technology, four Japanese companies and seven American companies had filed patent right regarding the extracts from the Ashwagandha.<sup>446</sup> The Japanese firm Pola Chem Tech had filed patent application regarding topical skin ointment for cosmetic purposes and promotion of fertility but the US based New England Deaconess Hospital had been granted patent right relating its use to alleviate the symptoms regarding arthritis.<sup>447</sup> Later on, on July 27, 2006, Natreon

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<sup>442</sup> *Ibid.*

<sup>443</sup> *Supra* note 428 at 9349.

<sup>444</sup> *Ibid.*

<sup>445</sup> *Ibid.*

<sup>446</sup> Ashwagandha Next on Patent Hunters' list, *available at:* <https://www.hinduismtoday.com/blogs-news/hindu-press-international/ashwagandha-next-on-patent-hunters--list/619.html> (last visited on February 28, 2018).

<sup>447</sup> *Ibid.*

filed a patent application in the EPO regarding the ability of Ashwagandha to treat or manage anxiety induced stress, depression, insomnia, gastric ulcers and convulsions.<sup>448</sup> The head of the TKDL, Dr. V K Gupta, was shocked and on 2009, he forwarded a letter to the EPO stating the evidence with regards to the medicinal properties of Ashwagandha long being used in India.<sup>449</sup> This letter consisted of 15 different evidences and documents dating back to the 12<sup>th</sup> century. TKDL played a vital role and provided evidence regarding this matter and it was highly appreciated as well. The EPO issued a notice to the American company but the company was unable to reply and withdrew its claims.<sup>450</sup>

- vi) Pudina and Kalamegha:** Guangdong province-based Livzon Pharmaceutical Group under the title, “Chinese traditional medicine composition for treatment of avain influenza, method for preparation, and application” using pudina and kalamegha, had filed a patent application no. EP1849473 with the EPO.<sup>451</sup> Munich based EPO intended to grant the patent on February 2010 after scrutiny. On April 2010, TKDL of India sent a letter containing four medicinal formulations from Ayurveda and unani text books regarding the use of pudina and kalamegha for the treatment of influenza and epidemic fever to the EPO opposing the patent grant.<sup>452</sup> On June 2010, after going through the proofs presented, the EPO rejected the patent application on the medicinal properties of pudina and kalamegha for treating of bird flu.<sup>453</sup>

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<sup>448</sup> Kounteya Sinha, “India beats back US firm’s bid to patent Ashwagandha formulations” *Times of India*, Mar. 27, 2010, available at: <https://timesofindia.indiatimes.com/india/India-beats-back-US-firms-bid-to-patent-Ashwagandha-formulations/articleshow/5728923.cms> (last visited on February 28, 2018).

<sup>449</sup> *Ibid.*

<sup>450</sup> *Ibid.*

<sup>451</sup> India foils Chinese firm’s bid to patent pudina, kalamegha for flu medicine, available at: [https://www.domain-b.com/industry/pharma/20100807\\_medicine.html](https://www.domain-b.com/industry/pharma/20100807_medicine.html) (last visited on March 6, 2018).

<sup>452</sup> *Ibid.*

<sup>453</sup> *Supra* note 428 at 9348.



- vii) Narcissus tazetta case:** In the ancient Unani classical literature, the medicinal properties of *Narcissus tazetta* has been documented.<sup>454</sup> It is used in the treatment of freckles and pityriasis which has been mentioned in *Al-Qaanoon-fil-Tibb* and for the treatment of *Alopecia areata* as mentioned in *Khazainul Adviyah* by Ghani, furthermore it is also used as solvent, absorbent and detergent.<sup>455</sup> Nu Skin International Inc, a US based company, filed a patent application with application no. 04005448.8 and publication no. EP1718142 on 2004. This patent claimed that the *Narcissus* product can prevent damage to the skin, even treat the damaged skin, prevent secondary disorders. This claim of the patent can be rejected on the ground of lack of novelty and inventiveness as these had already been practiced in India since a very long time and had also been documented.
- viii) Bt Brinjal case:** Brinjal is very popular in Indian recipes and is also used as a religious offering in some parts of India. It is cultivated by millions of farmers in India and even have developed 2,500 varieties. Monsanto is a United States based company which is one of the world's largest agricultural biotechnology company. There was a complaint lodge against this company before the Karnataka Biodiversity Board on 15 February 2010 and after investigation it was found that "six local varieties for development of Bt brinjal were accessed in the state by the two companies without prior approval from State Biodiversity Board or the National Biodiversity Authority" and called for legal action.<sup>456</sup> The charges put upon are with regards to the violation of the Biodiversity Act, the local brinjal varieties were accessed and from them the companies developed Bt Brinjal without the prior permission of the competent authorities.<sup>457</sup> Monsanto denied the accusations stating that Mahyco solely developed the Bt Brinjal with a gene previously accessed from Monsanto.<sup>458</sup> The Karnataka High Court has

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<sup>454</sup> *Narcissus tazetta*-a case study of biopiracy, available at:

<https://www.currentscience.ac.in/Volumes/103/09/0978.pdf> (last visited on February 9, 2018).

<sup>455</sup> *Ibid.*

<sup>456</sup> Walid Abdelgawad, "The Bt Brinjal Case: The First Legal Action Against Monsanto and Its Indian Collaborators for Biopiracy" 31 (2) *Biotechnology Law Report* 137 (2012).

<sup>457</sup> Biopiracy in India: The case of the aubergine, available at:

<https://www.aljazeera.com/indepth/opinion/2011/10/2011102994021308862.html> (last visited on March 12, 2018).

<sup>458</sup> *Ibid.*

directed the National Biodiversity Board and Karnataka Biodiversity Board to go ahead with criminal prosecution of seed company Mahyco and others who were accused of biopiracy of the Bt brinjal.<sup>459</sup>

- ix) Jeevani:** Jeevani drug case is the case of benefit sharing in India. It has its roots to the Kani tribals in Thiruvannathapuram district, Kerala. They claim that one can survive for days without food and still be able to do hard physical work by just eating a few fruits of Aarogyapaccha plant. Scientist from the Tropical Botanic Garden Research Institute (hereafter referred to as TBGRI) on investigations found that the plant had anti-stress, anti-hepatotoxic and immunodulatory or immunorestorative properties.<sup>460</sup> And from this plant along with three other medicinal plants the scientists formulated a drug called Jeevani. Patent application was filed by TBGRI ‘for the purpose of making the new ‘innovations’. India did not have product patent regime during that time, it was only after seven years process patent was accessible.<sup>461</sup> In 1995, Arya Vaidya Pharmacy, Coimbatore (hereafter referred to as AVP) was given the license to manufacture Jeevani for a period of seven years for a fee of Rs. 10 lakhs, it was even agreed that 50% of the license fee as well as 50% of the royalty were to be given to the Kani tribals on the sale of the drug.<sup>462</sup> During this time there was no existence of the Biological Diversity Act or the Forest Rights Act but still TBGRI voluntarily provided benefit sharing. With the help of Kerala State Government, a trust was established for the purpose of keeping the money and fixed deposit was kept and the interest from it was used for the benefit of the Kani community.<sup>463</sup> There was no interference from the Department of Forest in the activity of the Kani tribes in the collection of the plants but the popularity of the plant started to pull more and more people into the forest for the collection of the plants and removed the plants in a very large

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<sup>459</sup> Bt brinjal biopiracy case: court vacates stay, *available at*: <https://www.downtoearth.org.in/news/bt-brinjal-biopiracy-case-court-vacates-stay---42447> (last visited on March 18, 2018).

<sup>460</sup> Biopiracy and Traditional Knowledge, *available at*: <https://www.thehindu.com/folio/fo0105/01050380.htm> (last visited on March 18, 2018).

<sup>461</sup> Intellectual Property, Innovation and Management in emerging Economies, *available at*: <https://docslide.net/documents/intellectual-property-innovation-and-management-in-emerging-economies> (last visited on March 18, 2018).

<sup>462</sup> *Supra* note 460.

<sup>463</sup> *Ibid.*

quantity which made the Department of Forest to restrict the collection of the plants resulting in punishing even the traditional collection by the Kani Tribes.<sup>464</sup> The Kani Tribes were the most to suffer due to the restriction as they lost the right to the Arogyapacha plant.

- x) **Asian chick pea case:** Chick pea (*Cicer arietinum*) is one of the most primitively cultivated vegetables by the farmers from Indian subcontinent. India is the highest chick pea producer followed by Pakistan and Turkey. Chick peas contain high protein, dietary fiber, and zinc and is a healthy source of carbohydrates for persons with insulin sensitivity or diabetes. The Australian seed industry had applied for plant breeder's rights on two chick peas varieties collected from the International Crops Research Institute for the Semi-Arid Tropics (hereafter referred to as ICRISAT) a globally funded public research centre based in Hyderabad, India.<sup>465</sup> Regarding this a spokesman for a South Asian farmer organisation stated that Australia wants to privatize the seeds that belong to our farmers and plan to sell them back to us with their own self-authorized plant monopoly, furthermore he added that Australia has not done any kind of work to improve the Indian variety and is a direct case of biopiracy.<sup>466</sup> Both the claimed varieties originated in farmer's fields in India and Iran. The Australian crop development agencies were forced to drop their patent applications.<sup>467</sup>

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<sup>464</sup> Arogyapacha: A 'Green' Approach to Pharmaceutical Innovation, *available at:* <https://spicyip.com/2008/01/arogyapacha-green-approach-pharmaceutical-innovation> (last visited on March 24, 2018).

<sup>465</sup> Recent Australian Claims to Indian and Iranian Chickpeas Countered by NGOs and ICRISAT, *available at:* <http://www.etcgroup.org/content/recent-australian-claims-indian-and-iranian-chickpeas-countered-ngos-and-icrisat> (last visited on March 23, 2018).

<sup>466</sup> Bio-Piracy: Australian Case Highlights Debate on Intellectual Property, *available at:* <https://www.ictsd.org/bridges-news/bridges/news/bio-piracy-australian-case-highlights-debate-on-intellectual-property> (last visited on March 26, 2018).

<sup>467</sup> *Supra* note 465.

- xi) Ginger:** Nicholas John Larkins had filed a patent application at British Patent Office (hereafter referred to as BPO) with patent specification titled, “Pharmaceutical composition for the treatment of excess mucous production” on March 16, 2006.<sup>468</sup> He had filed patent right for a composition which comprised of ginkgpbiloba or extract or component of apocynin and a gingerol, this composition could be used to treat diseases like chronic obstructive pulmonary disease or cystic fibrosis.<sup>469</sup> He further found that the compositions in accordance to the invention may effectively reduce excessive mucous production. Since time immemorial, ginger is used as a medicinal remedy for cough and cold in India and the medicinal properties of ginger is the TK of India. The scientific name of ginger is *Zingiber Officinale* and is called adrak in India.<sup>470</sup> Since the TK of India was on the verge of being plundered, the AYUSH and CSIR intervened and provided evidence that were recorded in the age-old Ayurveda and Unani books dating back to the 18<sup>th</sup> century.<sup>471</sup> The patent application regarding the treatment of excess mucous production was rejected by the patent examiner with regards to the evidence provided by India regarding its Traditional Knowledge.<sup>472</sup>
- xii) Monsanto’s wheat patent:** After basmati and neem, Indian wheat has become a centre of attraction to the foreign companies as a money generating genes. In 2003, a patent was granted on Galahad 7 no. EP445929 by the EPO on a wheat variety generated with the cross breeding with traditional variety from India called Nap Hal.<sup>473</sup> This wheat was used in the

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<sup>468</sup> Patent Grant for Traditional Knowledge of India on Ginger Rejected by the British Patent Office, *available at:* <https://biotechpatentattorney.wordpress.com/2012/01/04/traditional-knowledge-of-india-on-ginger-rejected-by-the-british-patent-office/> (last visited on March 30, 2018).

<sup>469</sup> *Ibid.*

<sup>470</sup> Category Archives: Biotechnology patent drafting/ Pharmaceutical patent drafting, *available at:* <https://biotechpatentattorney.wordpress.com/category/biotechnology-patent-drafting-pharmaceutical-patent-drafting/> (last visited on April 1, 2018).

<sup>471</sup> *Ibid.*

<sup>472</sup> Patent Grant for Traditional Knowledge of India on Ginger Rejected by the British Patent Office, *available at:* <https://biotechpatentattorney.wordpress.com/2012/01/04/traditional-knowledge-of-india-on-ginger-rejected-by-the-british-patent-office/> (last visited on March 30, 2018).

<sup>473</sup> Biopiracy in the context of Plunder of Wheat in India, *available at:* <https://spicyip.com/2016/03/spicy-ip-fellowship-2016-17-biopiracy-in-the-context-of-plunder-of-wheat-in-india.html> (last visited on April 5, 2018).

making of chapatti-the flat bread staple of northern India.<sup>474</sup> The environment in the Parliament of India was filled with tension and worries when the issue for paying royalties for making biscuits and chapattis were raised and discussed.<sup>475</sup> The patent had been granted both for the biscuits, flour, and dough produced from the wheat; as well as the plant, itself.<sup>476</sup> This patent held by Monsanto on Indian wheat variety Nap Hal was revoked by the Munich-based EPO and this decision was taken in response to a petition filed by three organisations-Bharat Krishak Samaj (hereafter referred to as BKS), Navdanya and Greenpeace, Germany.<sup>477</sup>

**xiii) Monsanto’s biopiracy of Indian Melons:** Monsanto, a US company, had been awarded a patent right (EP1962578) by EPO in May 2011<sup>478</sup> and this patent was related to a variety of melons which has the property of resistance to a virus known as cucurbit yellow disorder virus which were popularly known to reduce the fruit yield. Even though the European Patent Law never allows the grant of patents on the conventional breeding of plants and animals, the EPO granted this patent.<sup>479</sup> The gene used in the preparation of this melon to be resistant from the virus was derived from Cucumis Melo, and Indian melon variety which was way back in 1961 included in the Russian VIR Database and late on in the year 1966 it was transferred to the U.S Department of Agriculture and ever since that time, it is publicly available.<sup>480</sup> This patent was opposed by No Patents on Seeds, a European based coalition and Indian scientist and environmentalist Dr. Vandan

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<sup>474</sup> Monsanto’s chapati patent raises Indian ire, *available at*:

<https://www.theguardian.com/science/2004/jan/31/gm.food> (last visited on April 5, 2018).

<sup>475</sup> *Supra* note 473.

<sup>476</sup> Monsanto Patents Indian Wheat Gene, *available at*:

<http://www.indiaresource.org/news/2003/4486.html> (last visited on April 13, 2018).

<sup>477</sup> Monsanto loses wheat patent, *available at*: <https://www.downtoearth.org.in/news/monsanto-loses-wheat-patent-12032> (last visited on April 14, 2018).

<sup>478</sup> Melons now a Monsanto “invention” US corporation awarded a European patent on conventionally bred melons, *available at*: <https://www.no-patents-on-seeds.org/en/information/news/melons-now-monsanto-invention> (last visited on April 14, 2018).

<sup>479</sup> Hearing on the opposition against Monsanto Patent on Indian Melon Increasing opposition against patents on conventional breeding, *available at*: <https://www.no-patents-on-seeds.org/en/node/332> (last visited on April 15, 2018).

<sup>480</sup> Melancholy Melons – A Comment on the EPO’s Revocation of Monsanto’s Patent, *available at*: <https://spicyip.com/2016/03/spicy-ip-fellowship-2016-17-melancholy-melons-a-comment-on-the-epo-revocation-of-monsantos-patent.html> (last visited on April 16, 2018).

Shiva.<sup>481</sup> It was on January 20, 2016 the EPO revoked the patent granted to Monsanto on virus resistant melon plants.<sup>482</sup> The patent was revoked on two grounds mainly, that there existed at least one ground for opposition which prejudiced the maintenance of the patent and the other one is, the patent and the invention did not meet the requirements set by the European Patent Convention (hereafter referred to as EPC).<sup>483</sup>

**xiv) Monsanto's Biopiracy of Climate Resilience:** Monsanto, a very well-known company in India for its activity of claiming patent over many products and processes which are based on the TK of India, had applied for grant of patent for 'methods of Enhancing Stress Tolerance in plants and methods'.<sup>484</sup> Later on, there was alteration on the title of patent, 'a method of producing a transgenic plant, with increasing heat tolerance, salt tolerance or drought tolerance'.<sup>485</sup> The Chairperson of the Intellectual Property Appellate Board of India, Hon. Justice Prabha Sridevi, along with Hon Shri DPS Parmar, technical member, on July 5, 2013, dismissed the patent claims of the Monsanto, as these traits are the ones that had been evolved by the farmers of India since time immemorial, as they also had the knowledge of breeding.<sup>486</sup> The patents were not granted by the patent office as it was found that there was no inventive step in the application in view of Willimsky Gerald Journal of bacteriology Vol 174, No. 20, 1992, 6326-6335, WO 90/09447 and US 547097.<sup>487</sup> Furthermore, the claims also didn't define any invention under section 2 (1) (ja) of the Patent Act, 1970.<sup>488</sup>

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<sup>481</sup> 'NO' to Monsanto: Indian NGO Complains Bio-piracy before the EPO over a Resistant Melon Variety, *available at*: <https://spicyip.com/2012/02/no-to-monsanto-indian-ngo-complains-bio.html> (last visited on April 16, 2018).

<sup>482</sup> European Union: Monsanto Patent on Virus-Resistant Melon Revoked, *available at*: <http://www.mondaq.com/germany/x/463114/Patent/Monsanto+Patent+on+VirusResistant+Melon+Revoked> (last visited on April 20, 2018).

<sup>483</sup> *Supra* note 480.

<sup>484</sup> Seeds, Freedom and Food Democracy, *available at*: <https://www.navdanya.org/site/seed-freedom-and-food-democracy/> (last visited at April 25, 2018).

<sup>485</sup> *Ibid.*

<sup>486</sup> Seeds, Freedom and Food Democracy, *available at*: <https://www.navdanya.org/site/seed-freedom-and-food-democracy/> (last visited at April 25, 2018).

<sup>487</sup> Monsanto's Climate resilient plant patent rejected by India's Patent Office, Rejection upheld by the Intellectual Property Appellate Board, *available at*: <http://www.navdanya.org/site/latest-news-at-navdanya/254-monsanto-s-climate-resilient-plant-patent-rejected-by-india-s-patent-office-rejection-upheld-by-the-intellectual-property-appellate-board> (last visited on April 25, 2018).

<sup>488</sup> *Ibid.*

Another reason was that it is mere application of already known cold shock protein in producing cold stress tolerant plant and tolerant to heat, salt and drought conditions, claims fall within the scope of Section 3(d) of The Patents Act, 1970.<sup>489</sup> It was as well found that due to inclusion of essential biological process of regeneration and selection which included the growth of plant in specific stress condition, it cannot be patented under Section 3(j) of the Patent Act, 1970.<sup>490</sup>

**xv) ConAgra's Biopiracy claim on Atta (Wheat flour):** In India, Atta is a staple food and is used as an ingredient in many Indian foods. In 2000, there was a claim made by ConAgra regarding the 'Novel' procedure to produce Atta and on the same demanded a patent (US6098905) and this patent was granted in the US.<sup>491</sup> In South Asia this concept of Atta chakki is very old and has been practiced since time immemorial.<sup>492</sup> Atta is a staple food for the people of Indian Subcontinent and hence it is not to be considered to be a novel patent.<sup>493</sup> ConAgra's claim of being the method to be a novel one is not a novel one as it is used throughout South Asia by millions of atta chakkis.<sup>494</sup>

**xvi) Phyllanthus niruri:** Phyllanthus niruri is widely used all over India as it is one of the medicinal plants found in India. Various types of hepatitis and other liver disorders are treated by it. In Sanskrit, the plant is called Bhudharti, in Hindi Jar amla and in Bengali Bhuin amla.<sup>495</sup> The Fox Chase Cancer Centre of Philadelphia, USA, had applied for patent at the European

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<sup>489</sup> Sanjay Vijayakumar, "Monsanto's climate-resilient crop patent claims rejected" The Economic Times, July 10, 2013, *available to:*

<https://economictimes.indiatimes.com/news/economy/agriculture/monsantos-climate-resilient-crop-patent-claims-rejected/articleshow/20995862.cms> (last visited on April 26, 2018).

<sup>490</sup> *Supra* note 487.

<sup>491</sup> *Supra* note 486.

<sup>492</sup> Biopiracy: Patenting Nature, *available at:*

<https://periscopievblog.wordpress.com/2017/07/05/biopiracy-patenting-nature/> (last visited on April 26, 2018).

<sup>493</sup> Biopiracy From Neem to Rice to Atta! Gates and Monsanto Influence IPR Policy, *available at:*

<https://www.thecitizen.in/index.php/en/NewsDetail/index/1/7840/Biopiracy-From-Neem-to-Rice-to-Atta-Gates-and-Monsanto-Influence-IPR-Policy> (last visited on April 26, 2018).

<sup>494</sup> Seeds, Biodiversity and IPRs, *available at:* <https://medium.com/@drvandanashiva/seeds-biodiversity-and-iprs-845187d00951> (last visited on April 27, 2018).

<sup>495</sup> Bhumi Amla, *available at:* <http://vikaspedia.in/agriculture/crop-production/bhumiamlaki> (last visited on May 29, 2018).

Patent Office for the use of *Phyllanthus niruri* in the treatment of hepatitis.<sup>496</sup> The patent claim was for manufacturing of medicament for the treatment of viral hepatitis. This plant is also used for the treatment of jaundice since ages. The scientists of the Fox Chase Cancer Centre had presented an act of biopiracy with regards to the application of grant of patent regarding the medicine derived from *Phyllanthus niruri* for the treatment of hepatitis even though they had the knowledge that since ages it has been used as a cure for all types of hepatitis including hepatitis B.<sup>497</sup>

**xvii) Aloe Vera:** On March 9, 2007, a German based company, M/s. Cognis IP Management GmbH, had filed a patent application regarding the treatment of obesity using Aloe vera (Gheekawaar). On November 27, 2009, the applicant was forced to withdraw its patent application as some evidence based on Rasendrachintamani and other Ayurveda and Siddha books were submitted by TKDL on July 27, 2009.<sup>498</sup>

**xviii) Syngenta's attempt at Biopiracy of India's rice diversity:** Syngenta is a biotech giant which tried to get hold of all the precious collections of 22,972 different varieties of paddy from Chattisgarh, India.<sup>499</sup> A MoU was signed between Syngenta and Indira Gandhi Agricultural University (hereafter referred to as IGAU) and according to this MoU, Syngenta had the right to access the priceless collection of rice diversity of Dr. Richharia.<sup>500</sup> He had looked after those rice varieties as if they were his own children. There was a mass agitation against Syngenta and IGAU deal by the peoples' organization, farmers' unions and civil liberty groups, women's groups, students' groups and biodiversity conservation and this caused the Syngenta to call off the deal.<sup>501</sup>

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<sup>496</sup> Vandana Shiva, *Protect or Plunder?: Understanding Intellectual Property Rights* 54 (Zed Books, London and New York, 2001).

<sup>497</sup> *Id.* at 55.

<sup>498</sup> *Supra* note 428 at 9349.

<sup>499</sup> Seeds, Freedom and Food Democracy, available at: <https://www.navdanya.org/site/seed-freedom-and-food-democracy/> (last visited at April 25, 2018).

<sup>500</sup> *Ibid.*

<sup>501</sup> *Supra* note 494.



In 2017, India had taken an initiative to discuss the issue of biopiracy at World Trade Organization (hereafter referred to as WTO).<sup>502</sup> With the aim of protecting global traditional knowledge from reckless patenting by MNCs and biopiracy and furthermore to make the global trade norms strong, India had teamed up with Geneva-based inter-governmental organization South Centre to organize the international session at Geneva. A human rights-based indigenous people's organization named Zo Indigenous Forum which has its origin from Mizoram also participated this session along with native communities from Brazil, Australia, New Zealand, China, Namibia, Peru and the United States.<sup>503</sup>

### **3.1.3.b. Bioprospecting**

During the 1992 Earth Summit in Rio de Janeiro, the Goals of CBD were introduced, i.e.; the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of its commercial use.<sup>504</sup> The CBD got ratified by 177 nations which made the convention provisions complied to the users of bioresources, it also provided them access to the raw bioresources and traditional knowledge relating to plants which is developed into bioproducts.<sup>505</sup> These arrangements are called bioprospecting.

Actually, the term bioprospecting was created in respond to the problematic relationship between global commercial interests and the biological resources and indigenous knowledge of local communities and to the epidemic of biopiracy.<sup>506</sup> Walter V. Reid et al. was the first one to define Bioprospecting as “the exploration of biodiversity for commercially valuable genetic resources and biochemical”.<sup>507</sup>

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<sup>502</sup> Biopiracy related Traditional Knowledge & Patenting issues, *available at*: <http://www.birac.nic.in/webcontent/dib.pdf> (last visited on February 18, 2018).

<sup>503</sup> India to organize meet on biopiracy in Geneva, *available at*: <https://economictimes.indiatimes.com/news/politics-and-nation/india-to-organise-meet-on-biopiracy-in-geneva/articleshow/64360161.cms> (last visited on April 30, 2018).

<sup>504</sup> Lessons from Bioprospecting in India and Nigeria, *available at*: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/lessons-bioprospecting-india-and-nigeria> (last visited on April 30, 2018).

<sup>505</sup> *Ibid.*

<sup>506</sup> Vandana Shiva, “Bioprospecting as Sophisticated Biopiracy” 32 (2) *Journal of Women in Culture & Society* 307 (2007).

<sup>507</sup> *Ibid.*

In simple words, it can be said that bioprospecting is the investigation of living things to find out how it can be used commercially for human beings.<sup>508</sup> The biological diversity<sup>509</sup> and indigenous knowledge are sometimes explored, extracted and screened for the valuable genetic and biochemical resources which are used commercially in bioprospecting.<sup>510</sup> In simple words, small samples of natural resources are collected which have a potential value to industry, mainly in the pharmaceutical, agri-business and biotechnology fields.<sup>511</sup> Furthermore, TK are also taken into consideration as the local communities have knowledge regarding the origination of the resource and how it can be used. In actual, the term bioprospecting was derived from prospecting for minerals and fossil fuels.<sup>512</sup> It is an inappropriate term as well as process. Unlike fossil fuels, living resources are not useless unless they are exploited by global commercial interests for global markets.<sup>513</sup>

According to the well-known activist and academic of India, Dr. Vandana Shiva, bioprospecting is ‘merely a sophisticated form of biopiracy’.<sup>514</sup> She even adds up the harmfulness of bioprospecting as it denies the self-sufficient use of the local resources by the local communities.<sup>515</sup> What really is done by bioprospecting is it loots the wealth of the donor communities by granting claim of monopolies on resources and knowledge that previously belonged to the communities through which they would meet their health and nutrition needs and furthermore force them to pay for what originally belonged to them. It leads to the conversion of usurped biodiversity and biodiversity-related knowledge into commodities protected by IPRs.<sup>516</sup>

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<sup>508</sup> Bioprospecting, *available at*: <https://www.slideshare.net/bharathirathinam/bioprospecting> (last visited on May 2, 2018).

<sup>509</sup> It refers to all the living things including plants, animals, insects and marine life.

<sup>510</sup> Bioprospecting/Biopiracy and Indigenous People, *available at*: <http://www.etcgroup.org/content/bioprospectingbiopiracy-and-indigenous-peoples> (last visited on May 2, 2018).

<sup>511</sup> Bioprospecting: Putting Nature to Work, *available at*: [https://www.saasta.ac.za/Media-Portal/download/bio\\_fs06.pdf](https://www.saasta.ac.za/Media-Portal/download/bio_fs06.pdf) (last visited on May 3, 2018).

<sup>512</sup> *Supra* note 506.

<sup>513</sup> *Ibid.*

<sup>514</sup> Biopiracy or bioprospecting: Negotiating the Limits of Propertization, *available at*: <https://liu.diva-portal.org/smash/get/diva2:1153590/FULLTEXT02.pdf> (last visited on May 3, 2018).

<sup>515</sup> *Ibid.*

<sup>516</sup> *Ibid.*

Dr. Vandana Shiva is of the view that bioprospecting creates exclusion, exclusion of those communities which are not acknowledged as signatories to the agreement. One of the problems with bioprospecting is that when the agreements are signed or contracts has been placed with only one or limited number of local communities who use the resource, the other communities do not have to sign the agreement for their prior consent or to reach a mutual agreed term which creates inequity and potential conflicts between different communities.<sup>517</sup> They won't be able to use the resources once it is used for commercial purposes. Another exclusion that Dr. Vandana Shiva had talked about takes place when Multi-National Companies (hereafter referred to as MNCs) or such apply for grant of patent on 'knowledge'. In accordance with the Nagoya Protocol, the intellectual property ownership is often discarded as secondary.<sup>518</sup> Ben Philips is the one who negotiated the Nagoya Protocol for the Government of Australia and argues that the crucial vitality with an Access and Benefit Sharing (hereafter referred to as ABS) regime is not on the ownership of the Intellectual Property (hereafter referred to as IP) but on the division of the revenues.<sup>519</sup> Furthermore, he adds that the ownership of IP should belong to the one who can best exploit the resources and finance that exploitation as long as there are agreements which provide a very equal share of the revenues among all the relevant parties.<sup>520</sup> If the value of the patent increases in long term then the ILC should be properly rewarded.

On the other hand, even if the providers of knowledge are well compensated, restraining from the owning the IP remains unequal. What will happen over time is the donor community will be excluded from the ownership as the marketing system and Intellectual Property Right (hereafter referred to as IPR) regimes will combine and be a community that provided biological resources and knowledge and the donor communities will be the one to purchase proprietary commodities from the corporations who will have the monopoly of ownership upon the biodiversity and knowledge.<sup>521</sup> For instance, farmers who contributed seed in a bioprospecting venture are later on forced to buy proprietary seed from the seed industry.<sup>522</sup>

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<sup>517</sup> *Ibid.*

<sup>518</sup> *Supra* note 506

<sup>519</sup> *Ibid.*

<sup>520</sup> *Ibid.*

<sup>521</sup> *Ibid.*

<sup>522</sup> *Ibid.*

The indigenous communities are of the view that bioprospecting is nothing but the action of dispossession of their collective and cumulative innovation which since time immemorial, they have utilized, protected, conserved and developed.<sup>523</sup> What happens in the name of bioprospecting is the TK of the local communities are commercialized by the corporations.<sup>524</sup> It acts a model for relationship between the corporations and the local communities. In simple words, it is an alternative to biopiracy. There is a little difference between bioprospecting and biopiracy since the impact of bioprospecting is the same as outright piracy on biodiversity and Indigenous culture and local communities.<sup>525</sup> According to Dr. Vandana Shiva, changing the IP system instead of creating ad hoc solutions focused on access and the sharing of benefits is the only way to overcome the inequalities that gets created by bioprospecting.<sup>526</sup>

- i) Issue with Bio prospecting:** The main objective of bio prospecting is to utilise the biological resources for commercial purpose and at the same time equally share the benefits arising out it. Mostly bioprospecting is done on indigenous knowledge based on biological resources, hence the indigenous people are promised benefits that arise out of the utilisation of such resources. The national legislation clearly mention that a contract must be signed by users i.e. investors, private or public manufacturers, research elites and the providers i.e. local communities, landowners and government entities of genetic resources.<sup>527</sup> But in practicality the rights of the providers are not legally recognized and most of the time it is dependent upon provision of legislation as well as ratification of Nagoya Protocol. The main issue is that the benefit that must be shared accordingly is not done, and it also fails to provide protection to traditional knowledge, which in turn becomes misused and misappropriated.

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<sup>523</sup> Vandana Shiva – Bioprospecting as Sophisticated Biopiracy, *available at*: <http://paulkellyvieth.com/thesis/vandana-shiva-bioprospecting-as-sophisticated-biopiracy/> (last visited on May 3, 2018).

<sup>524</sup> *Ibid.*

<sup>525</sup> *Supra* note 514.

<sup>526</sup> *Supra* note 506 at 313.

<sup>527</sup> Bioprospecting, *available at*:

<http://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/bioprospecting.html#mst-1654174799-1> (last visited on May 5, 2018).

Bioprospecting has many risks with it; case of Kani Tribe of India is best example to provide evidence for it.<sup>528</sup> India is one of the richest countries in terms of biological and cultural diversity, India is home to over 45,000 species of plants and 400 unique ethnic groups.<sup>529</sup> India is party to Convention on Biological Diversity, 1992 and has framed a Biodiversity Act which provides protection to biological resources and upholds the provision of access and benefit sharing.

In 1979, the TBGRI was established in Kerala. While studying the forests of southwest India the TBGRI found that it was home to Kani tribe. The Kani tribe were dependent upon the forest resources for their livelihood, and they used various biological resources for different purpose. The TBGRI while conducting research found about the wild plant species i.e. arohyapacha that was used by Kani tribe for energy. Utilising the plant, a drug was developed named as “Jeevani” (giver of life). TBGRI than transferred the manufacturing of the drug to Aryavaidya Pharmacy Coimbatore, Ltd. one of the major Ayurvedic drug company. The Aryavaidya Company then licensed Jeevani as a tonic to boost immune system and fee of 10 lakhs was provided. The Kani tribe were given only 2% royalty on profits.<sup>530</sup>

Later TBGRI tried to cultivate arohyapacha to provide raw material to the drug company but it was not successful because the new plant lacked the medicinal properties that the wild plant had. To look into the issue TBGRI tried to make the Kani tribe living in the forest to cultivate it and promised certain amount of money.<sup>531</sup> But the quality of the plant was not same as the ones found in the wild.

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<sup>528</sup> Lessons from Bioprospecting in India and Nigeria, *available at*: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/lessons-bioprospecting-india-and-nigeria> (last visited on April 30, 2018).

<sup>529</sup> India, *available at*: <https://www.iucn.org/asia/countries/india> (last visited on May 6, 2018).

<sup>530</sup> Katy Moran, “Bioprospecting: lessons from benefit-sharing experiences” 2 (1) *International Journal of Biotechnology* 134 (2000).

<sup>531</sup> Lessons from Bioprospecting in India and Nigeria, *available at*: <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/lessons-bioprospecting-india-and-nigeria> (last visited on April 30, 2018).

A contract was signed between TBGRI of Trivandrum and a pharmaceutical company which made this plant commercial, the drug made from this plant is being sold online by a US company, Nutri Science Innovations.<sup>532</sup> One billion dollars is the estimated market value but twelve thousand dollars were received by the Kani community.

Looking at this situation, the Kani tribe were the ones who were using the plant and were using it freely. They had identified the medicinal characteristics of the plant. But because of bioprospecting not only they lost full control over it but in addition to it they did not receive the equal benefits that they deserved. In this way bioprospecting not only misuses the traditional knowledge of indigenous communities but also fails to provide the equal benefits arising out of it. The right of communities to negotiate or just deny must be recognised before any bio prospecting begins.<sup>533</sup> As the people holding traditional knowledge are unaware of various development of private rights i.e. IPRs, they must be made clear about the various issue connected with bioprospecting.

- ii) Limitations of Bioprospecting:** In the present world, the scenario is totally of capitalism. Money is the only thing that matters to the corporations, MNCs and such. In search of TK and biological riches, number of Pharmaceutical and biotechnology companies are exploring the forests, fields and waters of the developing countries and their sole intention is to develop patent and products for profitable use.<sup>534</sup> The indigenous communities are the ones who maintained, protected and improved the traditional plants for medicine but they are not given any recognition and in so many cases it has been seen that they are not provided any reward for sharing their knowledge.<sup>535</sup> Many Pharmaceutical firms, whose sole intention is profit making, claim that in the process of bioprospecting there involves huge investment along with elements of high risk in which benefits are not guaranteed.<sup>536</sup> This makes the third world countries as the suppliers or

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<sup>532</sup> *Supra* note 506 at 309.

<sup>533</sup> *Ibid.*

<sup>534</sup> Bioprospecting: Pros and Cons, *available at:*

<http://www.hillagric.ac.in/edu/covas/vpharma/winter%20school/lectures/21%20Bioprospecting%20Pros%20and%20cons.pdf> (last visited on May 7, 2018).

<sup>535</sup> *Ibid.*

<sup>536</sup> *Ibid.*

exporters of raw materials engaged in bioprospecting with pharmaceutical firms and these firms in the name of bioprospecting accumulate wealth. What has been the most emerging question in the field of bioprospecting is, “what gives pharmaceutical companies, the right to patent any potentially active compounds as their own discoveries, thereby preventing the legal claims of local habitants to royalties from the sale of such drugs regardless of their sharing knowledge with companies?”<sup>537</sup>

The agreements relating to bioprospecting are monitored by the multilateral Convention on Biological Diversity but there is no such regulation to ensure that adequate compensation is to be provided to the source countries. In most cases it has been seen that the offer provided by multinational pharmaceutical firms to the resource countries are not sufficient. The Pharmaceutical firms in several cases have used intermediaries such as private companies, governmental and non-profit organizations or even persons employed to bid for the direct access of biodiversity.<sup>538</sup> This makes it difficult for indigenous people and organizations to know whom they are dealing and negotiating with or to whom they are handing over their precious information and genetic material.<sup>539</sup> There is possibility of imbalance in ecosystem due to bioprospecting and it can happen due to excessive exploitation of material resources. According to Moran, the tropical rain forest regions of the world which consist of more than 50% of medicinal plants is disappearing and the main reason for such disappearance is mainly due to multitude of commercial interests including bioprospecting.<sup>540</sup>

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<sup>537</sup> *Supra* note 532.

<sup>538</sup> *Ibid.*

<sup>539</sup> *Ibid.*

<sup>540</sup> *Ibid.*

### 3.2. Summary

The grant of IPRs on the Traditional Knowledge of India has become a topic of discussion. Though, India has taken steps for the protection of Traditional Knowledge by creating digital libraries rules and laws, but all these are not adequate enough to provide ample protection to the precious Traditional Knowledge of India. Looking at the cases mentioned above regarding the exploitation and misappropriation of Traditional Knowledge, it can be said that the steps taken by India to provide protection to Traditional Knowledge is not sufficient enough and time and again such exploitation is sure to take place. Furthermore, the indigenous communities to whom the Traditional Knowledge belong are so naive and innocent that they will provide it to whosoever has gain their trust, they do not know what their knowledge can do in this world of science and technology where anything can be put to value. Awareness among the Traditional Knowledge holders regarding the protection, benefits, exploitation, misappropriation and value of their Traditional Knowledge should be made a mandatory task by the Government of India, may they be living in any part of the country.

One of the main steps taken by India regarding protection of Traditional Knowledge is TKDL. Though it is a good tool for providing defensive protection but it has its limitations on its own which fails to provides a holistic protection to different forms of Traditional Knowledge.<sup>541</sup> Some are of the view that the area that the TKDL covers is only Ayurveda, Yoga, Unani and Siddha, beside these areas there are other types of Traditional Knowledge in various parts of the country, and the ambit of TKDL should be expanded to other forms of Traditional Knowledge.<sup>542</sup> On the other hand, some are of the view that doing so will be a gross injustice for those communities, if their knowledge are shared with patent offices then it will largely affect their livelihood and furthermore Traditional Knowledge Digital Libraries should be created only on Traditional Knowledge which are already known to the larger section of the society and the same should be made accessible to researchers.<sup>543</sup> Traditional Knowledge

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<sup>541</sup> Protection of Traditional Knowledge-Initiatives in India, *available at*: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_iptk\\_ge\\_2\\_16/wipo\\_iptk\\_ge\\_2\\_16\\_presentation\\_12javed.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_iptk_ge_2_16/wipo_iptk_ge_2_16_presentation_12javed.pdf) (last visited on May 28, 2018).

<sup>542</sup> *Ibid.*

<sup>543</sup> Traditional Knowledge: beware of patent protection, *available at*: <http://ipkitten.blogspot.com/2017/03/traditional-knowledge-beware-of-patent.html> (last visited on May 30, 2018).



Docketing System is the solution some have come with which will not register the Traditional Knowledge but will indicate the location and the community to whom the Traditional Knowledge belong to, short description of the nature of the Traditional Knowledge along with the community protocol if there is any.<sup>544</sup> The IPRs regarding the Traditional Knowledge shall be empowered in the hands of the communities and even the rights to negotiate with customers shall be provided to them by forming Societies or Trusts of their own.

No administrative measures as well as the legislative measures have been able to stop biopiracy. It has become like a curse to the Traditional Knowledge of India and has been played by foreign MNCs and such firms. The Traditional Knowledge of India has been time and again attacked by bio pirates and India was put into trouble for the propose of defending its Traditional Knowledge. Mostly the developing and the under developed countries are rich in Traditional Knowledge and they do get played upon by the MNCs of the developed nations. In some cases, they do get defended but in some they don't. Biopiracy and bioprospecting are the ones which play major role in the exploitation of Traditional Knowledge as well as misappropriation of it. India has to come up with a measure to overcome biopiracy and bioprospecting. There has been call regarding the development of sui generis legal framework for the protection of Traditional Knowledge but no action has been taken by the Government even though there had been proposal put forward for private finance. Traditional Knowledge (Preservation and Protection) Bill 2000 was the first one and the Biological Resources and Traditional Knowledge (Protection and Regulation) Bill 2003 was the other one.<sup>545</sup> These are supposedly made for the replacement of the Biodiversity Act and amendment to the Plant Variety Act and they provide protection to the Traditional Knowledge with a different set of measures. There has been an important initiative taken by the Lok Sabha, Member of Parliament, Kerala, "Shashi Tharoor" to move a private member's bill to provide for the protection, preservation, promotion and development of India's Traditional Knowledge.<sup>546</sup> According to the ones who support the bill, if Traditional

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<sup>544</sup> Towards a Nuanced Approach to Protection of Traditional Knowledge, *available at*: <https://spicyip.com/2015/07/guest-post-towards-a-nuanced-approach-to-protection-of-traditional-knowledge.html> (last visited on May 31, 2018).

<sup>545</sup> *Supra* note 503.

<sup>546</sup> Laxmi Ajai Prasanna, "Tharoor pushes for traditional knowledge bill", *The Times of India*, 2016, *available at*: <https://timesofindia.indiatimes.com/city/thiruvananthapuram/tharoor-pushes-for-traditional-knowledge-bill/articleshow/55150908.cms>

Knowledge gets remain or is owned by individuals, communities or trusts then there are huge chances of exploitation by commercial interests which makes it safer in the hands of the state. Lastly, Traditional Knowledge is the knowledge of a community or individual, an individual can solely claim ownership over it, but the tragedy is that community rights are not recognised under IPRs.<sup>547</sup>

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<sup>547</sup> Protection of Traditional Knowledge Bill – a failure, *available at*: <http://www.intellectualpropertyprimer.com/protection-traditional-knowledge-bill-failure.html> (last visited on July 1, 2018).

## CHAPTER IV

### INTERNATIONAL INSTRUMENTS REGARDING TRADITIONAL KNOWLEDGE AND ITS PROTECTION

As discussed in the previous chapters the importance of Traditional Knowledge TK and the various constraints in preservation of the same. Traditional Knowledge issues are not only concerned to the people who have come up with such knowledge but also are important as to identity a particular country. Traditional knowledge must be recognised and protected, as other different rights are protected under the IPRs. There are various issues related to protection of traditional knowledge but still there is no specific protection that is laid down for it. There are number of international and national legislation, conventions that are established for protection of various IPRs but there is no specific provision for protection of Traditional Knowledge. There exists a debate on what style of protection should be given to traditional knowledge, could it be either established IPR or a sui generis legislation.<sup>548</sup> The various international and national initiatives has been discussed below.

#### 4.1. Protection at International Level

There exists a strong need to protect TK from being exploited commercially, especially knowledge based on agriculture, medicinal use and creative innovations. TK as defined not only includes the knowledge based on biological resources but also is associated with cultural goods. It is important that the protection measures are adopted because there are lot of evidence where the First World Countries has misappropriated the traditional knowledge of developing countries and in a way infringing the rights of the people who came up with such knowledge.<sup>549</sup>

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<sup>548</sup> The Protection of Traditional Knowledge: Outline of Policy Options and Legal Elements, *available at*: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_grtkf\\_ic\\_7/wipo\\_grtkf\\_ic\\_7\\_6-main1.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_7/wipo_grtkf_ic_7_6-main1.pdf) (last visited on July 2, 2018).

<sup>549</sup> Protection of Traditional Knowledge: Perspectives and International Initiatives, *available at*: [http://shodhganga.inflibnet.ac.in/bitstream/10603/50419/8/08\\_chapter3.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/50419/8/08_chapter3.pdf) (last visited on July 3, 2018).

The Paris Convention mainly sought to bring about coordination and cooperation among all the nation states so as to harmonise the existing patent laws at national level. The Berne Convention was mainly based on how to avoid the issue of unauthorised use of copyright works in other countries. The idea that was adopted was to codify it at international level by maintaining a minimum level of standard for protection of the same. It was suggested that certain changes must be brought so that it meets the changes that are brought about in present digital environment. By this way the misuse of copyrights would be lessened.<sup>550</sup> Only if the protection measures are given at international level the TK belonging to a country can be safeguarded. The issue of jurisdiction i.e. recognition of foreign rights holders, can also be solved if certain provisions are given at international level. Article 2(1) of the Paris Convention which states that “*Nationals of any country of the Union shall, as regards the protection of industrial property, enjoy in all the other countries of their Union the advantages that their respective laws now grant, or may hereafter grant, to nationals: all without prejudice to the rights specially provided for by this Convention. Consequently, they shall have the same protection as the latter, and the same legal remedy against any infringement of their rights, provided that the conditions and formalities imposed upon nationals are complied with*”.<sup>551</sup> Similarly under Article 3(1) of the TRIPS Agreement, the member states are to accord to the nationals of the other Members treatment no less favourable than that it accords to its own nationals with regard to IPRs. But the principle of national treatment only applies if the national laws provide such protection. If this principle of national treatment is adopted by everyone than TK of an indigenous community in India shall be protected in US and vice versa. Along with the principle of national treatment other principles like reciprocity and mutual recognitions can also be adopted to protect the TK. International laws also provide for minimum standards which in a way helps in harmonization of national laws and conviction. This way the laws can be uniform which also reduces the chance of misuse of various IP Rights. Under the Berne Convention the member states are to provide minimum acceptable standards in matters of copyrights.<sup>552</sup>

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<sup>550</sup> Why and How to Protect Traditional Knowledge at International Level, *available at*: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_iprk\\_ge\\_2\\_16/wipo\\_iprk\\_ge\\_2\\_16\\_presentation\\_11oum\\_a.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_iprk_ge_2_16/wipo_iprk_ge_2_16_presentation_11oum_a.pdf) (last visited on July 3, 2018).

<sup>551</sup> *Ibid.*

<sup>552</sup> *Ibid.*

The above-mentioned international laws are mostly for protecting other forms of IPRs. The need of protecting TK is necessary because till today there is not a single instrument developed that seeks protection for TK.<sup>553</sup> There is a need to look at every possible option that can provide protection to TK and stop it from being mis utilized. This can be done by going through the policy objectives and rationale for different protection measures of intellectual property at international level, and to see whether there is any way or manner to provide protection of TK. As TK does not fit into the sphere of intellectual property but the existing intellectual protection laws can be used to guide it.<sup>554</sup> There are many attempts made at the international level to protect TK, like Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (hereafter referred to as ICG) proposed three alternatives for availing protection for TK they are, firstly, states that seek to prevent misappropriation, misuse and unauthorised use of TK, control of use of TK beyond the traditional and customary context, fair and equitable benefit sharing, and encouragement of tradition-based innovation. Secondly, seeking to prevent misuse/unlawful appropriation of protected traditional knowledge and encourage tradition-based creation/innovation. Lastly, to have an instrument that contributes for protection of innovation and to the transfer and dissemination of knowledge to the mutual benefit of holders and users of protected TK in a manner conducive to the social and economic welfare and to balance the rights and obligations.<sup>555</sup> Apart from the above-mentioned measures one of the important attempts for protecting TK is mentioned under CBD. Article 8(j) of the CBD lays down that the parties, subject to national laws should respect, preserve and maintain the knowledge, innovations and practices of indigenous and local communities, especially those that embody traditional lifestyle relevant to the conservation and sustainable use of biodiversity.<sup>556</sup> All the members are required to encourage such use and also to share the benefits that arise after the utilization of such resources. Under Article 10(c) the members to the Convention are required to protect and encourage the customary use of biological resources and in accordance with traditional practices.<sup>557</sup> Article 17(2) recognises the

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<sup>553</sup> Traditional Knowledge and Intellectual Property-Background Brief, *available at*: [https://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](https://www.wipo.int/pressroom/en/briefs/tk_ip.html) (last visited on July 15, 2018).

<sup>554</sup> *Ibid.*

<sup>555</sup> *Ibid.*

<sup>556</sup> The Convention on Biological Diversity, art.8 (j).

<sup>557</sup> *Id.*, art. 10 (c).

indigenous and traditional knowledge as one of the elements of information to be exchanged<sup>558</sup> while Article 18(4) requires the parties to encourage and develop methods of cooperation for development and the use of indigenous and traditional technologies pursuant to CBD objectives.<sup>559</sup> Apart from CBD the Nagoya Protocol for access and benefit sharing addresses traditional knowledge associated with genetic resources. Contracting parties are required to ensure that the measures for communities' prior informed consent, fair and equitable benefit sharing, is met with.

The importance of Traditional Knowledge is highlighted in various Conventions, Agreements like TRIPs, CBD, the International Treaty on Plant Genetic Resources for Food and Agriculture (hereafter referred to as ITPGR), the United Nations Conference on Trade and Development (hereafter referred to as UNCTAD), the United Nations Educational Scientific and Cultural Organization (UNESCO), WIPO etc. In this chapter the above-mentioned Conventions, Treaties will be analysed to understand whether the issue of traditional knowledge are dealt with or not.

#### **4.1.1. Food and Agriculture Organization (1945)**

Food and Agriculture Organization (hereafter referred to as FAO) is one of the oldest agencies of the United Nations. It was established in October 1945 and the main objectives were to eliminate hunger and improve the standard of living as well as increasing the agricultural productivity. The main functions of FAO were: (i) to provide technical assistance as well as to advice, (ii) to collect, analyse and disseminate information on food, nutrition, agriculture, fisheries and forestry, (iii) offer independent advice to governments on agriculture policy, (iv) provides a neutral forum where governments, international organizations and Non-Governmental Organizations (hereafter referred to as NGOs) can meet to discuss food and agriculture issues.<sup>560</sup> FAO is the permanent agency of UN and has huge information about the agricultural activities of different places. Hence, they could play an important role of recording certain techniques of agriculture that are based on traditional knowledge of certain

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<sup>558</sup> *Id.*, art. 17 (2).

<sup>559</sup> *Id.*, art. 18 (4).

<sup>560</sup> FAO and Traditional Knowledge: The Linkages with Sustainability, Food Security and Climate Change Impacts, *available at*: <http://www.fao.org/3/a-i0841e.pdf> (last visited on July 5, 2018).

groups as to provide evidence of their prior use if certain claims are made for them.<sup>561</sup> FAO has included traditional and local knowledge and activities in policies, projects and various programmes. Traditional knowledge was used by FAO to tackle the problems of soaring food prices and climate changes.<sup>562</sup> But there exist no specific provisions for the protection of TK.

#### **4.1.2. International Labour Organization (1946)**

International Labour Organization (hereafter referred to as ILO) is an agency of United Nations with special function to promote social justice and recognize the human and labour rights internationally. ILO is responsible for only the international legally-binding instrument that directly addresses the rights of indigenous people and tribal people. The Convention 169 Concerning Indigenous People in Independent Countries, was adopted in 1989, and is the most comprehensive instrument on the conditions of life and work of indigenous and tribal people. Though it is very important convention that recognises the rights of the indigenous people but the intellectual property rights are not covered under it. Certain Articles, like Article 6 and 7 highlights the need to consult indigenous and tribal peoples whenever consideration is given to legislate or administrative measures that affect them. Hence, the member of the Convention can use such provisions as to safe guard the traditional knowledge of the indigenous and tribal people.<sup>563</sup>

#### **4.1.3. The United Nations Conference on Trade and Development (1964)**

UNCTAD mainly deals with the issues regarding trade and development, together with the areas of investments, finance, technology, enterprise, development and sustainable development. UNCTAD played an important role in providing platform to the demands of the developing countries, but after the establishment of TRIPs the role of UNCTAD is somewhat restricted.<sup>564</sup> Nevertheless, UNCTAD is playing an important role with

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<sup>561</sup> *Ibid.*

<sup>562</sup> *Ibid.*

<sup>563</sup> Shared Responsibility and the International Labour Organisation, *available at*: [http://law.haifa.ac.il/images/Publications/Shared\\_Responsibility\\_and\\_the\\_International\\_Labour\\_Organization.pdf](http://law.haifa.ac.il/images/Publications/Shared_Responsibility_and_the_International_Labour_Organization.pdf) (last visited on July 7, 2018).

<sup>564</sup> United Nations Conference on Trade and Development, *available at*: [http://unctad.org/en/Docs/td442\\_en.pdf](http://unctad.org/en/Docs/td442_en.pdf) (last visited on July 10, 2018).

regard to intellectual property especially in areas that are related to traditional knowledge as well as the work on technology transfer, E-Commerce issues etc. UNCTAD has over the years conducted joint collaboration programmes especially focusing on Intellectual property rights and sustainable development with the International Centre for Trade and Sustainable Development (hereafter referred to as ICTSD).<sup>565</sup>

Lastly there is a preparation going on for UNCTAD XI, which is to focus on the needs of protection on various intellectual property rights, along with transfer of technology and protection measures for traditional knowledge, genetic resources and folklore especially in developing countries. But it is also evitable that it has to face the opposition especially from US and other developed countries. UNCTAD has been working on the issues for protecting TK, an Expert Meeting on Systems and National Experience for Protecting Traditional Knowledge, innovations and Practices during November 2000. Many countries participated mostly represented by NGOs, indigenous groups, government representatives, IGOs, academics circles, international agencies and private companies. Various recommendations were given during the Meeting it included the need to increase awareness for protection of traditional knowledge, to support or encourage innovation potential of local and indigenous communities, to facilitate the documentation of traditional knowledge and to promote the commercialization of traditional knowledge based products.<sup>566</sup> In the Meeting, the term TK was defined as the knowledge, innovations and practice of indigenous and local communities embodying traditional life styles as well as indigenous and traditional technologies.<sup>567</sup> Apart from this TK and its importance were also discussed, TK is not only valuable to those who depend on them but it is also helpful in developing modern technologies in relation to agriculture and sustainable development. The products that are made with the application of traditional knowledge is traded internationally, and biodiversity related TK also contributes considerably to modern industry and

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<sup>565</sup> Report of the UNCTAD Commission on Trade in Goods and Services, *available at*: [https://unctad.org/en/Docs/c1d58\\_en.pdf](https://unctad.org/en/Docs/c1d58_en.pdf) (last visited on July 10, 2018).

<sup>566</sup> Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions, *available at*: [https://unctad.org/system/files/official-document/ditcted10\\_en.pdf](https://unctad.org/system/files/official-document/ditcted10_en.pdf) (last visited on July 10, 2018).

<sup>567</sup> Intellectual Property Rights: Implications for Development, *available at*: <https://www.ictsd.org/themes/innovation-and-ip/research/intellectual-property-rights-implications-for-development> (last visited on July 11, 2018).



agriculture. In an UNCTAD meeting, the experts expressed to explore new ways to protect TK from exploitation and extinction and these new ways could be strengthening of customary laws, grassroots initiatives and possible international mechanisms.<sup>568</sup>

#### **4.1.4. The World Intellectual Property Organization (1967)**

WIPO is an international organization that is dedicated to facilitate worldwide protection of the rights of creators and owners of intellectual property. Previously WIPO was known as the International Bureau.<sup>569</sup>

WIPO plays an important role in facilitating the protection of intellectual property throughout the world, it encourages conclusion of new international treaties and the modernization of national legislation, it also provides technical assistance to developing countries, it collects and distributes the information's, and also tries to promote administrative cooperation among the member states. WIPO tries to avail cooperation among the member states so that they can use the technologies, ideas from each other. The developing countries are also encouraged to make full use of the intellectual property, and also to promote domestic creativity which in turn would lead to cultural, economic and social development. The importance of TK and its various types has been discussed by WIPO but the acknowledgment and protection are still at grass root level.

#### **4.1.5. United Nations Environment Programme (1972)**

The United Nations Environment Programme (hereafter referred to as UNEP) is a global body that acts as the environmental conscience of the UN system. The main role of UNEP is to assist or help the developing countries to implement environmentally sound policies and practices. Its activities cover a wide range of issues regarding the atmosphere, marine and terrestrial ecosystem, environmental governance and green economy. With the effort of UNEP various international conventions, promotion of environmental science and implementing such policies has taken place.<sup>570</sup> In 1992, the

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<sup>568</sup> New Avenues needed to Protect Traditional Knowledge, urge Experts at UNCTAD Meeting, *available at:* <https://unctad.org/press-material/new-avenues-needed-protect-traditional-knowledge-urge-experts-unctad-meeting> (last visited on July 10, 2018).

<sup>569</sup> WIPO-A Brief History, *available at:* <https://www.wipo.int/about-wipo/en/history.html> (last visited on July 11, 2018).

<sup>570</sup> About UN Environment Programme, *available at:* <https://www.unenvironment.org/about-un-environment> (last visited on July 11, 2018).

UN Conference on Environment and development (the Earth Summit) at Rio de Janeiro, Brazil brought together many representatives of governments, civil societies, and private sector. The main purpose of this Conference was to see how far efforts that were made in Stockholm has been carried out and to see the various reason for the degradation of the environment, and to put in effort to strengthen national and international efforts to establish sustainable and environmentally sound development in countries.<sup>571</sup>

#### **4.1.6. Convention Concerning Indigenous and Tribal Peoples in Independent Countries (1989)**

Under this Convention the rights of the indigenous and tribal people over their land is recognized and the right to self-identification is affirmed. Recognition to the spiritual, cultural and collective rights of indigenous people is done by ILO through this Convention.<sup>572</sup> Under Article 13 of this Convention the States are required to respect the special importance of culture, spiritual values that are associated or related with the indigenous people. They are also required to promote full realization of the economic, cultural and social rights of the indigenous peoples. The State must see that their rights are not violated and if violated they must have the chance to represent themselves. The relationship of the indigenous people with their nature or land is essential and it must be protected.<sup>573</sup>

#### **4.1.7. The Rio Declaration on Environment and Development (1992)**

The United Nations Conference on Environment and Development was held at Rio de Janeiro, Brazil in 1992. Though the issue regarding intellectual property protection of traditional knowledge was not addressed in this Conference, but it highlighted the need that the local institutions through which indigenous and local people interact and perform their economic activities must be strengthened.<sup>574</sup> The role of indigenous

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<sup>571</sup> *Ibid.*

<sup>572</sup> Convention C169-Indigenous and Tribal Peoples Convention, 1989 (No.169), *available at:* [https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100\\_ILO\\_CODE:C169](https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169) (last visited on July 9, 2018).

<sup>573</sup> *Ibid.*

<sup>574</sup> United Nations Sustainable Development, *available at:* <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf> (last visited on July 10, 2018).

people and the communities in environmental management and development was recognised, and the knowledge and the traditional practices were to be protected. The importance of the traditional knowledge and practices of the indigenous people were to be encouraged by the States. The Earth Summit at Rio de Janeiro addressed the issue of the intellectual property rights in traditional knowledge and innovation. The Agenda 21 of the Earth Summit basically contains a chapter on Indigenous people's rights. It recognizes the importance of traditional knowledge of the indigenous people in conserving the biodiversity and also to award them for their contributions.<sup>575</sup>

#### **4.1.8. Agenda 21 (1992)**

Agenda 21 was the global plan adopted by the United Nations Conference on Environment and Development on 14 June 1992. Agenda 21 is a comprehensive programme of action to be implemented by the governments, development agencies, and independent sector groups in every area where human activities would affect the environment. The main concern was sustainable development.<sup>576</sup> The States were to use the resources in such a way that it does not hamper the needs of future generation. The principle 22 of Agenda 21 provides that the Indigenous people and their communities and other local communities play a vital role in environmental management and development because of their knowledge and traditional practices. So, the States must duly recognise and support their identity, their cultural interests and encourage their effective participation in the achievement of sustainable development.<sup>577</sup>

#### **4.1.9. Permanent Forum on Indigenous Issues (2000)**

The main function of the Forum was to discuss indigenous issues within the mandates of Economic and Social Council related to economic, social development, culture, environment, education, health and human rights. The Forum also had to promote the integration and coordination of various activities that were related to the indigenous

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<sup>575</sup> *Ibid.*

<sup>576</sup> Agenda 21, *available at:* <https://sustainabledevelopment.un.org/outcomedocuments/agenda21> (last visited on July 10, 2018).

<sup>577</sup> Agenda 21 Summary, *available at:* <http://jaygary.com/agenda21/> (last visited on July 10, 2018).

issues.<sup>578</sup> There were many representatives who raised the concern of bio-piracy and genetic engineering and were of the idea that a strong measure to be adopted to protect the genetic resources and also to halt bio-prospecting. The main issues were on how to stop patents on the medicinal resources that were associated with the traditional knowledge of indigenous groups. The idea of prior informed consent was also highlighted as to control the misuse of the knowledge of the indigenous groups.<sup>579</sup>

#### **4.1.10. Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (2000)**

The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore was established in 2000 by WIPO. In 2009 the members agreed to develop an international legal instrument that would give traditional knowledge, genetic resources and traditional cultural expressions effective protection. Such instrument could give recommendations to the WIPO members.<sup>580</sup>

Two types of intellectual property protection are being sought they are (i) defensive protection and (ii) positive protection. Defensive protection aims to stop people from outside the community from acquiring intellectual property rights over traditional knowledge. India's TKDL is one of the examples of defensive protection. Through TKDL India has compiled a searchable database of traditional medicine that can be used as an evidence of prior art if patent is claimed. Through TKDL, India has revoked the patent that was granted to use of turmeric. Since the uses are documented the patent can be rejected. Defensive strategies can be used to protect cultural manifestation that is sacred.<sup>581</sup>

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<sup>578</sup> Permanent Forum on Indigenous Issues, *available at*: <https://www.un.org/development/desa/indigenouspeoples/about-us/permanent-forum-on-indigenous-issues.html> (last visited on July 10, 2018).

<sup>579</sup> *Ibid.*

<sup>580</sup> The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, *available at*: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_tk\\_2.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_tk_2.pdf) (last visited on July 10, 2018).

<sup>581</sup> *Supra* Note 553.

Positive protection aims in granting the rights that empower communities so that they can promote their traditional knowledge, control the uses and benefits that arise after the commercial exploitation. Some uses of traditional knowledge are being protected under the existing intellectual regime, and there is specific legislation that is developed by different countries.<sup>582</sup>

WIPO's work on traditional knowledge deal with three distinct yet related areas: traditional knowledge in the strict sense (technical know-how, practices, skills and innovations related to biodiversity, agriculture); traditional cultural expressions (cultural manifestations such as music, art, designs, symbols and performances); and genetic resources (genetic material of actual or potential value found in plants, animals and micro-organisms).<sup>583</sup> So, WIPO has undertaken to make certain protective measures for protection of traditional knowledge. WIPO's work includes aiding, strengthening and developing national and regional systems for protection of traditional knowledge and the Creative Heritage Project through which training can be given along with documenting the cultural heritage.<sup>584</sup>

#### **4.1.11. International Treaty on Plant Genetic Resources for Food and Agriculture (2001)**

FAO adopted the ITPGRFA, in 2001. A Commission is established to oversee the treaty. Similar to the provisions under CBD the ITPGRFA also recognizes the sovereign rights of nations upon the plant genetic resources.<sup>585</sup> The conservation of plant genetic resources is encouraged through national and international collections of seed and plants. Together with this the rights of various groups are also taken into consideration. As the farmers rights are not mentioned under TRIPs Agreement the rights of farmers are also highlighted under this treaty.<sup>586</sup> The treaty also encourages the conservation of the resources, together with documentation of genetic resources for food and agriculture which is essential for food security and the sustainable

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<sup>582</sup> *Ibid.*

<sup>583</sup> *Ibid.*

<sup>584</sup> *Ibid.*

<sup>585</sup> International Treaty on Plant Genetic Resources for Food and Agriculture, *available at*: <http://www.fao.org/3/a-i0510e.pdf> (last visited on July 10, 2018).

<sup>586</sup> *Ibid.*

development of agriculture. It seeks to maintain a sustainable use so as to provide benefit not only to the present generation but also the future generation. Like CBD the idea of fair and equitable sharing of benefits that arise out of the use of the resources is also mentioned under this treaty. The contribution of the farmers is also recognized, they are the ones who have conserve and developed the plant genetic resources since ages. The right of farmers includes the protection of Traditional knowledge and to participate equally in benefits that arise out of the plant genetic resources. The main role on implementing such protections is left in the hands of the Government.<sup>587</sup>

However, the Treaty has limited scope. ITPGRFA indirectly addressed the issue regarding the protection of the traditional knowledge by acknowledging the contribution made by the indigenous communities and farmers for sustainable use and conservation of the genetic resources, which directly helps in food and agriculture protection throughout the planet. The Treaty in no manner supports IPRs over plant genetic resources and associated TK.

#### **4.1.12. UN Declaration on the Rights of Indigenous Peoples (2007)**

UN General Assembly adopted the Declaration on the Rights of Indigenous Peoples during its 61<sup>st</sup> session. The Declaration is based on setting out minimum standards for the survival, wellbeing and dignity of the indigenous people in the world.<sup>588</sup> Article 1 of the Declaration clearly lays down that the indigenous people have the right to enjoy human rights fully and fundamental freedoms, as it is recognized in the Charter of the United Nations and the Universal Declaration of Human Rights and International Human Rights Law. It also recognises the collective rights to live in freedom, peace and security as distinct peoples. It also gives affirmation on their right over the traditional medicines and the health practices, which includes the conservation of their important medicinal plants and minerals.<sup>589</sup> This Declaration in a way recognizes the need to protect the rights of the indigenous people and the knowledge associated with

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<sup>587</sup> *Supra* note 585.

<sup>588</sup> United Nations Declaration on the Rights of Indigenous Peoples, *available at*: [https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP\\_E\\_web.pdf](https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf) (last visited on July 12, 2018).

<sup>589</sup> UN Declaration on the Rights of Indigenous People, G. A. Res.61/295, UN. Doc.A/RES/61/295 (Sep.13/2007).

them. It is clearly mentioned under Article 25 of the Declaration that the indigenous people have the right to maintain and strengthen the spiritual relationship that they have with the traditional resources. The laws, traditions and customs that they have been practising must be respected and recognized. The concept of prior informed consent is also encouraged so that the indigenous people's rights are not infringed. Under Article 8(2) (b) the States are required to provide an effective mechanism to avoid the misuse of their resources and also to redress if any actions dispossess them from their land or resources.<sup>590</sup>

## **4.2. Other Declarations**

Apart from the above mention Conventions, Treaties and Conferences there are number of Declaration made by the indigenous people for the protection of indigenous people, protection of folklore and the Traditional Knowledge. Through this various Declarations the indigenous people tried to communicate their rights and to find a solution for themselves. The Kari-Oca, was the first Declaration that was organised in 1992.<sup>591</sup>

### **4.2.1. The Kari-Oca Declaration and Indigenous People's Earth Charter (1992).**

It was a historic meeting where over 700 indigenous leaders from around the world gathered for the World Conference of Indigenous Peoples on Territories, Environment and Development. In this conference, the participants unanimously signed two landmark documents in the worldwide struggle for indigenous people's rights-the Kari-Oca Declaration and the Indigenous Peoples Earth Charter. The documents mainly set out indigenous peoples' demands and recommendations for environmental protection and sustainable development based on the principle of self-determination and respect for indigenous peoples' collective rights to their territories, knowledge and resources.<sup>592</sup>

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<sup>590</sup> *Ibid.*

<sup>591</sup> Traditional Knowledge and Intellectual Property-Background Brief, *available at*: [https://www.wipo.int/pressroom/en/briefs/tk\\_ip.html](https://www.wipo.int/pressroom/en/briefs/tk_ip.html) (last visited on July 12, 2018).

<sup>592</sup> Kari-Oca 2 Declaration: Indigenous Peoples Global Conference on RIO+20 and Mother Earth, *available at*: <https://www.culturalsurvival.org/news/kari-oca-2-declaration-indigenous-peoples-global-conference-rio20-and-mother-earth> (last visited on July 12, 2018).

In the Kari-Oca Declaration, the indigenous people of Asia, Europe, Africa and Pacific vowed to be united and not to be separated from their lands and traditions that binds them together. The Declaration also contained the Earth Charter of Indigenous People, and under this Article 84-109 deals with the ‘culture, science and intellectual property’ issues. The charter highlights the importance of traditional knowledge and considers that any misuse of such traditional knowledge would amount to crime against the indigenous people.<sup>593</sup> The Charter of Indigenous Tribal People of the Tropical Forest was signed in Malaysia. It reiterated that the indigenous tribal people were the rightful owner to defend the cultures of forest and also demanded respect for the traditional and customs that they have come up with. The other issue that has been highlighted is that the right of such indigenous people must be recognized as they also benefit humanity including the developed countries and such knowledge must be protected from being mis utilized and manipulated.<sup>594</sup>

#### **4.2.2. The Bellagio Declaration (1993)**

The Bellagio Declaration was made by professionals who were concerned about the impacts of international intellectual property laws on indigenous communities. The major issue that they highlighted was how the intellectual property laws on biodiversity related traditional knowledge were neglected and the violations of the rights of the indigenous people were not taken into consideration. The main concern was how the west took granted the traditional knowledge of the indigenous people and also to bring about a community right rather than author-specific rights.

The Thammasat Resolution<sup>595</sup> followed the Bellagio Declaration and reaffirmed the opposition to the extension of intellectual property rights to life forms, to bio-piracy and the monopolization of biodiversity-related knowledge as well as gave importance to sui generis system of protection. The major changes were sought for revising the

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<sup>593</sup> *Ibid.*

<sup>594</sup> Kari-Oca II, the Indigenous People’s Conference at Rio+20, *available at*: <https://www.villageearth.org/global-affiliate-network/kari-oca-ii-the-indigenous-peoples-conference-at-rio-20/> (last visited on July 12, 2018).

<sup>595</sup> The Declaration was signed by representatives from nineteen countries and the focus of the seminar was on the protection of plant varieties by the Sui generis option, this was signed by the peasants, academicians, and non-governmental organizations.



TRIPS that allowed countries to exclude life forms and biodiversity related knowledge from intellectual property; it also prevented CBD from trading biodiversity in name of access and benefit sharing, lastly, to strengthening the defence mechanism of local communities from bio prospecting.

#### **4.2.3. The Mataatua Declaration on Cultural and Intellectual Property Rights (1993)**

The First International Conference on the Cultural and Intellectual Property Rights of Indigenous Peoples was convened by the Nine Tribes of Mataatua in Whakatane 1993. This resulted in the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples', also referred to as the Mataatua Declaration. Under this Declaration the protection of traditional knowledge to the right of self-determination was equated.<sup>596</sup> Article 1 highlights the need for better protection mechanism of traditional knowledge and regards the existing instrument as insufficient. It calls upon the people to develop a certain code so that the external users can follow it when they try to record the traditional knowledge. Under this Article it is strictly mentioned that the cultural properties are vested upon the people who developed it and hence must be recognized nationally and internationally. It also recommended the UN to look carefully on matters on the misuse of the cultural and intellectual property rights of the indigenous people.<sup>597</sup>

#### **4.2.4. Voice of Earth Congress (1994)**

The main motive of Voices of Earth Congress was to establish a council to protect intellectual, scientific and cultural property. It opposed the misuse of the intellectual rights of the indigenous people who originally came up with such knowledge and only they had the inherent right over such knowledge. It also asked the Governments to review legislations and policies which did not recognize the indigenous rights. A Declaration was issued to reaffirm the right to self-determination and to the intellectual

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<sup>596</sup> The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, *available at*:

[https://www.wipo.int/export/sites/www/tk/en/databases/creative\\_heritage/docs/mataatua.pdf](https://www.wipo.int/export/sites/www/tk/en/databases/creative_heritage/docs/mataatua.pdf) (last visited on August 12, 2018).

<sup>597</sup> *Ibid.*

property rights. It strongly opposed bio-prospecting and the exploitation of the intellectual property rights of indigenous peoples. The COICA/UNDP Meeting on IPR and Bio Diversity, 1994,<sup>598</sup> for the first time rejected the prevailing IPRs regime. It was against the legitimising the misappropriation of their knowledge, resources and culture like the Mataatua. The danger of damage on intellectual property rights of indigenous people are laid down under Article 9. There was a strong opposition on the patents and other forms of intellectual property rights as the rights of indigenous people were not recognised.<sup>599</sup>

#### **4.2.5. The Sabha Declaration (1995)**

Among various regional consultations for promotion of indigenous resources within the framework of the United Nations Development Programme (hereafter referred to as UNDP), one was held at Sabha in Malaysia. The main objective was to raise awareness among the communities on intellectual property. They organised workshops to gain recommendations and advices from various Governments to achieve their goals. The medium-term strategies included intense campaign against the human genome project, and also ways through which information about human genome project to the indigenous people.<sup>600</sup>

#### **4.2.6. The Suva Declaration (1995)**

The South Pacific Regional Consultation on Indigenous Peoples' Knowledge and Intellectual Property Rights led to passing of the Suva Resolution. The objective of this resolution was to make Pacific Region patent-free zones. Under Article 7 it urges to strengthen the indigenous networks, and also encouraged the UN and the regional donors to support indigenous peoples' knowledge. Moreover, it also highlights the importance of strengthening the capacities of indigenous peoples to maintain their

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<sup>598</sup> Meeting on Intellectual Property Rights and Biodiversity COICA and UNDP, Santa Cruz, Bolivia 1994, *available at*: <http://lib.icimod.org/record/9889/files/415.pdf> (last visited on August 4, 2018).

<sup>599</sup> *Ibid.*

<sup>600</sup> UNDP and Indigenous Peoples, *available at*: [https://www.un.org/esa/socdev/unpfii/documents/6\\_session\\_undp.pdf](https://www.un.org/esa/socdev/unpfii/documents/6_session_undp.pdf) (last visited on July 12, 2018).

tradition and also encourage them to record their knowledge in a permanent form, so that they are not misused.<sup>601</sup>

### **4.3. CBD and TRIPs**

When we talk about biological resources and right to such resources it is very important to note two international instruments i.e. CBD and TRIPs. The debate about the issue for protection of biological resources was attempted to be resolved in both the Agreement but it in some ways only increased the gap between them. The objectives of TRIPs and CBD are different one the former advocate's stronger patent protection; the later promotes fair and equitable sharing of biological resources.

#### **4.3.1. Convention on Biological Diversity (1992)**

The CBD encompasses most of the issues that are related to biological resources. The main aim of this Convention is to conserve the diversity of life on Earth at every level; genetic, population, habitat, species and ecosystem. It also recognizes the social and economic goals for the utilization of biological resources and also sees that the benefits derived are shared and together with it there is conservation and sustainable development of the resources.<sup>602</sup> CBD was the result of discussions at the Rio de Janeiro 1992 United Nations Conference on Environment and Development. The CBD established the principles laid down in UNEP i.e. ensuring ongoing economic development, emphasizing conservation of biodiversity, sustainable use and fair and equitable benefit sharing of that use of genetic resources. It is one of the significant instruments at the international level for the development of rights in indigenous and traditional resources which is based on local community and aims to provide equitable sharing of the benefits derived from the resources. The Convention talks about the importance of the biological resources and the also acknowledges the indigenous

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<sup>601</sup> Protection of Traditional Knowledge, *available at*: <https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1371&context=mjlst> (last visited on July 12, 2018).

<sup>602</sup> Convention on Biological Diversity, *available at*: <https://www.cbd.int/undb/media/factsheets/undb-factsheets-en-web.pdf> (last visited on July 12, 2018).

cultural and intellectual property rights. The effort of the indigenous people is recognized by this Convention.<sup>603</sup>

The CBD has been mentioned for recognizing the cultural diversity as an instrument in the protection of biodiversity, but at international trade and global terms the importance of biodiversity is neglected. The CBD also encourage the access to the biological resources of developing countries. It strongly asserts that the intellectual property rights must not be in conflict with the conservation and sustainable use of biodiversity and include the encouragement and development of exchange and use of indigenous and traditional knowledge and technologies, in the spirit of the CBD.<sup>604</sup> There are various provisions under CBD that lays down for prior informed consent of the indigenous groups. This way the resources used by the indigenous people are not misappropriated by the third party. Apart from this there are certain forms that are required to be filled by the researcher who wants to do research on the biological resources of a particular place. Apart from the protection of the biological resources the Convention also mentions the importance of traditional knowledge and also lays down provisions for the protection of it.<sup>605</sup>

#### **4.3.2. Trade Related Aspects of Intellectual Property Rights (1994)**

TRIPs are an international Agreement between the member nations of WTO. The main objective of this Agreement was to provide minimum standard of protection to various form of intellectual property. It aims to harmonize the IP related laws and regulations worldwide. The nation-states must abide by the TRIPs Agreement once they have signed it and maintain minimum standard of protection in their national laws. It generally provides the right to the owner who creates something new and also sees that the right of such person is not infringed. So, protection as well as remedies is given if there is any infringement.<sup>606</sup>

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<sup>603</sup> Convention on Biological Diversity, *available at*: [https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-8&chapter=27](https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-8&chapter=27) (last visited on July 13, 2018).

<sup>604</sup> The Convention on Biological Diversity, *available at*: <https://www.cbd.int/gbo1/chap-02.shtml> (last visited on July 13, 2018).

<sup>605</sup> Convention on Biological Diversity, *available at*: <https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-18-en.pdf> (last visited on July 13, 2018).

<sup>606</sup> Overview: the TRIPs Agreement, *available at*: [https://www.wto.org/english/tratop\\_e/trips\\_e/intel2\\_e.htm](https://www.wto.org/english/tratop_e/trips_e/intel2_e.htm) (last visited on July 14, 2018).

The TRIPs Agreement covers number of Intellectual Property Rights including patents, trademarks, copyrights, geographical indications, industrial designs, etc. The main objective of TRIPs Agreement is to ensure that the IPR is protected and there is strong enforcement of such right. The main motive for protecting those IP rights is because it contributes to the promotion of technological innovation, transfer and dissemination of technology, mutual advantage of producers and users of technological knowledge in a manner that is conducive to social and economic welfare, and balance of rights and obligations, worldwide.<sup>607</sup>

General Agreement on Tariffs and Trade (hereafter referred to as GATT) was the multinational instrument that governed the international trade from 1948 till WTO was established in 1995. Eight rounds of negotiations were held under GATT to refine the international trade and tariff rules. It was the last round of GATT i.e. Uruguay Round introduced discussions on trade related to agriculture, services and IPR. It was after long discussion and difficult negotiations; WTO was finally established in 1994. WTO generally deals with the rules of trade between nations at a global or near-global level. Its main objective is to provide a institutional framework that is common for conducting trade among the member nations and other matters that are related to agreements and associated legal instruments. WTO monitors member countries so that they adhere to the WTO agreement and also is responsible for negotiating and implementing new agreements related to trade.<sup>608</sup>

Many agreements, regulations, treaties and conventions were introduced under the provision of WTO. The main motive behind such treaties, conventions and agreements were to provide administration, implementation and operation of multilateral trade among the member nations.<sup>609</sup> The two principles that were applied in the agreement, treaties, conventions were: i) Most Favoured Nation Treatment: Equal treatment for nationals of all trading partners in the WTO; b) National Treatment: Treating one's own nationals and foreigners equally. Among various agreements of WTO, TRIPs

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<sup>607</sup> Intellectual property: Protection and Enforcement, *available at*:  
[https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/agrm7\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm) (last visited on July 14, 2018).

<sup>608</sup> *Ibid.*

<sup>609</sup> Principles of the trading system, *available at*:  
[https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/fact2\\_e.htm](https://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm) (last visited on July 14, 2018).

Agreement is the most important one. The TRIPs Agreement came into force on 1st January, 1995.<sup>610</sup> As there are certain rules that need to be adopted by all the member nations under the TRIPs Agreement and looking at the disparities and differences WTO provided for different transition time periods in different member nations for application of those rules.

Only after the CBD and TRIPs were adopted there were several ideas that surfaced regarding the incapability of the two international agreements. The centre of debate was Article 27 which specifically calls for review of the TRIPS Agreement. While the TRIPS and CBD tried to legislate some form of intellectual property and technology transfer, the agreement brought about some contradiction especially for control over genetic resources and biodiversity. There are conflicts between the provision of the CBD and TRIPs, one is for safe guard of the biological resources which is a community rights but the other aims at promoting the protection on individual rights. The other area of conflicts is the patentable subject matter; benefit sharing, protection of local knowledge, requirements of prior informed consent and role of the state.<sup>611</sup>

#### **4.4. Protection at National Level**

##### **4.4.1. Africa**

In August 2010, the African Regional Intellectual Property Organization (hereafter referred to as ARIPO) and its 17-member states took a historic step in adopting a legal framework, known as the “Swakopmud Protocol for the protection of TK and expressions of culture”. This landmark event was the result of 10 years of intensive consultations. The main principle of this Protocol was that the knowledge, technologies, biological resources and cultural heritage of traditional and local communities are the result of tested practices of past generations. The Swakopmud Protocol was signed by nine ARIPO member states, namely Botswana, Ghana, Kenya, Lesotho, Liberia, Mozambique, Namibia, Zambia and Zimbabwe.

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<sup>610</sup> *Ibid.*

<sup>611</sup> Harmonizing TRIPs and the CBD: A Proposal from India, *available at*: <https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1196&context=mjil> (last visited on July 14, 2018).

The main aim of the Protocol was to provide necessary tools that would prevent the ongoing misappropriation of the TK and Traditional Cultural Expressions in Africa. Through this they wanted to provide a framework so that the local communities get the benefits on the use of such knowledge. The Protocol also recognizes the need to protect, recognize and respect the rich heritage and the TK of Africa. The Protocol is also a move to encourage collective or community rights and also the sharing of benefits that would arise after the TK, biological resources are commercially used. This new regional legal framework is designed to accommodate the characteristically holistic world view of African TK holders, and to promote legal certainty in the exercise and management of their inalienable rights. It empowers the indigenous communities to use their knowledge from cultural and social development. The registration provision is also given through which multicultural and trans-boundary TK and TCEs. Uncertainties relating to ownership can be solved.

#### **4.4.1.a. The Oau's Model Law on Community Rights and Success to Biological Resources**

The Organization of African Unity (hereafter referred to as OAU) drafted a model legislation based on community rights and access to biological resources as a basis for national legislation for an African Convention. The objective of this model legislation is that the states must recognise the necessity of providing adequate mechanisms which guarantee a just, equitable and effective participation of the citizens in the protection of collective and individual rights and making decision related to biological, genetic and intellectual resources as well as the activities and benefits derived from their utilization. The African Model Legislation for the Protection of the Rights of Local Communities, Framers and Breeders, and for the Regulation of Access to Biological Resources ensures the conservation, evaluation and sustainable use of biological resources, including agriculture genetic resources and knowledge and technologies. Under this Model Law the rights of the communities over their biological resources is recognized

and also their practices, innovations and knowledge. The prior informed consent must be obtained for using any biological resources from the communities.<sup>612</sup>

#### **4.4.2. Portugal**

Portugal Sui generis law is one of the specific legislative measures that is concerned with local and TK that has been developed within the European Union. It was adopted to fulfil the obligations under the CBD to adequately protect the biological diversity. The main aim was to preserve and maintain Portugal's natural and cultural richness.<sup>613</sup> In 2008, Portugal enacted Decree-Law No.118/2002, which was a law primarily for protecting biodiversity and conservation, legal safeguards and secure interchange of certain genetic plant resources.

This decree-law establishes a legal regime for the Registration, Conservation, legal Safeguarding and Transfer of Autochthonous Plant material as well as Associated Traditional Knowledge. Under Article 3 of this decree-law traditional knowledge is defined to include all intangible elements associated with commercial or industrial utilization of local varieties and other autochthonous material developed in a non-systematic manner by local population, either collectively or individually. The production of knowledge is protected against reproduction or commercial or industrial use. The registration procedure is mentioned under this article.<sup>614</sup>

#### **4.4.3. Philippines**

Traditional knowledge of Philippines includes all facets of the social and economic development of a community from agriculture to literature and also customary law to arts and crafts, and so on. Credits should be given to awareness of diverse indigenous peoples (hereafter referred to as IPs) who worked hard to preserve, protect and improve their traditional knowledge. Philippines is home to 126 ethno linguistic groups who

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<sup>612</sup> The OAU's Model Law, *available at*: [https://www.blauen-institut.ch/s2\\_blue/tx\\_blu/tp/tpt/t\\_oau\\_model\\_law.pdf](https://www.blauen-institut.ch/s2_blue/tx_blu/tp/tpt/t_oau_model_law.pdf) (last visited on October 2, 2018).

<sup>613</sup> Traditional Knowledge in European Context, *available at*: <http://www.iddri.org/publications/collections/ideas-pour-le-debate/id-0602-kiene-tkeurop.pdf> (last visited on October 4, 2018).

<sup>614</sup> Portugal Decree-Law No.188/2002 of April (Autochthonous plant material), *available at*: [http://www.wipo.int/wipolex/en/text.jsp?file\\_id=179608](http://www.wipo.int/wipolex/en/text.jsp?file_id=179608) (last visited on October 4, 2018).



have different identity and have protected their traditional knowledge by rejecting the submission by foreign domination. The island of Philippine is rich with diverse biogenetic resources on land water, minerals etc. The traditional health care of Philippines employs herbs for curing many diseases some of the examples are Kolintang (barteria crista) as antidote to snake bite, sambong (blumea balsamifera) as expectorant, and bulac-bulacan (thespesia lampas) as remedy for gonorrhoea and syphills. But now the traditional medicines of Philippine have become one of the market of foreign drugs and not affordable to the indigenous community. There is commercial exploitation of the Traditional practices/ knowledge of the indigenous communities. Forest preservation and conservation is an important part of traditional farming among the different Indigenous Peoples groups. The IPs groups have their own respective traditional forestry system. The legal protection of TK was not explicitly mentioned under the various laws before. Philippine is made under the New Civil Code of the Philippines, approved on June 8, 1949 and replaced the old Spanish Civil Code of 1889, classifies property into 3 the immovable property, the movable property and the special property. The ownership of property is acquired through occupation and by intellectual creation. Even under the 1987 Philippine Constitution the protection of IP is provided. It provides that the states shall protect and secure the exclusive rights of scientist, artists, inventors and other citizens who have created their intellectual property. The Intellectual Property Code of the Philippine dose not provides protection of TK. In 1987 the Philippine Constitution laid down that the TK must be recognised, respected and protected. Section 17 of Article XIV provides that, “the states shall recognize, respect and protect the rights of the indigenous cultural communities to preserve and develop their cultures, tradition and institutions. It shall consider these rights in the formulation of national plans and policies”.<sup>615</sup>

With the adoption of the Indigenous Peoples Rights Act on 29 October 1997, the rights of the indigenous peoples to their ancestral lands, the right to self-governance of those lands and empowerment are recognized and furthermore it also supports their cultural integrity.<sup>616</sup> The law also provides protection to the community intellectual property

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<sup>615</sup> Efforts at Protecting Traditional Knowledge: The Experience of the Philippines, *available at*: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_iprk\\_rt\\_99/wipo\\_iprk\\_rt\\_99\\_6a.doc](https://www.wipo.int/edocs/mdocs/tk/en/wipo_iprk_rt_99/wipo_iprk_rt_99_6a.doc) (last visited on October 7, 2018).

<sup>616</sup> Indigenous Peoples in Philippines, *available at*: <https://www.iwgia.org/en/philippines.html> (last visited on October 7, 2018).

rights, to religion, cultural sites and ceremonies, to indigenous knowledge and practices and to biological resources. The right of the indigenous peoples over their community intellectual property rights is found in Section 32<sup>617</sup>. They have the right to practice and revitalize their own cultural traditions and customs. The duty of state is to preserve, protect and develop the past, present and future manifestations of their cultures. They also have the rights of prior informed consent. Section 34 states that “indigenous cultural communities/indigenous peoples are entitled to the recognition of the full ownership and control and protection of their cultural and intellectual rights. They shall have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources, seeds, including derivatives of these resources, traditional medicines and health practices, vital medicinal plants, animals and minerals, indigenous knowledge systems and practices, knowledge of the properties of fauna and flora, oral traditions, literature, designs, and visual and performing arts”.<sup>618</sup>

There are certain guidelines adopted to safeguard the indigenous knowledge systems and practices of the indigenous people:

- a) The indigenous cultural communities/indigenous peoples have the right to allow the entry of researchers into their cultural domains/lands or territories. So, the researchers, researcher institutes and other like entities must avail the free and prior informed consent of the communities before accessing the resources.
- b) Before doing any research, a written agreement must be made with the concerned ICCs/IPs and it must include the purpose, design and expected outputs of the research;

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<sup>617</sup> ICCs/IPs have the right to practice and revitalize their own cultural traditions and customs. The state shall preserve, protect and develop the past, present and future manifestations of their cultures as well as the right to the restitution of cultural, intellectual, religious, and spiritual property taken without their free and prior informed consent or in violation of their laws, traditions and customs.

<sup>618</sup> Traditional Knowledge Laws: Philippines, *available at*: [https://www.wipo.int/tk/en/databases/tklaws/articles/article\\_0017.html](https://www.wipo.int/tk/en/databases/tklaws/articles/article_0017.html) (last visited on October 8, 2018).

- c) The data provides by the indigenous people must be acknowledged in the writings, publications or journals. They should be named as the source of those papers.
- d) The copies of such outputs must be made freely available to the ICCs/IPs.
- e) The ICCs/IPs are entitled to the royalty from the income derived from any of the researchers. This is one of the effective ways through which such researches can be controlled and, in a way, also help in documentation of the traditional knowledge of the indigenous people.

Section 35 of the Act, 1997, states that, “access to biological and genetic resources and to indigenous knowledge related to conservation, utilization and enhancement of these resources, shall be allowed within ancestral lands and domains of the ICCs/IPs only with a free and prior informed consent of such communities obtained in accordance with customary laws of the concerned community.”<sup>619</sup> Any violation of the rules is strictly prohibited and are subject to penalties under the Customary laws and as provided by the Indigenous Peoples Rights Act. Free and prior informed consent is very important and the Act strongly supports it as it helps in protection of TK of the indigenous peoples. Apart from Indigenous Peoples Rights Act and Customary laws the free and prior informed consent is mentioned in other as such as the Executive Order No.247 which prescribes guidelines and establishes a regulatory framework for the protection of biological and genetic resources, and the Republic Act No.7076 known as the Peoples Small Scale Mining Act of 1991. The Traditional and Alternative Medicine Act of Philippine is responsible for development of legally workable basis by which indigenous societies own their knowledge of traditional medicines. It also formulates a code of ethics and standards for the practice of traditional and alternative health care modalities for approval and adoption by the appropriate professional and Government agencies in the Philippines.<sup>620</sup> Sui generis option that is available under TRIPS Agreement is also one of the ways through which the countries can make a new

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<sup>619</sup> *Ibid.*

<sup>620</sup> Philippines: Acts on Indigenous Peoples’ Rights & Traditional Medicine, *available at*: [www.apps.who.int/medicinedocs/en/jh299e/12.3.html](http://www.apps.who.int/medicinedocs/en/jh299e/12.3.html) (last visited on October 19, 2018).

law for protecting the TK. Some countries and communities have made certain provisions for protecting TK through sui generis system.

#### **4.4.4. Peru**

A law was established i.e. Law No.27, 811 of 2002 “Recognition of the Rights of Indigenous Peoples in their Collective Knowledge” and a sui generis regime was formed. The main objectives of this were to protect TK and to promote fair and equitable distribution of benefits, and prior informed consent before using the knowledge of the indigenous people. Hence, putting a control to the misappropriation of the knowledge of the indigenous communities. Under this law protection is made available to collective knowledge of indigenous peoples associated to biological resources. The indigenous people have the right to give the consent to the use of TK. The law also sees that compensation is given to the indigenous peoples when the TK is used for commercial purposes. The fund is generated into a national fund for indigenous Development or given directly to the TK holders.<sup>621</sup>

Through this Act the States recognizes the rights and power of indigenous peoples and communities to dispose of their collective knowledge as they see fit. The main objectives of the regime are:

- a) To promote respect for the protection, preservation, wider application and development of the collective knowledge of indigenous peoples;
- b) To promote fair and equitable distribution of the knowledge of the indigenous people;
- c) To ensure that use of knowledge takes place with the prior informed consent of the indigenous peoples;
- d) To promote strengthening and development of the indigenous peoples:

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<sup>621</sup> Introduction – Convention on Biological Diversity, *available at*: <https://www.cbd.int/intro/> (last visited on October 19, 2018).

- e) To avoid situations where patents are granted for inventions made or developed on the basis of collective knowledge of the indigenous peoples of Peru.

So, the objectives clearly suggest that protection of traditional knowledge of the indigenous peoples must be strongly done. The rights of the people who have come up with such knowledge must be acknowledged and prior consent must be available before using any knowledge.<sup>622</sup>

#### 4.4.5. Costa Rica

The Biodiversity Law No.7788 of Costa Rica aims at regulating access to TK. It also provides that equitable sharing must be done to the TK holders of the benefits that arise from the use of the TK. The two subject matter that is mentioned under this law is firstly, TK to which law regulates access and second TK for which the law provides exclusive rights. The National Commission for the Management of Biodiversity defines the term and scope of sui generis community Intellectual Rights and also who holds such resources. So, this law regulates specifically the use, management associated knowledge and equitable distribution of the benefits and derived costs of the use of the components of biodiversity.<sup>623</sup> It is a comprehensive regulatory framework to regulate access and benefit sharing, while at the same time addresses the relationship between access and benefit, IPR and the protection of traditional knowledge. So, a broad issue is dealt by this law, the inter-related issues of biodiversity, access and benefit sharing as well as protecting the TK.<sup>624</sup>

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<sup>622</sup> Peru Law No.27811 of July 24 2002, on the Introduction of the Protection Regime for the Collective Knowledge of Indigenous Peoples derived from Biological Resources, *available at*: [http://www.wipo.int/wipolex/en/text.jsp?file\\_id=179597](http://www.wipo.int/wipolex/en/text.jsp?file_id=179597) (last visited on October 23, 2018).

<sup>623</sup> Biodiversity Law-Law 7788 of 1998 (Costa Rica), *available at*: <https://theredddesk.org/countries/laws/biodiversity-law-law-7788-1998-costa-rica> (last visited on October 26, 2018).

<sup>624</sup> Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicines, Jakarta, February 2001, *available at*: <http://apps.who.int/medicinedocs/en/d/Jh2996e/> (last visited on October 30, 2018).

#### **4.4.6. Thailand**

Thailand has adopted laws for the protection of IPR: The Patent Act 1979, the Copyright Act 1994, the Trademarks Act 1991, the Plant Variety Protection Act 1999, and the Protection of Layout-Designs of Integrated Circuits Act 2000. There was a socio-political movement to recognize community rights and to protect traditional knowledge in Thailand and it led to enactment of an Act which aimed to provide protection to traditional medicinal knowledge as it was not protected sufficiently. In addition, the Thai Plant Variety Protection Act 1999 also contains provisions for protecting traditional knowledge. The Protection and Promotion of Traditional Thai Medicinal Intelligence Act 1999, is an example of sui generis legislation with the main objective to reward traditional healers for their contribution to health and health care, to create incentives for maintaining traditional medicinal knowledge, to set up a system for conservation and for regulation of access to biological resources and –traditional medicinal knowledge, and to undertake effective action to curb the destruction of species, habitats and ecosystems.<sup>625</sup>

Under this Act the traditional healers have the right to control over traditional medicinal knowledge through a public registry. The traditional medicines are separated into two categories under this Act, medicinal herbs and traditional medicinal formula. There are procedures for registration of formula and for registration certain requirements must be met. Registration takes place on first-to-file basis, and may be rejected if the application does not comply with the rules and process.

##### **4.4.6.a. The Plant Varieties Protection Act, 1999**

This Act was enacted to comply with Article 27.3(b) of the TRIPs Agreement. This Act is also an example of sui generis legislation. Under this act protection is provided to plant variety and traditional plant varieties and plant genetic resources. The Act recognizes the important role played by the farmers and the local communities as traditional crops cultivators and give them the sole right to produce, sell or distribute,

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<sup>625</sup> Traditional Knowledge Laws: Thailand, *available at*: [https://www.wipo.int/tk/en/databases/tklaws/articles/article\\_0024.html](https://www.wipo.int/tk/en/databases/tklaws/articles/article_0024.html) (last visited on October 30, 2018).

import, export, or possess it.<sup>626</sup> Registration of traditional plant varieties which are exclusively found within a specific community and compensation is also given if there is misappropriation of such resources. Through registration of the plant varieties the communities become the rightful owner and have exclusive right to use that traditional variety. The sovereign right of the state over the genetic resources and plant varieties is recognized under this Act and their use is subject to certain conditions like; prior informed consent from the community from which the plant originates; government approval and conclusions of a benefit sharing agreement.<sup>627</sup> The Community Protocol and the draft ASEAN Framework Agreement on Access to Biological and Genetic Resources. In 1997 the ASEAN Senior Officials for Environment decided to explore the possibility of a Regional Access Protocol, in order to curb biopiracy. Since then steps were taken to develop a framework agreement on access to biological and genetic resources. The main objectives were to set up a mechanism to look into the disputes that arise and to settle such disputes. The provisions of prior informed consent and access and benefit sharing were also taken into consideration.<sup>628</sup>

#### **4.4.7. Indonesia**

Indonesia is inhabited by more than 300 ethnic groups and are known for its traditional knowledge. With varieties of TK Indonesia has faced various problems of misappropriation, thefts and biopiracy. Hence, the government has given attention to documentation of the TK. There are two national laws that act as the legal basis of TK documentation process. The Law 2014 No. 28 on Copyrights, The Law 2016 No.13 on Patent, and the law 2017 No.5 on Cultural Advancement. Under article 32 of the Law 2014 No.28 on Copyrights the topic of documentation of TK is laid down.<sup>629</sup> The

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<sup>626</sup> Plant Variety Protection in Thailand, *available at*: [https://www.tilleke.com/wp-content/uploads/2011/05/TH\\_IP\\_Plant\\_Variety\\_Protection.pdf](https://www.tilleke.com/wp-content/uploads/2011/05/TH_IP_Plant_Variety_Protection.pdf) (last visited on October 31, 2018).

<sup>627</sup> Commentary on Thailand's Plant Varieties Protection Act, *available at*: [https://www.biodiversityinternational.org/fileadmin/user\\_upload/online\\_library/publications/pdfs/Farmers\\_Crop\\_Varieties\\_and\\_Rights/16.ThailandVarietyProtection-Gagne\\_Ratanasatien.pdf](https://www.biodiversityinternational.org/fileadmin/user_upload/online_library/publications/pdfs/Farmers_Crop_Varieties_and_Rights/16.ThailandVarietyProtection-Gagne_Ratanasatien.pdf) (last visited on November 1, 2018).

<sup>628</sup> 8.5 The Community Protocol and the draft ASEAN Framework Agreement on Access to Biological and Genetic Resources, *available at*: <http://apps.who.int/medicinedocs/en/d/Jh2996e/12.5.html> (last visited on November 2, 2018).

<sup>629</sup> Indonesia's Traditional Knowledge Documentation in Intellectual Property Rights' Perspective, *available at*: [https://www.researchgate.net/publication/322841658\\_Indonesia%27s\\_Traditional\\_Knowledge\\_Documentation\\_in\\_Intellectual\\_Property\\_Rights%27\\_Perspective](https://www.researchgate.net/publication/322841658_Indonesia%27s_Traditional_Knowledge_Documentation_in_Intellectual_Property_Rights%27_Perspective) (last visited on November 2, 2018).

chapter V of the 2014 Copyright law provides protection to Traditional Cultural Expressions, that are works of unknown authorship, which attract copyright under the law.<sup>630</sup> Similarly Article 26 (1) (2) of Indonesia's 2016 Patent Law addresses protection rules regarding benefit sharing and disclosure requirements for the origin or sources of genetic resources and/or traditional knowledge.<sup>631</sup> Under Article 16 and 17 of the Law No.5 of 2017 on Cultural Advancement the steps of documentation of TK is highlighted.<sup>632</sup> The steps of TK documentation consists of registration and documenting, establishing and updating the data.<sup>633</sup> Indonesia has documented their TK with the help of NGO named Sobat Budaya.<sup>634</sup> Two new Ministerial regulations are to be adopted by the Indonesian Government. First covers Local Wisdom, and the second Communal IP data. The Local Wisdom Regulation defines Traditional Knowledge as part of the Local Wisdom of indigenous people and local communities. A structural framework has been framed to require consent to use TK and benefit sharing with local custodians. The Second regulation allows the Ministry of Law to collect Communal Intellectual Property Data so to manage and preserve traditional knowledge, traditional cultural expression, genetic resources, and potential geographical indications in the form of database. On 27 July 2017, the Communal Intellectual Property Data Centre was launched by the Directorate General of Intellectual Property. But only few CIPs were filed on the Database including a coffee, dance and music, textiles, and a fish. Without the presence of government participation, the database would turn out to become a collection of information for preservative purposes. The documentation of TK can be regarded as search references but it is not capable enough to protect the TK of Indonesia.<sup>635</sup>

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<sup>630</sup> Protection of Traditional Knowledge and Genetic Resources, *available at*: <https://www.rouse.com/magazine/news/protection-of-traditional-knowledge-and-genetic-resources/> (last visited on November 2, 2018).

<sup>631</sup> Legal Framework on Protection of Traditional Knowledge : A review, *available at*: [https://www.researchgate.net/publication/331221999\\_LEGAL\\_FRAMEWORK\\_ON\\_PROTECTION\\_OF\\_TRADITIONAL\\_KNOWLEDGE\\_A\\_REVIEW](https://www.researchgate.net/publication/331221999_LEGAL_FRAMEWORK_ON_PROTECTION_OF_TRADITIONAL_KNOWLEDGE_A_REVIEW) (last visited on November 2, 2028).

<sup>632</sup> The Law No.5, (2017), art. 16, 17.

<sup>633</sup> *Ibid.*

<sup>634</sup> Dwi Tiara Kurnilasari, Annalisa Yahanan, *et.al.*, "Indonesia's Traditional Knowledge Documentation in Intellectual Property Rights' Perspective" 2 (1) *Sriwijaya Law Review* 117 (2018).

<sup>635</sup> *Ibid.*



#### 4.4.8. South Korea

South Korea is one of the countries that is known for its rich TK. The history of South Korea can be traced back to 5,000 years. They have used the bioresources for various purposes like medicinal treatment and beauty. In 2004, the Korean government established Korean Intellectual Property Office (hereafter referred to as KIPO) to provide database i.e. The Korean Traditional Portal (hereafter referred to as KTKP) to protect Korean TK. The documentation started on 2015 and has recorded about Korean traditional healing methods.<sup>636</sup> The KTKP is managed by the KIPO and includes various Korean traditional medicine knowledge. The database contains approximately 350, 000 documentation and article about Korean traditional healing knowledge, traditional food, and intangible cultural heritage.<sup>637</sup> The documentation process are done with the help of old manuscripts and the various well-known scientific journals in Korea like Korean Journal of Traditional Knowledge and other 47 famous journals also aids for the same.<sup>638</sup> With the help of this database Korea was able to nullify a patent application by Nestle. The Korean government are well informed about the importance of TK and the great potential that it has hence, they have documented TK of their country, which provides protection and avoid bio piracy cases.

#### 4.5. Customary Law and Protection of Traditional Knowledge

Customary law plays an important role in recognising the identity of indigenous peoples and local communities. It defines their rights, responsibilities and obligations relating to their lives, cultures and world views. Preserving customary law is important for continuing vitality of the cultural, intellectual and spiritual life and heritage of indigenous peoples and local communities. Customary laws are set of customs, practices and beliefs that re accepted as rules of conduct by indigenous peoples and local communities. Customary law is one of the best ways through which traditional knowledge can be protected.<sup>639</sup>

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<sup>636</sup> *Id.* at 120.

<sup>637</sup> *Id.* at 121.

<sup>638</sup> *Ibid.*

<sup>639</sup> Customary Law, Traditional Knowledge and Intellectual Property : an Outline of the Issues, available at: [https://www.wipo.int/export/sites/www/tk/en/resources/pdf/overview\\_customary\\_law.pdf](https://www.wipo.int/export/sites/www/tk/en/resources/pdf/overview_customary_law.pdf) (last visited on July 14, 2018).

Customary laws can provide:

- a) The fundamental legal basis or source of law for a community's legal rights over traditional knowledge;
- b) Can provide a factual element in establishing a community's collective rights over traditional knowledge;
- c) A means of determining or guiding the procedures to be followed in securing a community's "free prior informed consent" for access to and/or use of traditional knowledge;
- d) A check on whether the benefits arising out of the use of traditional knowledge is shared equitably or not;
- e) A means of determining that remedies are awarded if there is breach of rights over traditional knowledge;
- f) An opportunity through which various disputes over ownership or custody over traditional knowledge can be solved, and
- g) A guide through which traditional knowledge can be transmitted to future generations.<sup>640</sup>

Customary law has been providing protection to the knowledge of the indigenous people since ages; it is different from the intellectual property measures but is considered just as effective in protecting the local innovator. Moreover, the rights of the indigenous people over their traditional knowledge have not been recognized in intellectual property protection as they lack resources, written records. Hence, the traditional knowledge holders have often faced difficulties in accessing the formal intellectual property system.<sup>641</sup> Customary law can be helpful in filling up the gaps that

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<sup>640</sup> No.7 Customary Law and Traditional Knowledge, *available at*: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_tk\\_7.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_tk_7.pdf) (last visited on July 14, 2018).

<sup>641</sup> *Ibid.*

exists in providing protection to traditional knowledge. For example, customary law related to inheritance can be helpful in determining the ownership of intellectual property or legal identity of the community. Customary law can also be helpful in solving the disputes, reconciling the competing claims, and various remedies that can be awarded. So, if there is issue of benefit sharing than certain procedures can be followed from the customary law to solve such issues.<sup>642</sup>

#### 4.5.1. Sui Generis Laws and Customary Laws

Indigenous peoples and local communities' representatives have actively participated in WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore and the meetings on the Convention on Biological Diversity, where they have come up with the idea to provide protection to traditional knowledge that is in tune with their values, realities and customary laws.<sup>643</sup> They believe that sui generis mechanism could be a great step for protecting traditional knowledge.<sup>644</sup> The indigenous peoples believe that their customary laws are in essence sui generis regime which specifically provides protection to their traditional knowledge.<sup>645</sup> At national and regional level, the sui generis laws have recognised customary laws for providing protection to traditional knowledge. But at international level there are still no instruments that would include customary laws of a particular nation or region for providing protection to Traditional knowledge. For availing effective protection of traditional knowledge, it is important that national decision-makers work together to adopt a relevant national traditional knowledge law and policy.<sup>646</sup> Only if there is strong regional law and policy the traditional knowledge holder's rights can be recognized at national and international level. There must be

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<sup>642</sup> What place for customary law in protecting traditional knowledge? *available at*: [https://www.wipo.int/wipo\\_magazine/en/2010/04/article\\_0007.html](https://www.wipo.int/wipo_magazine/en/2010/04/article_0007.html) (last visited on November 16, 2018).

<sup>643</sup> WIPO Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge (1998-1999), *available at*: [www.wipo.int/edocs/pubdocs/en/tk/768/wipo\\_pub\\_768.pdf](http://www.wipo.int/edocs/pubdocs/en/tk/768/wipo_pub_768.pdf) (last visited on November 17, 2018).

<sup>644</sup> Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview, *available at*: [www.wipo.int/edocs/pubdocs/en/tk/933/wipo\\_pub\\_933.pdf](http://www.wipo.int/edocs/pubdocs/en/tk/933/wipo_pub_933.pdf) (last visited on November 17, 2018).

<sup>645</sup> WIPO study on customary law in the Andean region, Rodrigo de la Cruz, 2006, *available at*: [www.wipo.int/export/sites/www/tk/en/resources/pdf/dtufy\\_cruz.pdf](http://www.wipo.int/export/sites/www/tk/en/resources/pdf/dtufy_cruz.pdf) (last visited on November 19, 2018).

<sup>646</sup> A series of Background Briefs prepared by WIPO, *available at*: [www.wipo.int/tk/en/resources/publications.html](http://www.wipo.int/tk/en/resources/publications.html) (last visited on November 21, 2018).

continuous use of traditional knowledge by the indigenous communities for developing policies and establishing a database so that protection can be availed. Lastly, a step for adopting legislation and policies by the indigenous peoples and local communities in accordance to customary law is crucial for protection of traditional knowledge. In this way, the communities can exercise control over their traditional knowledge.<sup>647</sup>

#### **4.6. Link Between Traditional Knowledge and Human Rights**

The importance of Traditional Knowledge can be seen in three human rights provisions they are Article 15(a) and Article 15(c) of the ICESCR and Article 27 of the ICCPR. Article 27 Of International Covenant in Civil and Political Rights lays down that “the states in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language.” Certain plants are used not only for consumption purpose but are also used for medicinal use by certain communities; such plants must be protected as it indirectly is linked with the traditional practices of such communities. It is important to read Article 27 with article 2.2 of the ICCPR. Hence, under this Article the cultural rights of the communities are recognized and it must be protected and respected as it is their inalienable rights.<sup>648</sup> Similarly, under Article 15(a) of ICESCR reads, “The States Party to the Covenant must recognise the right of everyone to take part in cultural life. Again, under Article 15(c) of the ICESCR the rights of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author. So, through this Article the cultural human rights are recognised. The author or the person who creates any new things such products must be recognised and also the interest of the person who creates it. Hence there are several provisions in the ICESCR which can be applied in order to justify that minorities and peoples should be able to benefit from the production of their production.

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<sup>647</sup> Database of legislative texts on the protection of traditional knowledge and traditional cultural expressions and legislative texts relevant to genetic resources, *available at*: [www.wipo.int/tk/en/legal\\_texts/](http://www.wipo.int/tk/en/legal_texts/) (last visited on November 21, 2018).

<sup>648</sup> Traditional Knowledge and Human Rights, *available at*: <https://core.ac.uk/download/pdf/52042750.pdf> (last visited on November 30, 2018).

#### 4.7. Summary

After analysing the international and national framework for protection of TK, it can be seen that there is no specific international instrument which protects the whole aspects of TK in favour of the indigenous or local communities. Though, there has been many debates, discussions to decide the matter regarding TK but such debates, meetings etc. have been unsuccessful to highlight the issues regarding TK and the rights of Indigenous Communities. TK does not fit into the sphere of IP but the existing intellectual protection laws can be used to guide it. TK is not only valuable to those who depend on them but it is also helpful in developing modern technologies in relation to agriculture and sustainable development. Indigenous / Tribal people must be consulted before legislating, administering any measures that affect them. There is a need to increase awareness for protection of TK, and support must be given to encourage innovations potential of local and indigenous communities. one of the important requirements is to facilitate the documentation of TK and to promote the commercialization of TK based products in favour of the TK holders (whether it be individual or community). Likewise, Benefits sharing provision must be given importance. By encouraging full use of IP, promotion of domestic creativity should be done which would in turn lead to cultural, economic and social development. The Indigenous /Tribal peoples right over their land must be recognised and protected. The role of indigenous people and the communities in environmental management and development must be recognised. The idea of prior informed consent as to control the misuse of the knowledge of the indigenous groups must be made. India's TK has been prone to biopiracy, misuse of the TK of local communities, and it is essential for India to take into consideration sui generis legislation. India can always take examples from other countries like Africa, Indonesia, South Korea and frame legislation. With the lack of legal framework for protection of TK the cases of biopiracy and theft is sure to take place. Hence, TK must be internationally recognised and must be protected at national level through customary laws and sui generis legislations.

## **CHAPTER V**

### **IMPACT OF POLICIES OF THE GOVERNMENT OF SIKKIM IN THE PROTECTION OF TRADITIONAL KNOWLEDGE IN SIKKIM**

#### **5.1. Introduction**

Traditional Knowledge is an integral part of Sikkim, there are many traditions that has been followed in Sikkim through generations. Traditional Knowledge plays an important role in identifying the communities residing in Sikkim as they have come up with such knowledge. With various cases of theft of resources, biopiracy, misappropriation and misuse of traditional knowledge belonging to the people of Sikkim, there is an urgent need for providing protection for the same. Traditional Knowledge in Sikkim includes traditional arts and handicrafts, the traditional agricultural practices, traditional knowledge associated with biological resources etc. Taking this into consideration there are various polices/initiatives that are adopted by the Government of Sikkim that are discussed in the following pages.

#### **5.2. Various Policies of the Government of Sikkim**

##### **5.2.1. Organic Farming in Sikkim**

Traditional Knowledge has no specific definition but it includes every type of knowledge that the local people/communities have come up by applying their understanding and have followed the same since ages. Traditional agricultural practices are also a part of TK because the people/communities have used their intellect in developing agricultural techniques and they have followed the same through generations. The way of agriculture practices was different from that are followed in this period of time. They had different agricultural techniques, they used organic manures. They followed such techniques that had positive impact on the soil, the environment and human health. Hence, the former Chief Minister of Sikkim Mr. Pawan Kumar Chamling adopted the Organic Farming in the year 2003 and declared Sikkim as a “Total Organic State” which meant that the use of chemical fertilizers would be

gradually done away with.<sup>649</sup> Organic Farming can be regarded as the way of farming where there is no use of chemical fertilizers and the farming is done totally with the use of organic manure. Various research and study show that the reason for cancer and other such diseases are caused due to the use of pesticides in the farm.<sup>650</sup> The use of such pesticides not only hampers the lives of humans but also impact the lives of animals. The birds consume affected insects from farm fields where large quantities of pesticides are used and that affect the birds as well. It does disturb the law of the nature.<sup>651</sup> One of the good examples of adoption of organic farming can be seen in the Ambootia Tea Estate in Kurseong, they have started to gain prominence in the tea market due to the adoption of organic based practices and another can be seen in the down fall of demand of Darjeeling tea due to the use of chemical-based methods. The producer of the Darjeeling tea was forced to revert back to organic method of farming to win back the loosing demand from overseas.<sup>652</sup> The main aim of taking organic farming in Sikkim is to gradually stop the use of artificial fertilizers and pesticides with priority to be given to the use of organic manures and fertilizers and even biological plant protection measures.<sup>653</sup> Another main aim regarding organic farming is to adopt the actual process of organic farming.

Until the mid 20<sup>th</sup> century, organic farming was not an optional way of farming but was regarded as the way of life. Organic farming is not only farming without chemicals but it is the real farming which takes care of the environment, agricultural traditions, indigenous seeds, animal welfare, farming communities, sensible energy use, soil and water conservation.<sup>654</sup>

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<sup>649</sup> D. T. Bhutia, *Sikkim Organic Mission "Journey of a Fully Organic Farming State" 2015 3* (Sikkim Organic Mission, Sikkim, 2015).

<sup>650</sup> Cancer health effects of pesticides, *available at*: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2231435/> (last visited on December 12, 2018).

<sup>651</sup> *Supra* note 649.

<sup>652</sup> Sikkim Organic Mission, *available at*: <https://www.sikkimorganicmission.gov.in/towards-organic-sikkim/historical-declaration/> (last visited on December 12, 2018).

<sup>653</sup> Framing of Action Plan 2003, *available at*: <https://www.sikkimorganicmission.gov.in/towards-organic-sikkim/action-plan-2003/> (last visited on December 15, 2018).

<sup>654</sup> P K Sofia, Rajendra Prasad & V K Vijay, "Organic Farming-Tradition reinvented" 5(1) *Indian Journal of Traditional Knowledge* 142 (2006).

In Sikkim, the Organic Farming is under the supervision of Department of Agriculture and Horticulture. Furthermore, Agriculture Technology Management Agency (hereafter referred to as ATMA) has also been established by the Government to look after it. The Farmers have an organisation called Farmer Production Organisation for the practice of organic farming and commercialisation of the products of organic farming. On conversing with the farmers of a place called Samlik-Marchak in East Sikkim regarding the practice of organic farming, according to them once the pesticide is used then it affects the soil of the land for five years and also hamper the production of the crops and vegetables.<sup>655</sup> Earlier, under the name of Green Revolution, pesticides were provided by the Government to use for cultivation purpose and later, the same Government directed the farmers to stop the use of pesticides.<sup>656</sup> With the introduction of organic farming, instead of the use of pesticides the farmers use the traditional method of farming, they use a paste made out of locally found plants known as hathi-bar, tetay-pati, daley khorsani, cow urine and dokray flower.<sup>657</sup> Pesticides kill the insects but this paste prevents the insects from damaging the plants and the vegetables. Furthermore, it does no harm the vegetables as well. Another such example of the use of Traditional Knowledge was provided with regards to the cultivation of potato, they use the age-old technique that had been developed and passed on to them by their forefathers. Instead of chemical pesticides, the farmers use the powder which they make from the pina (remains of the tori when oil is extracted from it) and ashes. This powder is sprayed on the potato plants to avoid the ants from damaging the potatoes.<sup>658</sup> It does the work of the pesticides and furthermore does not damage the vegetables making it chemical free and purely organic. Instead of using fences made of plastic or iron, the farmers have started to use the local plant like sisnu and hathi-bar as fences. Animals cannot get through these fences, sisnu is also used as a vegetable and ropes are made out of hathi bar and it has medicinal properties.

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<sup>655</sup> Information collected while conducting interview with Mr. Jigdal Chewang Bhuta, Samlik-Marchak FPO Member, East Sikkim on August 23, 2019 at 9:12p.m.

<sup>656</sup>*Supra* note 126.

<sup>657</sup>*Supra* note 655.

<sup>658</sup>*Supra* note 126.



Another practice that they have again started to follow with the introduction of organic farming is inter-cropping. The farmers along with maize cultivate haldi (turmeric) in their farm, and if not haldi they cultivate cucumber in between the maize plants so that the plants of the maize are used as supports to the cucumber plants and no further support has to be provided to the cucumber plants.<sup>659</sup> Another vegetable beans or locally known as 'c-be' is also cultivated with the maize. They only cultivate two crops or plants at once. The benefits of this traditional inter-cropping method are;

- a) It increases the production of the cultivated crops and vegetables,
- b) There is no loss to the farmers if the production of one crop is not good as they can cover up the loss from another crop or vegetable,
- c) The land is made use of, to the fullest.

For the process of cultivation, one of the most important ingredients is the manure and for the manure to be organic, the farmers are taught to make them. Vermi compose and Madhyam compose are the ways taught to the farmers for the making of the manure. In the process of vermi compose, the farmers are taught to make manure with the use of earthworm and in the Madhyam compose, the farmers are taught the way to decompose the waste vegetables, plants, leaves, etc. and make it into manure.<sup>660</sup>

Furthermore, it was believed that there was some kind of manure in the hands of the human as well. After certain period of time after the crops are planted, the farmers with their bare hands used to clear the area where the crops were planted, this provided extra manure to the plants and made the plant healthy.<sup>661</sup> For the crops plants to be healthy, the roots of the plants require calcium and for that purpose the farmers used to use the powder made from cover of the organic eggs and they themselves used to make the powder mixing it with ashes. The only pure organic vegetables found in Sikkim these days are sisnu (stinging nettle), ningro (fiddlehead fern) and sim-rayo (watercress) as

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<sup>659</sup> *Ibid.*

<sup>660</sup> *Supra* note 652.

<sup>661</sup> *Supra* note 655.

most of the indigenous seeds and plants have already vanished.<sup>662</sup> Most of the vegetables, crops and rice are not organic as the seeds and plants for the said are provided by the Government which are chemical based packet crops. Only in few places there are maize crops, rice, vegetables which are purely organic.<sup>663</sup>

What was disappointing to hear from the farmers was that there are still some farmers in Sikkim who are still using pesticides and claim their vegetables to be organic. They face challenges relating to water supply, machines, finances and the most important problem according to them is lack of land for cultivation. Sikkim is a very small state with limited land holding and people who have lands all do not engage in farming and some practice farming by cultivating vegetables in pots, sacks, terrace of the house, etc. The benefits are availed by such persons and the farmers are left behind with very less support from the Government.

### **5.2.2. Sikkim State Biodiversity Rules 2006 and Peoples Biodiversity Registers**

The tenth Chogyal of Sikkim, Maharajah Sidkeong Tulku, studied at Oxford University in 1908 and in 1914, he was handed over the charge of forests, monasteries and schools. During his period, it was for the very first-time forest rules and regulations were instituted. The demarcation of the forest areas of the then Kingdom of Sikkim was done. Forest areas were divided into Reserve Forests, Khasmal Forests and Goucharan Forests. Reserve Forest areas consist of forests that were important to the life support system and are to be provided protection and Khasmal Forests consist of forests which can be used to meet the need of timber and fuel wood requirements. The forests that were set apart for the purpose of grazing for village cattle were Goucharan Forests. The State Government has taken steps for the need for the protection of the forest and furthermore has provided extension of ban on commercial wild harvesting of medicinal plants for another five years.<sup>664</sup>

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<sup>662</sup> *Supra* note 126.

<sup>663</sup> *Supra* note 156.

<sup>664</sup> Forestry Practice Past & Present, *available at*: <http://sbbsikkim.nic.in/sikkim-forest-practices.html> (last visited on January 5, 2019).

In accordance to the Biodiversity Act 2002, a state board in every state has to be established. In Sikkim, there is Sikkim State Biodiversity Board. The general functions of the Board have been provided under Provision 14 of the Sikkim State Biological Diversity Rules, 2006. The functions of the Board relating to Traditional Knowledge are:

- a) The Board can advise the State Government regarding any matter concerning the conservation of biodiversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge.
- b) Regulate by granting of approval or otherwise requests for commercial utilization or bio-survey and bio-utilization of any biological resource by Indian nationals. Furthermore, it has been stated that the provision of this rule is not applicable to the local people and communities of the area, including the growers and cultivators of biodiversity, and Traditional Practitioners like baidis, amjis and bongthings who practices indigenous medicine.
- c) The Board has to collect, compile and publish technical and statistical data, manuals, codes or guides relating to conservation of biological diversity, sustainable use of its components and fair and equitable sharing of benefits arising out of the use of biological resource and knowledge.
- d) It can organise a comprehensive program through mass media regarding conservation of biological diversity, sustainable use of its components and fair and equitable benefit sharing arising out of biological resource and knowledge.
- e) To ensure effective management, promotion and sustainable uses of biological resources and associated Traditional Knowledge, they can take steps to build up database. Through biodiversity registers and electronics data bases, documentation and creation of information can be done regarding biological resources and associated Traditional Knowledge.

- f) To devise methods to ensure protection of rights including intellectual property rights over biological resources and associated knowledge including systems of maintaining confidentiality of such information as appropriate, including the protection of the information recorded in People's Biodiversity Registers (hereafter referred to as PBRs).

Biological Management Committees are as well constituted at the local level. In an unstructured interview conducted with the staffs of the Sikkim State Biodiversity Board, it came to the notice that there have been cases where people do not follow the rules laid down in the Biological Diversity Act, 2002 and visit without any permission for research work or so from the NBA. Those people take the resources along with them, conduct some research on those resources and claim patent rights over such products or process. The main role of Traditional Knowledge is that it acts a lead in identification of the properties of biological resources which makes it easier for the MNCs to develop new products. The people of Sikkim are very naive and innocent, they provide the information regarding their Traditional Knowledge and furthermore even provide the seeds of plants or other such properties, most of them are not aware about the importance of their Traditional Knowledge. With the introduction of homestay in Sikkim in the rural areas, there has been more chances of exploitation of Traditional Knowledge. It is a known fact that the people of Sikkim are naive and to provide better service and hospitality, they provide information regarding their culture, tradition, and such related knowledge (community-based TK), even the herbs or medicinal plants that are used to treat diseases and sickness. Furthermore, they even give them seeds or plants of those medicinal plants as a courtesy at the time the tourists leave. It has come to the notice of the Board that some tourists are more of researchers than tourists, they come as tourists and stay in homestays particularly belonging to a local community and interact with them gaining the knowledge regarding their traditions, culture, customs, food, methods of preparing their indigenous dishes, methods of crop cultivations, handicrafts, arts, folklore, medicinal plants and such which form a part of their Traditional Knowledge. One of such instances took place in Sikkim. Yuksam, the first capital of Sikkim, which is in the western part of Sikkim. A tourist who visited the place took away the seed of the local chilly known by the name 'dalle'. It is *Capsicum annum*. He planted it at his home place in United States of America and uploaded the image of the dalle at a social networking site, naming it as

“American Chilly”. There is no point in denying that the taste of dale is captivating but taking the seed along with him and planting and naming it as American Chilly equals to biopiracy. He can cultivate more of it and sell it and earn benefits which hampers the benefit sharing provisions laid down under Biodiversity Act, 2002.<sup>665</sup> Such, acts are hard to trace and it is very difficult to make such people liable for such crimes.

Many people from West Sikkim area like Tashiding, Yuksom etc. are familiar with scientific names of various plants, animals, birds and have knowledge about the medicinal properties of the same, yet it is such an irony because the people provide the tourist with all knowledge and also help them to trace such plants, animals etc. those people are literate but not educated. They came to know about these scientific names from the Tourists whom they take hiking and trekking in the forest of West Sikkim, they go as a guide with the Tourists. Furthermore, this kind of tourists rent up a homestay for a period of one month or more providing good amount of rent to the homestay owner. They carry their bags and leave early morning to the forest and return during the late evening. Similar to this, there has been another instance of theft of TK of Sikkim, referred to as the case of Atkinson from United Kingdom. The fact of this case is that T. D. Atkinson of United Kingdom had an online business of sale of seeds of various plants which was collected from different areas of Sikkim, even from the protected areas and reserve forests. This action of collection of seeds was done without prior permission. John Mood was the other person who was from Hawaii, USA, and was expected to visit north-east states of India which include Sikkim also. He visited these states to collect rare and endemic plants for genetic work and did not have the approval to collect such plants from the NBA. The online store of Atkinson was with the website <http://www.rhodogroup-rhs.org> and it was operated by himself. He had put up seeds for sale regarding different rhododendron species like *Decaisnea fargesii*, *Deutzia stamina* and *Elsholtzia flava* and had even mentioned the names of the places from where he had collected it. The name given were Lachen, Lachung, Namchi and some forest areas of Sikkim. This was totally a case of biopiracy and with regard to this an advisory notice was issued against them by the Department of Tourism of Sikkim for illegal collection of the plants seeds without permission. The Government of Sikkim could never find

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<sup>665</sup> Interview with Mr. Bharat Pradhan, Board Member of Sikkim State Biodiversity Board on November 2, 2017 at 12:30 p.m.

out whether the local people for some amount of money helped those tourists to search for the plant seeds, as the local people know where these plants can be found and furthermore during which season it bear seeds and process of cultivating it. Some local and non-local people do the business of collecting seeds, insects, animal's organs and sell it to others. Now with the advent of these instances, it has been made mandatory to get permit or permission from the Department of forest for those tourists who are willing to visit protected areas or such. Even with the issuance of passes or permissions, the tourists somehow are able to take the seeds and plants away and this make it really difficult for the Forest Department of Sikkim to track and protect the resources. It is difficult to find out whether the local people or the non-locals living in Sikkim provide some kind of help to the Tourists or not. Most of the times such instances are result of an act done in good faith.<sup>666</sup>

Only few cases have been reported and mostly they are not reported as the people are very naive and good hearted. They do not understand the impact of their actions, and hence they fail to understand the circumstances that their acts lead to. The local people of Sikkim do not want to get involved in any kind of cases or so, that's why they don't report and furthermore they do not have the adequate knowledge regarding the importance and value of these resources. They must be made aware of the importance and values of their Traditional Knowledge and the Traditional knowledge of the land.

For the purpose of spreading awareness among the Sikkimese inhabitants about the importance of Traditional Knowledge, many interactive workshops were organised by the Sikkim State Biodiversity Board and in these workshops, issues relating to threats to Traditional Knowledge like biopiracy, illegal trade of resources, introduction of high yielding varieties of domesticated species, etc. were discussed.<sup>667</sup> Furthermore, 31 Biodiversity Management Committee are also established by the Sikkim State Biodiversity Board in various regions of the state. It is the duty of the BMCs is to maintain a record of all the flora and fauna that are found in Sikkim. The State Board has given direction to these Committees to collect information's and carry the task of

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<sup>666</sup> Sikkim alerts tour operators to bio-pirates-US and UK nationals collect seeds of plants without permission, says forest department, *available at: telegraphindia.com* (last visited on March 7, 2019).

<sup>667</sup> Sikkim Biodiversity Board committee discusses integration of Cross Sectoral polices, *available at www.sestsenvis.nic.in* (last visited on March 9, 2019).

documentation of bio resources and TK in PBRs, and to identify biodiversity heritage sites and provide the opportunity of access and benefit sharing agreements with the firms or individuals trying to access their bio resources. PBR is an initiative through BMCs by the State Board Biodiversity which every state has to maintain with the compliance under the provision of Biodiversity Act 2002. Not only these, the Sikkim State Biodiversity Board has come up with two documents, the BMC toolkit and ABS guidelines. These documents are translated into Nepali as well. Fund for People's Biodiversity Registers Documentation has also been allotted, a sum of Rs. 1.15 lakhs (Rupees One Lakh Fifteen Thousand Only) respectively to each of the four BMCs and they are Hee-Gyathang BMC (North), Kitam BMC (South), West Pandam BMC (East) and Lingee Sokpey BMC (South). But till date only one PBR has been maintained. For the protection of TK from various threats, there needs to be documentation and maintenance of PBRs. Though, collection of information regarding bio resources of a place can be done but it is quite difficult to collect all the information regarding Traditional Knowledge and the people who practices the TK. The Sikkim State Biodiversity Board have maintained four biodiversity registers and this plays a vital role in the protection of the resources of the land and TK associated to the resources.

### **5.2.3. Lampokhri Medicinal Plants Conservation Zone<sup>668</sup>**

The Lampokhri area falls within the Khangchendzonga National Park (hereafter referred to as KNP) which was notified under the Wildlife Protection Act 1972. This area is located at West Sikkim and this conservation area covers 15 square kilometres of the KNP, i.e., 0.84% of the total area of KNP, and is known as Lampokhri Medicinal Plants Conservation Area (hereafter referred to as LMPCA). The aim for declaration of LMPCA is the conservation of the in-situ germplasm and the habitat of valuable and endangered medicinal plants along with other high-altitude flora, fauna and wetlands at that area. The area around Lampokhri is found to be highly rich in in situ germplasm of valuable medicinal plants like Kurki, Jatamanshi, Panchamla, Bikh, Bikhma, Bhutkesh, Pakhanbhed, Rambu, Dandu, and others. Bikhma plants in a very few numbers were found only here. The main threat to these medicinal plants is the yak

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<sup>668</sup> Lampokhri Medicinal Plants Conservation Zone, *available at*: <http://www.sikkimforest.gov.in/docs/BIODIVERSITY/lampokhrmedicinalplants.pdf> (last visited on June 18, 2019).

herders, they illegally collect them and smuggle them. Furthermore, even the yaks impact the reproduction cycle of these medicinal plants by grazing on the vegetative and sexual parts of the herbs of the medicinal plants, this hampers the natural regeneration of the medicinal plants. The Government by conserving this area has taken initiative for the protection of the medicinal plants and for this purpose Conservation Management Plan has been taken into consideration. They are:

**i) Conservation Initiatives<sup>669</sup>**

- a) The local communities are given preference as they have knowledge regarding the medicine plants and its properties. Ethnobotanical studies are to be carried out in partnership with the Bare Foot botanists who belong from the local communities.
- b) More emphasis to be led on recovery programs and focused conservation for endangered medicinal plants like *Aconitum spicatum* (Bikhma) and others.
- c) Regular patrolling to be conducted along with the local community, trekking service providers, JFMC/EDC and Himal Rakshaks especially during monsoons and winters to monitor and check whether illegal collection and smuggling of medicinal plants are taking place and the status of other threats as well.
- d) Wildlife intelligence network to be setup.
- e) To research on medicinal plants, their conservation and monitoring, reputed NGOs can be involved.

**ii) Conservation Regulations**

- a) Prohibition has been made on movement of pack animal like horses, dzos and yaks throughout the year beyond Thangsing into Chonrigang, Lampokhri, Chamrey, Khola Urar and Aralungchok.

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<sup>669</sup> *Ibid.*



- b) Prohibition of movement of pack animals like horses, dzos and yaks has been done beyond Labdang into Kasturi Urar, Patey Bhanjyang, Sukey Pokhri, Aralungchok and Khola Urar throughout the year.
- c) Tourists and support staff are provided permit only up to Lampokhri. Those tourists who enter from Thangsing, permission is given for a one-day trek from Thangsing to Lampokhri. Camping is not allowed or permitted to the tourists within the conservation zone.
- d) Those tourists who enter from Labdang on the Aralingchok-Dzongri trek, they are permitted to camp only at Kasturi Urar and Khola Urar. Pack animals like horses, dzos and yaks are prohibited on this trek. Campsites have been designated where lighting fire and cooking food are permitted and it has to be done only on these designated sites.

**iii) Legal provisions and penalty<sup>670</sup>**

- a) Yak herders or Pack animal operators, if they enter into the conservation zone, shall be punishable with a fine not less than five thousand rupees but may extend to ten thousand rupees keeping aside from the compensation for the damage cause. Provided that in case of a subsequent offence the fine shall not be less than ten thousand rupees and may extend to twenty-five thousand rupees not including the compensation for the damage caused and there shall be banned of the concerned pack animal operator or yak herder for a period of five years from entering in the forest areas.
- b) If the conservation regulations are violated by the tourists or support staff then the concerned travel company who organised the trek or in its absence the leader of the trekking group party (hereinafter referred to as “trek manager”) shall be held liable and punishable with a fine which shall not be less than five thousand

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<sup>670</sup> Lampokhri Medicinal Plants Conservation Zone, *available at*: <http://www.sikkimforest.gov.in/docs/BIODIVERSITY/lampokhrmedicinalplants.pdf> (last visited on June 18, 2019).

rupees but may extend to ten thousand rupees keeping aside the compensation for the damage caused. Provided that in case of subsequent offence the fine shall not be less than ten thousand rupees and may extend to twenty-five thousand rupees keeping aside the compensation for the damage caused and there shall be banned on the concerned “trek manager” from trekking or organizing trekking for a period of five years in the forest areas.

- c) The compounding officer shall include all forest officers who are not below the rank of a block officer. The person who helps in the detection of the offence or apprehending the offender shall be provided reward by the compounding officer from the sum of money which is accepted as fine and it should not exceed twenty percent of such money. The compounding officer may meet up the expenditure incurred for detecting the offence and apprehending the offender from the sum of money which is accepted as a fine but should not exceed twenty percent of such money.
- d) Along with the laws relating to forests, environment, wildlife and biodiversity, these rules shall be made applicable.

#### **5.2.4. Directorate of Handicrafts and Handloom**

The Directorate of Handicrafts and Handloom was firstly established as a Technical Institute of Training and Production of traditional arts and crafts in the year 1957, when Sikkim was a country and later on was named as Directorate of Handicrafts and Handloom.<sup>671</sup> This institute was first named as Palzor Thendup Namgyal Institute.<sup>672</sup> When it was first established it had 58 numbers of trainees. It was established during the reign of and by the 12<sup>th</sup> Chogyal of Sikkim, Miwang Chogyal Chenpo Palden Thondup Namgyal. He had shaped Sikkim as a ‘model Asian state’ and had worked on Sikkim to a level where the literacy rate and per capita income were two time higher

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<sup>671</sup> Directorate of handicrafts and handloom, Govt. of Sikkim, *available at*: <http://sikkimcrafts.gov.in> (last visited on July 1, 2019)

<sup>672</sup> Thanka painting, *available at*: <http://www.handicrafts.nic.in/CmsUpload/01452016104506Study%20Report-%20Thanka%20Painting.pdf> (last visited on July 5, 2019).

than its neighbouring countries like Nepal, Bhutan and India.<sup>673</sup> This was started with the intention to preserve and promote the Traditional Knowledge of Sikkim.<sup>674</sup> Over all these years, the Institute has become one of the major centre of learning and training in the Traditional Arts and Crafts of Sikkim and it has even provided source of income to many people of Sikkim. There were only 12 branches all over Sikkim which were ran by Branch In-Charge till 1994 but now there are 32 branch centres throughout the state.<sup>675</sup> The TK of Sikkim includes Thanka painting, wood carving, mask making, carpet weaving, etc. and all these are taught in the Directorate of Handicrafts and Handloom of Sikkim. Along with these even cane and bamboo items making, multicrafts, Lepcha Hat making, Handloom, blanket weaving and soft toys are also the subject of training to make them.<sup>676</sup> The Head Quarter is in Gangtok and the other branches are in Rhenock, Rongli, Parakha, Kokolay, Tumin, Pacheykhani, Padamchey, Ralong-West Pendam in the east district; in the west district they are situated at Pelling, Tashiding, Reshi, Dentam, Rinchenpong, Chakung, Chumbong, Singling, Soreng, Okhrey, Salangdang, Tharpu, Karzee Mangnam; in South district they are at Namchi, Yangang, Kewzing, Temi Tarku, Melli; and in the North, they are at Kabi, Lingdong, Chungthang, Lachen and Lachung.<sup>677</sup> The Thankas of Sikkim were quite famous during the reign of 12<sup>th</sup> Chogyal of Sikkim, it was one of the most imported item to USA from Sikkim. The Thanka makers were always busy with the making of thankas to import them and they would not have the time to take the orders of the local people during that time.<sup>678</sup>

The main objectives of the Directorate of Handicrafts and Handloom are:

- a) To be a major centre of learning and training in the field of traditional arts and crafts of the Sikkim.

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<sup>673</sup> The Fairytale that turned Nightmare?, *available at*: <https://www.nytimes.com/1981/03/08/books/the-fairy-tale-that-turned-nightmare.html?pagewanted=2> (last visited on June 25, 2019).

<sup>674</sup> Directorate of Handicrafts and Handloom, *available at*: <https://www.museumsofindia.org/sp/node/428> (last visited on June 27, 2019).

<sup>675</sup> Training, *available at*: <http://sikkimcrafts.gov.in/training.html> (last visited on June 28, 2019).

<sup>676</sup> *Ibid.*

<sup>677</sup> Achievements, *available at*: <http://sikkimcrafts.gov.in/achievements.html> (last visited on June 29, 2019).

<sup>678</sup> *Supra* note 15 at 92.

- b) To provide preservation and revive the languishing ethnic Traditional Arts and crafts of Sikkim.
- c) Achieve a high level of human participation and skill development through capacity and skill up gradation programmes.
- d) To provide employment and tap income generation potential of the Handloom and handicrafts sector.
- e) To provide promotion and dissemination of information regarding the policy orientation and schemes of the state and central government.
- f) To make Sikkim a leading leader in handicraft and handloom sector both in India and globally.<sup>679</sup>

After the training is completed in the institute, the trainees are provided certificates. The trainees are free to work on their own or in the institute itself. Furthermore, the Government also provide loans with which they can set up their business and can open shops for wood carving cane and bamboo for designs and decorations.<sup>680</sup>

- a) **Handmade Paper Unit:** This is a very different kind of paper which is made mostly in Sikkim only. The making of handmade paper unit was started in the year 1957, and was regarded as one of the most important section of the Directorate of Handicrafts and Handloom.<sup>681</sup> These days handmade paper and its products, due to their eco-friendly attribute, artistic appeal, durability and creativity are gaining popularity all over the world and the world market. These handmade papers are made completely from recycling of waste materials which in a way save trees contributing towards a healthier environment. The main reason for using the handmade paper unit was to convert or process the used waste into new products. By doing so it prevents the waste of potentially useful

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<sup>679</sup> *Supra* note 671.

<sup>680</sup> Woodcarving training institute a boon for youth in Sikkim, *available at*: <https://www.dnaindia.com/academy/report-woodcarving-training-institute-a-boon-for-youth-in-sikkim-1256040> (last visited on July 1, 2019).

<sup>681</sup> Handmade Paper Unit, *available at*: <http://sikkimcrafts.gov.in/handmadepaper.html> (last visited on July 3, 2019).

materials, less use of fresh raw materials, usage of energy is reduced, reduction in air pollution as well as water pollution as the need for conventional waste disposal gets reduced as compared to virgin production. These handmade papers are used for gift wrapping, greeting card, wedding invitations, autograph, file covers, file board, envelopes, paper bag, writing pad, photo frame, etc. These handmade papers can also be regarded as the TK of Sikkim as this is one of a kind of a paper which if seen by any Sikkimese can say that it has been made in Sikkim.

- b) Thangka Painting:** Thankas are scrolls which are religious in nature and are found mostly in monasteries and in the homes of the Sikkimese people. It is said that the craft flourished in Tibet about 1000 years back as the culmination of the confluence of Indian, Nepalese and Chinese traditions.<sup>682</sup> In simple words, it is one of the oldest forms of traditional and religious art which have its roots in Himalayan and Tibetan region.<sup>683</sup> The word Thangka means ‘something that we become happy in seeing’.<sup>684</sup> This art is being practiced in the region of Ladakh, Sikkim, Arunachal Pradesh and in Lahaul and Spiti and Kangra districts of Himachal Pradesh in India.<sup>685</sup> In 1909, during the time when Sikkim was a country, a school named Enchey was opened to train the monk students regarding the art of Thangka paintings.<sup>686</sup> They were taught by the most prominent Thangka artist of Sikkim. In the word of Cotte, “Thangka resembles the rich heritage of the Himalayan region, thus bolstering proof of its irreplaceable status in Tibetan cultural Heritage”.<sup>687</sup> Ringzing Lhadripa Lama was the best Thangka painter Sikkim has ever witnessed. In 1924 Ringzing Lhadripa was placed for training under the guidance of the great master of

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<sup>682</sup> *Supra* note 672.

<sup>683</sup> Sikkim endeavours to preserve heritage of ‘Thangka’ art, *available at*: <https://www.buddhistchannel.tv/index.php?id=5,7518,0,0,1,0#.XWVrppMzbq0> (last visited on July 4, 2019).

<sup>684</sup> *Supra* note 672.

<sup>685</sup> Thangka Painting, *available at*:

<http://www.craftmark.org/sites/default/files/Thangka%20Painting.pdf> (last visited on July 10, 2019).

<sup>686</sup> *Supra* note 672.

<sup>687</sup> Understanding Thangka: An explanation of Tourists’ interest and desire of purchasing Thangka, *available at*: [https://etd.ohiolink.edu/!etd.send\\_file?accession=kent1468794479&disposition=inline](https://etd.ohiolink.edu/!etd.send_file?accession=kent1468794479&disposition=inline) (last visited on July 6, 2019).

Tashilhumpo, he trained for a period of seven years.<sup>688</sup> Under his guidance the art of Thangka painting flourished in Sikkim. Materials that are used for Thangka paintings are cotton, thread, minerals colours, leather glue, distemper powder, and silk brocade cloth. And tools that are used are wooden frame, pencils, compass, scale, different size brushes.<sup>689</sup> This training for making of Thangka has well protected traditional knowledge of Thangka painting and other aspects related to it. Not only protection but this has even provided a source for living for those who has dedicated to this art. Thangkas are these days even used as a souvenir and given as a gift. The price of Thangka may vary from Rs. 5000 to Rs. 4,00,000.

- c) **Wood Carving:** Wood carving is an ancient art which was practiced by the Lepchas and Bhutias of Sikkim.<sup>690</sup> It was originally patronised by the Buddhist monasteries, where ornate wood plaques, Buddhist symbols and icons continue to adorn the walls.<sup>691</sup> With the carved woods Choktse (small foldable wooden table) are made, painted and polished (carved table). Another exquisite carved product from the carved woods is made called the Bakchok which is a square table. In Choktse and Bakchok, the wood carved are usually in the form of lucky signs, dragons, birds, phoenix and other traditional Buddhist figures.<sup>692</sup> Woods are carved as wooden masks, decorative screens, eight lucky signs of Buddhism, altars and lamp stands. There are specific kind of woods which are found locally that are used for carving, those woods are tonna celiata (tooni), Walnut (okner), and macalia exelsa (rani chaap).<sup>693</sup> In the wood carving training, the students are mostly male keeping in mind the slightly mechanical nature of the work.<sup>694</sup> The training for wood carving at the institute is of two years and in the initial year the steps of design and process are taught and in the second year carving

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<sup>688</sup> Ringzing Lhadripa lama (1912-1977) and the Namgyal Institute of Tibetology's Ajanta Hall, available at: [http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot\\_2013\\_02\\_06.pdf](http://himalaya.socanth.cam.ac.uk/collections/journals/bot/pdf/bot_2013_02_06.pdf) (last visited on July 6, 2019).

<sup>689</sup> *Supra* note 685.

<sup>690</sup> Tika Prasad Sharma & SK Borthakur, "Traditional handloom and handicrafts of Sikkim" 9(2) *Indian Journal of Traditional Knowledge* 376 (2010).

<sup>691</sup> Wood Carving of Sikkim, available at: <https://asiainch.org/craft/wood-carving-of-sikkim/> (last visited on July 11, 2019).

<sup>692</sup> *Ibid.*

<sup>693</sup> *Ibid.*

<sup>694</sup> Wood Carving – Sikkim, available at: <http://www.dsource.in/sites/default/files/resource/wood-carving-sikkim/downloads/file/wood-carving-sikkim.pdf> (last visited on July 11, 2019).

an cutting of the woods.<sup>695</sup> Tools that are required for wood carving are knives, curved and straight chisels known locally by the name Tikkyu and Ika respectively, hammer, saw, drilling machine etc., with varied thickness and nibs from flat, angular to curved which are required in the final processing.<sup>696</sup>

**d) Carpet Weaving:** Carpet weaving which is practiced by the women of the Bhutia (Ihopo) community of Sikkim is one of the oldest forms of carpet weaving in the world.<sup>697</sup> These days women from all the communities take up this craft in Sikkim. Sikkimese carpets, like other oriental carpets, are as well hand knotted and woven in fixed vertical looms which are kept standing with the support of the wall.<sup>698</sup> The carpets are most woven in beautiful traditional Sikkimese designs and their workmanship, attractive colours, and durability, are renowned all over the world and are in high demand abroad.<sup>699</sup> The patterns that are woven on the carpets are Buddhist eight lucky signs, dragons, lotus, snow lions, mythical birds, etc. and these carpets are made of different sizes to be used on walls, chairs, sofa, beds or diwans.<sup>700</sup> The materials that are used are sheep wool, cotton thread and vegetable dyes which are prepared by the institute itself. The vegetables that are used for the extraction of dyes are Majito (*Rubia cordifolia*), Okhar (*Juglans regia*), Halhaley (*Rumex nepalensis*), etc.<sup>701</sup> These days even chemical dyes are being used due to the scarcity of vegetables dyes. Tools and equipments that are used in carpet weaving are Chakta, Weavers scissor, levelling scissor, martal (thowa), khichu, graph design, phang for spinning, carpet loom made of iron loom, stainless steel rod and stool to sit on it to work.<sup>702</sup> The training for carpet weaving is of two years and the trainee

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<sup>695</sup> *Ibid.*

<sup>696</sup> Wood Carving of Sikkim, *available at:* <https://asiainch.org/craft/wood-carving-of-sikkim/> (last visited on July 11, 2019).

<sup>697</sup> Carpet Weaving of Sikkim, *available at:* <https://asiainch.org/craft/carpet-weaving-of-sikkim/> (last visited on July 12, 2019).

<sup>698</sup> Carpet Weaving, *available at:* <http://sikkimcrafts.gov.in/carpetweaving.html> (last visited on July 25, 2019).

<sup>699</sup> *Supra* note 102 at 228.

<sup>700</sup> Carpet Weaving, *available at:* <http://sikkimcrafts.gov.in/carpetweaving.html> (last visited on July 13, 2019).

<sup>701</sup> *Supra* note 699.

<sup>702</sup> Okhrey Carpet Making Cluster, Sikkim, *available at:* [http://designclinicsmsme.org/Design%20Awareness%20Programme%20Reports/PurabiSaikia\\_NAS.pdf](http://designclinicsmsme.org/Design%20Awareness%20Programme%20Reports/PurabiSaikia_NAS.pdf) (last visited on July 23, 2019).

should be between the age of 14 years to 24 years.<sup>703</sup> During this training period the trainees are provided stipend of Rs. 1,500 per month for the first year and Rs. 2,000 per month for second year.<sup>704</sup> In the first year the trainees are taught about knowledge and skill related to carding, plain weave and yarn spinning. And in the second year, they are taught the method to weave a variety of designs.<sup>705</sup> The carpets that are weaved in Sikkim are popular both in the domestic as well as export market.

- e) **Wooden Masks Making:** Another ancient craft of Sikkim is mask making.<sup>706</sup> The masks are made by carving the woods and these masks are of different gods, goddesses and animals related to Buddhism. Many festivals in Sikkim are celebrated with mask. These wooden masks are used during festivals, religious ceremonies and dances but these days they are also used as a decoration in home by hanging the mask on the wall.<sup>707</sup> The wood which is used for wooden mask making is a tough light wood which are mostly found in high altitudes areas of Sikkim and are known as Zarushing or bahuni (*Marsdenia tenacissima*).<sup>708</sup>
- f) **Blanket Weaving:** Traditional blanket weaving is also in some higher altitude areas of Sikkim such as Lachung, Lachen, Chungthang, Pelling, Burikhop, etc. but due to the better quality and design of the machine-made blankets, this traditional blanket is facing a decline in the demand.<sup>709</sup>
- g) **Bamboo and cane craft:** The crafts that are made from bamboo and cane have a deep root in the traditional culture of all the three-ethnic group of Sikkim.<sup>710</sup> Bamboo can be found in abundance all over Sikkim but cane grows only in limited area. To fulfil the need of the cane, it is obtained from Siliguri, West

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<sup>703</sup> Carpet Weaving – Sikkim, *available at*: <http://www.dsource.in/sites/default/files/resource/carpet-weaving-sikkim/downloads/file/carpet-weaving-sikkim.pdf> (last visited on July 25, 2019).

<sup>704</sup> *Supra* note 698.

<sup>705</sup> *Ibid.*

<sup>706</sup> *Supra* note 102 at 231.

<sup>707</sup> *Ibid.*

<sup>708</sup> *Ibid.*

<sup>709</sup> *Id* at 232.

<sup>710</sup> *Supra* note 690



Bengal and even from other parts of North East as well.<sup>711</sup> Bamboo can be regarded as a good substitute for plastics, steel and cement for housing, furniture construction and agricultural tools. From bamboo and cane household furniture items like items like moorah or small stools, decorative items like flowers, utility items like pen stands, picture frames, dustbins, attractive and eco-friendly fruit and vegetable baskets, beer mugs, hair clips, flower vases, containers, etc. are made.<sup>712</sup> The hats which the Lepchas wear is also traditional art and are made out of bamboo and cane.<sup>713</sup> For the training purpose, the age has to be of 14 to 24 years and the period of training is two years.<sup>714</sup>

**h) Handloom Weaving:** In Sikkim handloom weaving is regarded synonymous with the Lepcha weave.<sup>715</sup> It was believed that in ancient Sikkim the Lepchas had woven yarn spun out of nettle (sisnu) plant.<sup>716</sup> These days cotton and woollen yarn are used together with vegetable dyes and synthetic colours. The institute has applied for Geographical Indications registration of the Lepcha weave. The Deputy Director of Directorate of Handicrafts and Handloom, Mr. Karma Bhutia had said that this particular weave art originally belongs to the Lepcha community and the Government of Sikkim wants to avoid any kind of exploitation of this art in the handloom market and this is one of the reason for applying Geographical Indication registration.<sup>717</sup> Lepcha weaves or ‘thara’ is woven in vertical looms with a backstrap and these looms are of small width.<sup>718</sup> Tharas are made by using traditional design with different colours and these are used for making bedspreads, bags, belt, cushion covers, curtains, table mats, tray cloths, etc.<sup>719</sup> The designs of these handloom exhibit the very sensitive and

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<sup>711</sup> *Supra* note 706

<sup>712</sup> Cane and Bamboo Craft, *available at*: <http://sikkimcrafts.gov.in/canebamboocraft.html> (last visited on August 7, 2019).

<sup>713</sup> *Ibid.*

<sup>714</sup> *Ibid.*

<sup>715</sup> Weaving in Sikkim: Predominant Role in Handloom Weaving, *available at*: <http://www.thenortheastwindow.com/2017/09/weaving-sikkim-predominant-role-handloom-weaving/> (last visited on August 9, 2019).

<sup>716</sup> *Supra* note 102 at 229.

<sup>717</sup> Sikkim handloom industry making efforts to popularise tribal art, *available at*: <https://www.oneindia.com/2009/07/29/sikkimhandloom-industry-making-efforts-to-popularisetribe.html> (last visited on August 10, 2019).

<sup>718</sup> Handloom Weaving, *available at*: <http://sikkimcrafts.gov.in/handloomweaving.html> (last visited on August 10, 2019).

<sup>719</sup> *Ibid.*

distinctive marks of Sikkimese culture, mood and mind, showing the creative and artistic mind of the people of Sikkim.<sup>720</sup>

### **5.2.5. Policies for the Traditional Healers of Sikkim**

The true bonafide Sikkimese people have a deep spiritual and supernatural connection to their motherland, Sikkim. This influences the way communities relate to their surroundings, and how they substantially use and guard their resources. In all the lakes, rivers, mountains, etc. of Sikkim reside deities and the people of Sikkim feels it is important to seek permission from the deities before beginning any activities like agricultural activity, construction, hunting or gathering.<sup>721</sup>

In Sikkim, there are large number of Traditional healers. They are Baidya, Dhami and Jhankri in the Nepali community, Pow and Nejum in the Lhopo community and Mun, Padim and Bongthing in the Renjongmu community. Bongthing or Bhenbon is also a Lhopo healer and he never gets possessed and there is a unique relation between Pawo or Nejum and the Bongthing or Bhenbon.<sup>722</sup> During the earlier time, they were the only medical practitioners in the village but with the establishment of hospitals and improvement in the literacy rate, allopathic treatment started to be more accepted by the people of Sikkim. Faith healing had never been practiced as a profession, it was always carried out as a service to the sick and needy or to respect ancestors and nature. They work part time as faith healers and take up odd jobs like farming, labour, homeopathy and carpentry to earn their living. The Government of Sikkim had come up with a scheme called 'Samajik Sewa Bhatta scheme' which came into operation on 1<sup>st</sup> Septembe, 2008.<sup>723</sup> Under this scheme, every faith healer of Sikkim, belonging to all the communities receive monthly allowance of Rs. 600 per month.<sup>724</sup> There seemed to have an increase of beneficiaries by 20 percent from 2011.

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<sup>720</sup> *Supra* note 716.

<sup>721</sup> *Supra* note 169 at 13.

<sup>722</sup> *Id.* at 99.

<sup>723</sup> *Id.* at 27.

<sup>724</sup> *Ibid.*

Another initiative taken by the state Government to preserve and protect the faith healing legacy was the establishment of a Phedangma school in Hee Bermiok at West Sikkim for the Limboo community and a bongthing school for Lepchas in Naga, North Sikkim. Both the schools aim at the documentation of animist TK and provide training to those who have the enthusiasm to become bongthings and phedangmas and carry on their traditions.<sup>725</sup>

Furthermore, the former Chief Minister of Sikkim had a vision to conserve and promote the rich folk history and tradition of Sikkim and had integrated it with contemporary development. On 23<sup>rd</sup> February, 2018, foundation stone for the establishment of Folk History Centre of Sikkim was laid by him at a village called Pastinga of Assam Linzey.<sup>726</sup> This village is around 30 kms away from the capital, Gangtok. One of the main motives for the establishment of this center is to provide healing center of Shamans. It will even have Sikkimese Traditional houses, a yoga centre, a tourist interpretation hall, a restaurant, a guest house and a herbal garden.<sup>727</sup> This project is likely to be completed in August 2020.

According to the State Biodiversity Strategy and Action Plan (2003), there has been loss of awareness regarding Traditional health systems like Amji, Bonthing, Pau, etc.<sup>728</sup> The villagers of North Sikkim, in association with the Shedas (monastery schools) want to open Amji Training Centers at Thangu and Lachung which will be headed by a local Amji.<sup>729</sup> The Government hospital of Sikkim, Sir Thuthob Namgyal Memorial Hospital, located at Gangtok had a separate clinic for Amji and there were two Amjis who were employed on a regular basis since very long time. Mr. Sonam Tshering is the head Amji and is amongst the very few Sikkimese healers who has been trained at Tibetan Medical and Astro Institute, Gangchen Kyishong, Dharmasala, 176216, Himachal Pradesh. The clinic was visited by large number of people.<sup>730</sup> STNM Hospital of Sikkim has been shut down and a new Multi-Speciality Hospital has been set up.

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<sup>725</sup> *Id.* at 23.

<sup>726</sup> *Id.* at 28.

<sup>727</sup> *Ibid.*

<sup>728</sup> Medicinal Plants Resources, *available at*: <http://www.sikkimforest.gov.in/soer/Medicinal%20Plant%20Resources.pdf> (last visited on August 18, 2019).

<sup>729</sup> *Ibid.*

<sup>730</sup> *Ibid.*

Other such initiative taken in the promotion and preservation of Tibetan Medicinal system prevalent in Sikkim are private initiatives like:

- a) **Men-Tse-Khang or Amji Hospital<sup>731</sup>**: This clinic is situated in Namnang, Gangtok. It is run by Amji Kelsang Dorjee and it is a charitable clinic under His Holiness Dalai Lama.
- b) **Tashi Namgyal Private Clinic<sup>732</sup>**: This clinic is situated in Namnang, Gangtok and is run by the father of Amji Sonam Tshering.

### 5.2.6. Policies regarding Medicinal Plants

Apart from traditional knowledge related to agriculture, handicrafts, and practices of traditional healers, there are various other policies adopted by the Government of Sikkim for protection of Medicinal Plants, and the traditional use of such plants. The Government has framed Plan for Conservation and Sustainable Utilization of Medicinal Plants. The Government of Sikkim had approved this project in December 2002 and since January 2003, the Department of Forest, Environment & Wildlife, Government of Sikkim, had made an attempt to reach out to all the sections of people for the formulation of plan which would involve the full participation of maximum number of people belonging to all walks of life and gender.<sup>733</sup> This is a project of the Ministry of Environment and Forests, Government of India which is executed by the Foundation for Revitalization of Local Health Tradition (hereafter referred to as FRLHT), a NGO based in Bangalore, India.

For the development of the action plan regarding this project, participation of the local village level organizations, NGOs, academicians and scientists, government officials, the private sector, the armed forces, traditional health practitioners, politicians and others who have a stake in medicinal plants conservation was initiated. The main

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<sup>731</sup> *Ibid.*

<sup>732</sup> *Ibid.*

<sup>733</sup> Plan for Conservation and Sustainable Utilization of Medicinal Plants, *available at*: <http://www.sikkimforest.gov.in/docs/Plan%20for%20Medicinal%20Plants%20Conservation%20and%20Sustainable%20Utilization/FRLHT%20Final%20Report%202.5.pdf> (last visited on September 17, 2019).

objective of the action plan was to conserve and sustainably utilize the medicinal plants biodiversity of Sikkim through participatory approaches and furthermore to conserve the associated local health traditions and the social, economic, ethical, cultural and scientific dimensions with the inclusion of gender relations and equity.<sup>734</sup>

Relating to the conservation and protection of medicinal plants which are used in the Traditional Knowledge Medicinal system of Sikkim, the state government has taken up policies and programmes. They are:<sup>735</sup>

- i) Only eco-friendly industries to be encouraged and established in the state so that the environment and the ecology system of Sikkim is not damaged.
- ii) In all the districts, at panchayat, block, village level “Smriti Van” program was launched to bring people close to the Forests and Environment.
- iii) In reserved forests areas, plantation areas and water sources, grazing was banned. On sustainable basis, fodder collection was allowed for bona fide use.
- iv) For school children, compulsory environmental education including forest, wildlife, cultural heritage, etc. should be taken into consideration. Extension and training programs for the same.
- v) Total of 31% of the geographical area of Sikkim which includes the network of National parks, Sanctuaries and Bio-sphere Reserve for conservation of biodiversity, six centuries and the KNP are protected areas, which is the highest in the country. The medicinal plants which are found in these areas, which are used in the traditional healing and even by the local communities in curing some sickness are provided protection automatically.
- vi) The Government of Sikkim had banned the collection of all medicinal plants for commercial purposes, for a period of five years vide order No. 13/F/Evn &WL. dated 6<sup>th</sup> Sept, 2001. There seemed to be depletion of medicinal plants and non-timber forest produce excluding bamboos, grasses, plants used as food and cardamom from the forest. With a view to encourage regeneration of areas

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<sup>734</sup> *Ibid.*

<sup>735</sup> *Ibid.*

that are facing depletion of these resources, such step was taken by the Government.

vii) October 2002, Manifesto for Panchayat Elections

“Para 37 Panchayat will open registers to register every species in their area – as to the kind and the usage especially of the medicinal variety. This way they will also undertake to protect the biodiversity – our flora and fauna as well our Traditional Knowledge base. All this will be done on a war footing.”

#### 5.2.6.a. Specific Programmes related to Medicinal Plants<sup>736</sup>

- i) **State Medicinal Plants Board:** In June 2002, a State Medicinal Plants Board (hereafter referred to as SMPB) was established for overall conservation and development of medicinal plants. In Sikkim, this board is the nodal agency for the development of medicinal plants. The functions of the Board are as follows:
  - a) The board is to create 13 herbal Gardens of 10 ha each on degraded forest land for insitu and exsitu conservation of the gene pool of indigenous medicinal plants of the state. This has been sponsored by the National Medicinal Plants Board, Department of Indian System of Medicines and Homeopathy, Government of India. Furthermore, the board has to create a raw drug museum at Forest Sceretary, Deorali, Gangtok.
  - b) Registration of medicinal plant farmers, collectors, traders and manufacturers.
  - c) In all the four districts of Sikkim, “Jadi Booti Chetna Kendras” will be created and established.
  - d) Distribution of Panchayat Biodiversity Registers and it should be managed by the Gram Panchayats.

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<sup>736</sup> Medicinal Plants Resources, *available at*: <http://www.sikkimforest.gov.in/soer/Medicinal%20Plant%20Resources.pdf> (last visited on September 15, 2019).

- ii) Forest Development Agency:** Plantation of medicinal plants were carried out by the Joint Forest Management Committees and Ecodevelopment Committees under this programme. During the 10<sup>th</sup> five-year plan, it came to the notice that a total of six Forest Development Agencies (hereafter referred to as FDA) have been registered in Sikkim. This scheme had been sponsored by Central Government under the National Afforestation Plan of the National Afforestation and Ecodevelopment Board of the Ministry of Environment and Forests, Government of India.
- iii) Integrated Wasteland Development Project:** Under this project, nurseries were built along with medicinal plants section. Under the Teesta Rangit Integrated Wasteland Development Project (hereafter referred to as IWDP) during 2002 – 2003, Integrated Community Nurseries were created on the private land in the nine Gram Panchayat Units of South Sikkim. Those were managed by self-help group under the guidance of the concerned JFMC/WC. These nurseries have germination chamber, hardening chamber, bio-composting, vermi-composting, nursery beds, etc with good infrastructure. The implementation of this project was done by the Forest, Environment and Wildlife Department under the guidance of the Zilla Panchayat. This Project had been sponsored centrally by the Department of Land Resources, Ministry of Rural Development, Government of India.
- iv) Development of Sanctuaries and National Parks:** Under this scheme, integrated community nurseries were created on private land holdings around all the six centuries of Sikkim during 2002 – 2003. Under the guidance of the concerned EDC, these nurseries are managed by the self-help group. Similar to IWDP, a medicinal plants section is initiated in these nurseries. With good infrastructure, these nurseries have a germination chamber, bio-composting, nursery beds, etc and can be brought under the network of decentralized nurseries. This scheme had been funded 100% by the Ministry of Environment and Forests, Government of India.

- v) **Community Biodiversity Conservation, North East Council:** This project had been funded completely by Central Government under the scheme of the North East Council, Shillong to conserve the biodiversity including medicinal plants through the participation of the people. This scheme might be implemented by the State Medicinal Plants Board.
- vi) **Panchayat Nurseries:** The Rural Development Department, Government of Sikkim had processed the opening of decentralized nurseries which are to be owned by the Panchayats in every Gram Panchayat Unit of Sikkim.
- vii) **Panchayat Herbal Gardens:** The Rural Development Department, Government of Sikkim had created herbal gardens which are owned by the Panchayats in every Gram Panchayat Unit of Sikkim. After these herbal gardens are created they can also be brought under the network of decentralized nurseries.

#### 5.2.6.b. Research Initiatives taken by the Government of Sikkim in the Medicinal Plants Sector<sup>737</sup>

- i) **STNM Hospital, Gangtok:** Research in the herbal medicines had been conducted in STNM Hospital in conjunction with the GBPIHED, Sikkim Unit.
- ii) **Sikkim Manipal Institute of Medicinal Sciences and Central Referral Hospital:** This institute has the facilities of pharmacological research in herbal medicine. It is located at Tadong.
- iii) **Department of Health:** Tibetan medicine clinics were set up and sponsored by the state of Sikkim's Directorate of health.
- iv) **Department of Horticulture:** Endangered medicinal plants like *Picrorrhiza kurroa* and *Orchis latifolia* had been cultivated at high altitude by the

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<sup>737</sup> Medicinal Plant Resources, *available at:*  
<http://www.sikkimforest.gov.in/soer/Medicinal%20Plant%20Resources.pdf> (last visited on September 15, 2019).



Department of Horticulture, Government of Sikkim. Trial plantation of *Panax pseudo-ginseng* was initiated as well at Lachung (3000m) for a detailed study of the plant under cultural conditions.

- v) **Department of Science and Technology:** The department had promoted research and documentation in the field of medicinal herbs.

Regarding research in the medicinal plants of Sikkim, Central Government agencies are also there in Sikkim. G.B. Pant Institute of Himalayan Environment and Development (hereafter referred to as GBPIHED) is one of such agencies which conducts research on biodiversity, including medicinal plants of Sikkim. Other Central Government Agencies located in Sikkim are Botanical Survey of India (hereafter referred to as BSI), Indian Council of Agricultural Research (ICAR), Regional Research Centre of Ayurvedic Medicine.<sup>738</sup>

In Sikkim, not only the Government but there have been initiatives taken privately by some people in the field of protection of Medicinal plants. Such are:<sup>739</sup>

- i) **Maenam Nursery:** The Maenam Nursery is located at Damthang, South Sikkim and is owned by the former Chief Minister of Sikkim, Mr. Pawan Chamling and his wife, Mrs. Tika Maya Chamling. They both have kept interest in conservation and propagation of medicinal plants. They have developed an excellent nursery and botanical garden in which there is a medicinal plants section where there are more than 240 species of indigenous medicinal plants. Some medicinal plants have been successfully domesticated, which includes those of the temperate ecoregion like *Picrorrhiza kurrooa*, *Nardostachys grandiflora*, *Aconitum ferox*, etc.

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<sup>738</sup> *Ibid.*

<sup>739</sup> Plan for Conservation and Sustainable Utilization of Medicinal Plants, *available at:* <http://www.sikkimforest.gov.in/docs/Plan%20for%20Medicinal%20Plants%20Conservation%20and%20Sustainable%20Utilization/FRLHT%20Final%20Report%202.5.pdf> (last visited on September 17, 2019).

- ii) **Hidden Forest Nursery:** This nursery is located in Gangtok and is the pride of Gangtok. It is owned and managed by Mr. S.T. Lachungpa, IFS, CCF. This nursery has a tissue culture facility which can be used for mass propagation of endangered medicinal plants. It will provide a great support in the protection of medicinal plants of Sikkim. But this nursery mostly hosts garden plants.
- iii) Amji Tshering Thendup Lachungpa has a vast knowledge regarding the medicinal herbs and plants and due to this reason, he was awarded the Roll of Honour by the Government of Sikkim on the occasion of the Independence Day 2002. He has passed on his knowledge regarding medicinal plants and herbs to one of his son Tsewang Genchen and they both have successfully domesticated two species of Poppies i.e., *Meconopsis grandis* and *M. paniculate* at their farm.

#### 5.2.7. Patent Information Centre (PIC), Sikkim

In 2001, a notification was issued by the Home Department, Government of Sikkim, vide no. 44/HOME/2001, in order to protect patenting and other IPRs and to oversee its implementation in Sikkim, through constituting State Level Apex Committee with the Chief Minister of Sikkim as the Chairman.

Patent Information Centre (hereafter referred to as PIC), Sikkim State Council of Science and Technology (hereafter referred to as SSCS&T), Department of Science and Technology and Climate Change (hereafter referred to as DST&CC), Government of Sikkim, Vigyan Bhawan, situated in Deorali, East Sikkim, was funded by Department of Science and Technology (hereafter referred to as DST). It was sanctioned in the year 2001. Till July 2016, PIC of Sikkim has filed for two patents, four GI, one Protection of Plant Varieties & Farmers' Rights (hereafter referred to as PPV&FR), one Trademark or logo, two Copyrights registrations.<sup>740</sup> With regards to IPR, they have conducted two workshops, outreached 16 awareness programs and published three articles and they have even established eight IPR cells in various parts of the state.<sup>741</sup>

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<sup>740</sup> Patent Information Centre (PIC), Sikkim, *available at*: <http://dstsikkim.gov.in/newsletter/IPR%20Newsletter.pdf> (visited on October 2, 2019).

<sup>741</sup> *Ibid.*

### 5.2.7.a. Geographical Indication (GI) filed by PIC, Sikkim

Sikkim being rich in diversity and TK has always fulfilled the human needs of the locals as well as the indigenous people of Sikkim in various ways. PIC, SSCS&T, with regards to the TK of the state, had conducted a meeting with GI legal attorney, S. Majumdar & Co., IPR legal firm, Kolkata, for GI registration of four items of Sikkim.<sup>742</sup> The meeting was held at Vigya Bhawan, DST&CC on 5<sup>th</sup> January, 2016. The PIC had filed GI registration to the Technology Information Forecasting & Assessment Council (hereafter referred to as TIFAC), Government of India.<sup>743</sup> These four items are:

- i) Sikkim Temi Tea
- ii) Sikkim Mandarin/Orange
- iii) Sikkim Dzongu Lepcha Hat (Sumok thyaktuk)
- iv) Sikkim Dzongu Lepcha weave/darri (Thokro)

Form these four items, two items, Sikkim Mandarin and Sikkim Temi Tea, were accepted by TIFAC and furthermore, it was assigned to S. Majumdar & Co. IPR legal firm of Kolkata, for the GI registration.<sup>744</sup> The applicant for GI registration is Horticulture & Cashcrop Development Department, Government of Sikkim. The GI filing of three items, i.e., Dzongu Lepcha hat, Dzongu Lepcha weave and Seremna are under process.<sup>745</sup> PIC and SSCS&T have identified two more items that have the potential for GI protection and registration.<sup>746</sup> These items are under study, they are:

- i) Cup shaped maize beaten flakes (Tashiding, West Sikkim)
- ii) Takmaru rice<sup>747</sup>

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<sup>742</sup> Geographical Indication (GI) meeting with legal attorney by PIC, *available at*: <http://www.picsikkim.nic.in/Extra/GIS.pdf> (last visited on September 30, 2019).

<sup>743</sup> *Ibid.*

<sup>744</sup> *Ibid.*

<sup>745</sup> *Supra* note 740.

<sup>746</sup> *Ibid.*

<sup>747</sup> *Ibid.*

### **5.2.7.b. Protection of Plant Variety & Farmers' Right filed by PIC, Sikkim**

Under Protection of Plant Variety & Farmers' Rights Act (hereafter referred to as PPV&FRA) 2001 and Protection of Plants Variety & Farmers' Right (PPV&FR) Rule 2003, a local variety of rice of Sikkim had been applied for the registration of Farmers' Variety as a Kailash Rana Mangar.<sup>748</sup> The registration has been applied to Plant Authority, PPV&FR Registry, Government of India through Deputy Registrar, Guwahati, Branch Office, PPV&FR. For the purpose of genetic testing, the seed sample had been submitted to Gene Bank.<sup>749</sup> The PIC of Sikkim has even received a letter from the PPV&FR Authority, New Delhi regarding it. The registration is under process and certificate is awaited.<sup>750</sup>

From the preceding pages we learnt that the Traditional Knowledge of Sikkim consists of vast knowledge. The Government of Sikkim has adopted various policies so that the rights of the indigenous communities are recognized and protected. There is no specific law which protects the whole nature of Traditional Knowledge of Sikkim, the Government of Sikkim has not come up with any specific law for the protection of Traditional Knowledge of the Sikkim and her people. There is no doubt that the Government of Sikkim has framed various policies but, there are other initiatives adopted by different states of through which Sikkim can learn. The different initiatives of other States are mentioned below.

### **5.3. Impact of the Policies**

The Government of Sikkim has adopted various policies so that the rights of the TK of the land is recognized and protected. There is no specific law which protects the whole nature of Traditional Knowledge, the Government of Sikkim has not come up with any specific law for the protection of Traditional Knowledge of Sikkim and her people. Sikkim is very rich in TK and since the time Sikkim was a Kingdom, the aspects of TK were taught and used in the upliftment of the livelihood of the people of Sikkim. Organic farming is a very great initiative taken by the Government of Sikkim to provide

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<sup>748</sup> *Ibid.*

<sup>749</sup> *Ibid.*

<sup>750</sup> *Ibid.*

protection and preservation of the traditional way of farming practice in Sikkim. The farmers in most part of Sikkim has taken up the traditional way of farming but it cannot be said that there has been zero percentage in the use of pesticides and chemical fertilizers as for more production, the farmers do use the pesticides and chemical fertilizers (but not all, some farmers use). And some were even of the view that there was nothing such as inorganic in Sikkim in the past, actually everything in Sikkim was purely organic before the Government of Sikkim introduced chemical fertilizers, pesticides and packet vegetable seeds and such. The chemical fertilizers destroyed the richness of the land and without it, it is nearly impossible to cultivate again. Though, Sikkim has adopted Organic Farming but much of the Traditional techniques of farming has been forgotten. Hence, it has revived the Traditional way of farming without the use of pesticides, insecticides and chemical fertilizers. Some of the farmers are bound to use chemical fertilizers to yield a greater number of crops, vegetables, etc. as that is their only source of income.

Another initiative taken by the Government of India was the establishment of State Biodiversity Board in every state of India. Sikkim also has set up Sikkim State Biodiversity Board and it provides some provisions for protection of TK of Sikkim. The Board has not been successful in spreading the awareness regarding the importance of TK, its misappropriation, and need for the protection. Certain cases have come before the Board regarding the misappropriation of the TK of Sikkim. The main reason behind this is there is lack of awareness regarding the importance of TK among the Sikkimese people belonging to certain indigenous communities and the owners of the homestays. They should be given proper education or classes, especially the homestay owners and the villagers, regarding the importance of TK and what benefits they avail from their TK. There are many instances when some researchers visit Sikkim as tourists, do their research without informing to the State Biodiversity Board and leave the place with the sample of their research work. Sikkim is well known for the medicinal plants, herbs it bears. Sikkim is also known by the name “Demojong”, which means that the land is very fruitful and bears fruits, medicinal plants and herbs where no one will be hungry. Some medicinal plants of Sikkim are in danger as they are primely smuggled from Sikkim to other neighbouring states and countries. In the name of medicine even organs of animals are smuggled. The Yak Herders are among those people who are actively involved in the smuggling of medicinal plants. Most of these smugglers do not get

caught. One of the hubs for the smuggling is a place called Chiya Bhangyang in West Sikkim which is the border of Sikkim and Nepal. On interviewing a person at the trekking route to Chiya Bhangyang, he gave me this information that people from both Nepal and Sikkim meet at this place and deal regarding the medicinal plants. The declaration of Conservation area has somehow provided some protection to medicinal plants and the Yak herders now fear to smuggle these medicinal plants.

There are community based Traditional Knowledge in Sikkim which belong to the Bhutia, Lepcha and Nepali communities of Sikkim. Since the time Sikkim was a Country, this initiative to protect, preserve and use the TK of the communities of Sikkim was initiated. And some of the TK were famous in some parts of the world. The Gyalmo (Queen) of Sikkim, Hope Cooke and her friends had set up a boutique of Thankas, Chok-chee, etc in America. The Thanka painting had won the heart of the Americans and were in heavy demands. The Thanka Artists of Sikkim had no time to prepare Thankas for the people of Sikkim during those time. While having a conversation with a wood carving and chok-chee painting artist named Dorjee Bhutia who had taken the course at the Directorate of the Handloom, according to him the chok-chee painting artist and the wood carving artist of Sikkim are in high demand in the foreign countries and can make a fortune if they can go to foreign countries to work. This is one of the most vital initiative that the Sikkim Government has continued even after Sikkim was taken over by India. This has somehow preserved the TK of the communities of Sikkim and teaches it to the Sikkimese people as well. Due to this, the Lepcha weave has been presented for the GI with regards to Sikkim (though there are Lepchas in other parts of the India, and in other countries like Bhutan and Nepal). In Sikkim, every communities have their own Traditional Healers and these healers were provided some kind of benefits by the previous Government and they are still enjoying these benefits under the present Government as well. These benefits might be one of the reasons the Traditional Healers still practice the Traditional healing, as in most villages in Sikkim, there is no Primary Healthy Centre (hereafter referred to as PHC), dispensary, Rural Health Centre, etc. The Traditional Healers are the first to provide treatment to the villagers and they are the first to attend the sick in the villages. The previous Government ran by Sikkim Democratic Front (hereafter referred to as SDF) had provided some benefits to the Traditional Healers and even set up schools for the learning of traditional healing and furthermore had even started the construction of

Traditional healing Centre where everyone from any corner of the world are allowed to come to Sikkim and avail the very old Traditional healing practices of Sikkim which form a part of the TK of Sikkim. The Traditional Healers of Sikkim are knowledgeable person and have vast knowledge regarding the medicinal plants found in various parts of Sikkim and they use such medicinal plants along with the mantras in the process of healing. These plants were in use as medicines since very long time and the State Government with the assistance and direction from the Central Government has given more emphasis in the protection and preservation of these medicinal plants. In the year, 2002, the Sikkim Government had taken a very good step by approving a project called “Plan for Conservation and Sustainable Utilization of Medicinal Plants” which came into process in 2003. This project had aimed to reach at the village level and work upon the conservation and utilization of the medicinal plants of the Sikkim, involving the local people in the project. Under thus project all the medicinal plants of Sikkim which are used by the Traditional Healers as well as indigenous people of Sikkim are documented.

With the establishment of multiple number of Pharmaceutical Companies, Hydro Power Project, etc. have led to the hindrance in the very purpose of protection of environment and making Sikkim a eco-friendly State. The pharmaceutical companies, hydro power projects are slowly ruining the environment and are even hampering the TK of indigenous communities of Sikkim. Some lands that are near the Pharmaceutical Industries can no longer produce rice, maize, etc., there is a drastic decline in the production of such crops. Even the orange trees do not bear oranges like it used to. Another policy is the inclusion of environmental education in the school level, the students can learn about the forest, medicinal plants, wildlife, cultural heritage, etc. If such subject is included in the school then the awareness regarding the importance of protection of TK and its components will reach most of the houses of Sikkim. But on enquiring about the environmental education to the ex-students and the students of some schools, it was disappointing to know that the initiative was not taken into practice and it remained in the form of writing only. Even in Panchayat election manifesto it was mentioned that the panchayats will have to maintain a register of information about every species of plants that have medicinal values which will somehow protect the flora and fauna as well as the TK of the area but the present Panchayats and the former panchayats are unaware of such inclusion in the manifesto. Sikkim has network of

National parks, Sanctuaries and Bio-sphere Reserve which covers 31% of the total area of Sikkim and these areas mostly hold the medicinal plants. With regards to the commercial use of medicinal plants of Sikkim, the Government of Sikkim had put up a ban regarding the collection of the medicinal plants for a period of five years in 2001. This step was taken as there seemed to be depletion of the medicinal plants and to encourage regeneration of medicinal plants to counter the depletion.

Some specific programmes were also carried out by the Government of Sikkim in the Conservation and protection of medicinal plants related to the TK of Sikkim. In 2002, State Medicinal Plants Board was set up which looked upon the conservation and development of medicinal plants and had various functions like creating herbal gardens, raw drug museum, registration of medicinal plants, establishment of Jadi Booti Chetna Kendras and distribution of Panchayat Biodiversity Registers. On enquiring with the Panchayats of the Gram Panchayat Unit (hereafter referred to as GPU) Samlik-Marchak, it came to the notice that they are not provided any such registers and the ex-Panchayats had also not kept any such registers. They were clueless regarding the Panchayat Biodiversity Registers. It seems like most of the GPUs of Sikkim has not kept any such Biodiversity Registers. Very few Panchayat nursery are there in Sikkim. It can be stated that these programmes were not taken seriously by then Panchayats and the ones that are presently there as well. They do not realize the benefits of these programmes. They do not realize the importance of TK related to medicinal plants. One of the most important roles in the protection of TK is being carried out by Patent Information Centre of Sikkim, which has filed for four GI registration from Sikkim and from these four, two items have been accepted by TIFAC. Two more items are also under study and may be presented for the GI registration from Sikkim. Not only this, a local variety of rice of Sikkim has also been presented for the registration of Farmers' Variety. So far, PIC has been doing a good job in the protection and preservation of the TK of Sikkim.



#### 5.4. Summary

The policies regarding the protection of TK by the Government of Sikkim are not direct steps taken by the Government for the protection of TK of Sikkim. Those steps are somehow related to some categories of TK. Revival of Organic Farming in Sikkim is related to the agricultural TK which was practiced by the three communities of Sikkim and gradually the practice started to fall as people opt for other sources of income for better and improved life. Some even left their villages and settled in the town area where the practice of farming is next to impossible. Their children and grandchildren hardly got the chance to experience and learn it. Upto some level mission Organic Farming in Sikkim somehow have revived the traditional way of farming but to a higher degree, people still use pesticides and such during farming. Other steps have been taken for the preservation of medicinal plants in certain areas of Sikkim. Some of the areas are conserved as conservation zone and certain legislations are made on behalf of it but those are not applied effectively. The medicinal plants are smuggled out of Sikkim to other places. Regarding the handlooms and handicrafts, the step for the protection had been taken when Sikkim was an independent kingdom. It was done by the 12<sup>th</sup> Chogyal of Sikkim. If the step was not taken in such early time then just like other TK, most of them would have been vanished by now. One of the most vital steps by the Government of Sikkim was policy for the Traditional healers which is the need of the time. Traditional and spiritual healing were practiced in Sikkim since time immemorial and have helped many recovered from being possessed. Sikkim is a land rich in TK and for the protection should learn from other states of India like Kerala and Karnataka. Sikkim should focus more on protection and upliftment of TK which can become a steady source of income for the people of Sikkim. There are has not been much positive impact by the steps taken for the protection of TK. People are not much aware and awareness has to be spread regarding the vitality of TK. Sikkim is a small state and it is much easier than other larger states to conduct awareness programmes and the people are law abiding citizens. If more policies are made and the ones already in existence are applied strictly, positive results regarding protection of TK will be possible. If one does not protect what belongs to him or her then someone else will protect it for their benefits.

## CHAPTER VI

### CONCLUSION AND SUGGESTIONS

#### Conclusion

There is no precise definition of the word Traditional Knowledge which is accepted at the international level.<sup>751</sup> It might seem to be a very easy term but is very complex in nature which reflects on even more complex set of empirical, intellectual, social and spiritual factors that forms human culture.<sup>752</sup> Some are even of the view that the term Traditional Knowledge is archaic and obsolete and have even proposed to use the term ‘Indigenous Knowledge’ instead of the term ‘Traditional Knowledge’. Furthermore, traditional societies were feudalistic, undemocratic, primitive, savage, poor, full of crimes and other social problems, it is antithetical to modernity.<sup>753</sup> It is often regarded as under-developed and unethical.

With such criticism and no universally accepted definition, Traditional Knowledge, taking in consideration most of its definitions, can be said to content knowledge relating to Traditional Cultural Expressions, agricultural, technical, medicinal, scientific, ecological and biodiversity-related knowledge.<sup>754</sup> The definition provided by WIPO can be regarded as one of the most valid definition to understand what Traditional Knowledge actually means and what are its aspects. According to WIPO, “*Traditional Knowledge*” refer(s) to traditional-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary artistic fields. “*Traditional-based*” refers to knowledge systems, creations, innovations and cultural expressions which: have generally been transmitted from generation to generation; are generally regarded as pertaining to a particular people or its territory; and, are

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<sup>751</sup> Traditional Knowledge, available at: <https://www.wipo.int/tk/en/tk/> (last visited on April 23, 2020).

<sup>752</sup> Indigenous Traditional Knowledge, available at:

<http://magazines.odisha.gov.in/Orissareview/2011/Jan/engpdf/66-71.pdf> (last visited on April 23, 2020).

<sup>753</sup> Kenichi Matsui, “Problems of Defining and Validating Traditional Knowledge: A Historical Approach” 6 (2) *The International Indigenous Policy Journal* 3-4 (2015).

<sup>754</sup> *Supra* note 751.

*constantly evolving in response to a changing environment. Categories of Traditional Knowledge could include: agriculture knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge; “expression of folklore” in the form of music, dance, song, handicrafts, designs, stories and artwork; elements of languages, such as names, geographical indications and symbols; and, movable cultural properties. Excluded from this description of Traditional Knowledge would be items not resulting from intellectual activity in the industrial, scientific, literary or artistic fields, such as human remains, languages in general, and other similar elements of “heritage” in the broad sense.*<sup>755</sup> To add more, Traditional Knowledge is not tried and tested in the laboratory, it is the result of the struggle for survival. With time, it became a part of culture, customs, identity, etc. of a particular community which were protected by their customary laws, taboos, fear, rituals, etc. Traditional Knowledge also consists of those knowledges which are not aged old. The Traditional Knowledge holders are not only the local communities or the indigenous communities, they are also individually owned and State owned. Though, the Traditional Knowledge holders have been categorized in this manner, but it is often confusing and misleading as to whether the leader or leaders of a particular community or the whole community is the owner and if the whole community owns then whether a clan, sub-clan or lineage group owns it. Even within a community, every Traditional Knowledge is not shared with everyone. In the West, Traditional Knowledge is always collective in nature rather than being individual and it is shared free even if property rights exist. Thus, there is a need for a very definite definition of Traditional Knowledge and better categorization of Traditional Knowledge ownership.

It is a known fact that the current international system for the protection of Intellectual Property was established in the West during the period of industrialization and was developed in accordance to the need of the technologically advanced societies. Taking in view the current international system, the IPR laws all over the world were enacted. The need for proper protection in the developing countries, mostly Asian countries like India, Thailand, etc. have been felt since many decades but no answer has been

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<sup>755</sup> World Intellectual Property Organisation, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Third Session, June 13 to 21, 2002, Geneva, WIPO/GRTKF/IC/3/9, available at: [https://www.wipo.int/edocs/mdocs/tk/en/wipo\\_grtkf\\_ic\\_3/wipo\\_grtkf\\_ic\\_3\\_9.pdf](https://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_3/wipo_grtkf_ic_3_9.pdf) (last visited on April 26, 2020).

provided to it. India has framed many Intellectual Property laws but somehow all these laws do not provide protection to the Traditional Knowledge of India and its people. Since the time of colonial period the Traditional Knowledge of India has been exploited and it has continued till date. Time and again there arises cases of biopiracy, misappropriation, misuse, etc.

There are certain issues which make it difficult for the protection of TK. Some of them are lack of inappropriate legal systems, devolution, bioprospecting rush, bio-piracy and clash of legal system of the countries respectively.<sup>756</sup> TK was regarded as public domain which lead to free exploitation without acknowledging the efforts taken by the communities to preserve and promote them. Internationally, the laws for the protection of TK have to be in accordance of TRIPs. Various laws are there which provide protection to certain aspects of TK of India. These laws are the Designs Act, 2000; Trade Mark Act, 1999; the Copyright Act, 1957; the Patents Act, 1970; the Geographical Indications of Goods (Registration and Protection) Act, 1999; Protection of Plant Varieties and Farmers' Rights Act, 2001 respectively. Furthermore, defensive protection is also provided with the establishment of TKDL. But somehow, there exists a need for the enactment of sui generis legislation for the protection and preservation of TK. If the Patent Act of 1970 is taken into consideration, Section 2 (1) (j)<sup>757</sup> along with 3 (p)<sup>758</sup> of the Act do not permit the patenting of TK even by the knowledge holders themselves. But several cases of bio-piracy of TK from India like the patent on wound healing properties of haldi, hypoglycemic properties of karela, biopesticide and medicinal properties of Neem, basmati rice case, etc. make it questionable regarding the patenting of TK. India is inhabited by different communities, ethnics, tribes, etc. but there exists no protection of their TK and acknowledgment of their rights.

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<sup>756</sup> Protection of Traditional Knowledge in Indian Patent act, *available at*: <http://www.goforthelaw.com/articles/fromlawstu/article76.htm#:~:text=As%20of%20now%2C%20India%20does,developing%20such%20legislation%5B8%5D.&text=A.,medicine%20in%20India%20for%20century's>. (last visited on April 29, 2020).

<sup>757</sup> Inventions means a new product or process involving an inventive step and capable of industrial application.

<sup>758</sup> An invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of traditionally known component or components.

Sikkim is one of the Indian states which is very rich in biodiversity and Traditional Knowledge. There are three ethnic communities in Sikkim which are the pillar and backbone of Sikkim. All the three communities are equally rich with regards to Traditional Knowledge. The Traditional Knowledge of both the Lhopo and Renjongmu communities are almost the same. This must be one of the reasons why they are regarded as the same and the term BL (Bhutia-Lepcha) is used to address them. While conducting this research it came to realization that there is not much difference between the Lhopo and Renjongmu communities and they have been living in peace and harmony with what the nature have offered to them since many centuries. What they needed for survival later on became principle to live their lives and formed a part of their identity. What they did for survival form the part of their Traditional Knowledge. TK can be categorized into Cultural Knowledge, Artistic Knowledge, Medicinal Knowledge, Biodiversity or Natural resources Knowledge, Agricultural Knowledge and Sacred Knowledge. Both the communities have rich knowledge regarding all the categories of TK.

Both of the communities are very rich in cultural expressions, they have folklores regarding the rivers, mountains, trees, animals, lakes, land, etc. of Sikkim. They have their own set of music and dances, rituals, ceremonies, festivals, jewelries, handicrafts, art, signs and symbols, architectural forms, narratives, etc. It can even be said with regards to this study that, almost all the practices of TK of both the communities are same. According to the Sikkim Forest Department, there are 242 medicinal plants approximately and some of the medicinal plant properties are known to almost all of the Sikkimese. Medicinal plants are found in almost all the parts of Sikkim, especially in higher altitude areas of Sikkim. Both the communities are the knowledge holders and have knowledge regarding medicinal plants. The Lhopos use medicinal plants for various rituals like men-chu, birth rituals, etc. There are some plants in Sikkim whose medicinal properties are known to almost all the Sikkimese, irrespective of communities. They also have vast knowledge regarding biodiversity, and both the communities have knowledge regarding it as they have protected, worshipped, and nurtured since a very long time. As it a known fact that both the communities had lived their life practicing agriculture, and developed various techniques after various trials. The elder Lhopo and Renjongmu people who are above the age of 60 have a good knowledge regarding their TK. They used to practice all those in their day to day life

and though most of them do not practice it now, still have knowledge regarding it. The lifestyle now has mostly changed and most people from these communities do not follow such practices. There are other problems that add on to it, various issues that has led to misappropriation of TK in Sikkim has been mentioned in the following paragraphs.

TK is very important so, it is very essential to provide protection to TK and to recognise the rights of TK holders. The indigenous or tribal communities have used their intellect and understanding to come up with such knowledge. The lack of specific legal framework has in many ways caused misappropriation and theft of such knowledge. The issues related with TK have been highlighted, discussed and debated from ages but still there are no positive outcomes of the same. Hence, it is necessary to either amend present acts to include protection provision for TK or legislate a sui generis legislation. Time and again the need for specific legislation has been felt. A sui-generis law must be established to provide protection and to acknowledge the rights of TK holders. With the absence of specific law there has been various cases of biopiracy. In Sikkim the importance of TK is not known to everyone therefore, there are various cases of theft and misappropriation of bioresources. Thus, a strong legislation is necessary to put a control over it. Apart from absence of legal framework the failure on the part of administrative officials add to the issues related to TK. In the preceding chapters we discussed how the BMCs, Forest officials fail to comply with the provisions. Furthermore, the penalties that are awarded in prevailing acts are not stringent enough to put control to the issues that are related to TK. Hence, a sui generis legislation must be framed with stringent penalties.

With technological development, people have started to question the logic behind Traditional Ecological Knowledge, especially people from the age of 18 to 35, belonging to upper middle class and middle-class families. In the past, people followed all the rituals rigorously through religious mythology but these days people have started to question and demand logical and scientific rationale for the ritual rules. With education in one hand and science and technology in the other hand (especially medical) people have started to lose faith in the rituals and practices which were passed on from generation to generation. This is one of the reasons for loss of TK of tribal communities. Similarly, modernization is one of the biggest challenges and one of the

reasons why it became difficult for both the communities to protect and preserve most of their TK. The lifestyle of these communities was regarded as backward and poor people's lifestyle. Youths regard the traditional lifestyle as the harder way of life and did not practice it. They are more attracted towards western culture and these days the youths of Sikkim are attracted towards Korean culture. When the elderly persons of both the communities share their knowledge, they often lack appreciation from the youths. Their knowledge is often disrespected and are not taken into consideration. This further leads to distance from the TK and the importance of TK.

The other reason for loss of TK is because most of the traditional foods, traditional items, etc. are easily available in the market these days which encourages the people from both the communities to prepare all those less. They just have to pay and those items are easily available. It is good that some economic benefit (not much) is being generated through some of the TK of both the communities but this has a negative impact in the long run is, it will be known to other communities as well and if one can buy then one will not prepare it. For instance, the prayer flags (locally known as dhaja) were made by both the communities at home by themselves, they used to print the mantras on the prayer flags by themselves and it required lot of hard work. But now it is easily available in market at a relatively low price so the practice of making prayer flags at home have stopped. Even the sungdi (holy rope to wear around neck) were made out of wool but now due to its availability in market, this is also not made but bought.<sup>759</sup> As it becomes easily available in market, people tend to lose its value and even forget the way it is made or prepared. Most of the elderly persons have knowledge regarding all the aspects of their Traditional Knowledge but it is not put into practice. One of the reasons for the loss of the Traditional Knowledge is lack of practice in this contemporary time. In most of the villages the elderly persons do practice it but after them their children, their grandchildren will not walk in his footsteps. They won't make necessary items out of the bamboos or use plant medicine, what they will do is they will buy it directly from the market. They do not have the interest to follow the hard ways of making such items.

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<sup>759</sup> *Supra* note 132.

Hence, with the food available in the market all year long, most youths these days have little idea regarding the seasonality of vegetables, grains, beans, rice, wheat, etc. and how these are grown. Foods are supplied all year in department stores, retail shops, etc. which have made the traditional agricultural practices lose their values. With the dependency in tourism and being it a very good source of income, the agricultural lands are used to construct hotels, resorts, etc.

Some TK are related to religion and some are related to the land. Since the first religion accepted by both the communities is Buddhism. The Buddhism that both these communities have been following is quite different than the Buddhism which the whole world follows. It has unique practices but the people of these communities are converting into different religion, which has led to loss of unique traditional practices. In the past, among the two communities, it was seen that the Renjongmus were the ones who left Buddhism and accepted Christianity but now even the Lhopos are converting into Christians. Conversion of religion has caused loss of religion-based TK of both the communities.

Education plays an important role in human life and in this contemporary world, right to education is a human right which makes it available for every human being. Only if the people are literate then a society or a country is regarded as on the phase of development. Only if they are educated they can understand the importance of culture, religion, traditions etc. But, there is no provision for teaching the essential of TK at schools, the aspects related to TK of both the communities are not taught, even the historical background has been left behind. This also leads in forgetting the importance of TK.

Lastly, influx has also caused a huge damage in the process of preservation and protection of TK. There is undoubtedly steady rate of influx in Sikkim. The percentage of influx is very high in Sikkim and this is a very vital threat to the three ethnic communities of Sikkim. Between 1991-2001, the growth in the population had increased by 33.06% more than that of the whole country, India (21.54%) and during the year 2001-2011 it was 12.89% keeping in view the low fertility rate of 1.2% being



the lowest in country.<sup>760</sup> When a person or persons migrate from one place to another, they bring certain aspects of their TK and start to practice in the place they have migrated. This also leads to mixing of traditional practices, the original TK is disturbed and various new things are added or adopted. Passing away of elders without transferring the TK to the younger generations. The migration of youths to big cities in India and abroad for a better life or job opportunities causes loss in the preservation of TK.

There are other unknown factors too, but the problems that are highlighted above are adversely affecting the TK of Lhopos and Lepchas Communities of Sikkim. With these situations at hand and other new increasing issues there is a need to adopt new policies or methods to stop the misappropriation of TK of Sikkim. The following pages includes various suggestions that Sikkim Government can adopt or incorporate to protect TK.

### **Suggestions**

Most of the suggestions provided for the protection of TK are proper documentation, sui generis system, innovation patent system, proper implementation of existing IP laws, etc. Even if all these suggestions are taken into action and there is no recognition at the international level then the TK of the local or indigenous communities cannot be protected. The patenting of Neem, Haldi, etc. at USA are the instances where it can be seen that if there is no international protection to the TK of communities then it is not protected at all. No matter what steps India take for the protection, if those steps are not recognized at international level then it is of no use. The indigenous or local communities are the ones who have performed experiments in the laboratory of nature and have sustainably used the biodiversity resources, have protected those resources with rituals and taboos. And to honour them and their hard work, protection should be made at the international level first, which should be followed at the national level. There should be some changes made to the WTO, CBD and such to provide protection to the TK of local or indigenous communities. Right now, most of the TK around the world are not exploited and if the interest of these communities is taken up in

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<sup>760</sup> Unabated influx in Sikkim – It’s time to stop the buck! *available at:* <https://www.thesikkimchronicle.com/unabated-influx-in-sikkim-its-time-to-stop-the-buck/> (last visited on May 1, 2020).

international level then they will have the opportunities to develop certain aspects of their TK for commercialization which will benefit them and provide them a better standard of living.

- **Documentation of Traditional Knowledge of both the Communities**

WIPO highly recommends the documentation of TK as it is suggested that this is one of the vital ways of guaranteeing social, cultural and economic interests of indigenous and local communities.<sup>761</sup> This will provide a defensive protection from wrong patent claims. With proper documentation the TK and the rights of TK holders won't be jeopardize. The documentation must be proper and also made available to the third party, so that there are no wrong patent claims. There are certain pros and cons of documentation which has to be considered thoroughly on a case to case basis. Furthermore, secret or confidential TK should be managed cautiously. The main objective of documentation has to be protection of TK from misappropriation, misuse or exploitation. While documenting, the customary laws and practices and rights of the communities with regards to their TK must be taken into consideration.

- **Sui Generis System of Protection**

The legal term 'sui generis' means "unique or of its own kind". WIPO is having a hard time to satisfactorily protect TK from getting patent right and is working towards development of universal framework for the protection of TK but the progress is very slow, which puts the country to be responsible to determine the legislation and protection mechanism on how TK can be protected. The cases of biopiracy and cultural appropriation are really huge that a need for sui generis legislation can be an appropriate answer. This sui generis legislation should include customary laws, practices and the ways which the communities, TK holders have used to preserve and protect it. Sui generis legislation can be a combination of IP laws, customary laws, benefit sharing, provisions and contractual agreements or combination of IP law and any of the mentioned earlier. One of the examples is of Panama.<sup>762</sup> Panama have come up with

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<sup>761</sup> WIPO, *Documenting Traditional Knowledge – A Toolkit*, 9 (WIPO, Switzerland, 2017).

<sup>762</sup> *Sui Generis Systems for the Protection of Traditional Knowledge*, available at: <https://www.redalyc.org/pdf/824/82400609.pdf> (last visited on May 1, 2020).

one such sui generis legislation named “Panama’s special system for registering the collective rights of indigenous people’s for the protection and defense of their cultural identity and traditional knowledge and setting out other provisions” and this initiative of Panama is regarded by WIPO as the first comprehensive system of protection of TK in the world.<sup>763</sup> The Sui generis law that India could adopt should provide IPR to the community as a whole regarding the community based TK and provide monopoly to them for indefinite period of time which will pass on to the coming generations. In terms of benefit sharing, the licensee should pay to the community until he uses that knowledge as per the agreement or should share the benefits with the community. The TK should belong to the indigenous or local communities, TK holders, or individuals. Dr. Balavanth S Kalaskar in his article has stated that “Sui generis law should be the combination of intellectual property law, customary law, equitable benefit sharing provisions, provisions for the rights of farmers and breeders, provisions of prior informed consent, provisions of contractual agreements and provisions of disclosure of origin of biological/genetic resources. It is the best system of law for the protection of TK. It will better protect the rights and interest of TK holders and will intend for the wider application of the knowledge, innovations and practices of indigenous and local communities with the involvement of such Knowledge holders, innovations and practices.”<sup>764</sup> Every country like India who are rich in TK should enact a Sui generis law and appeal for the recognition of it at international level for its effective implementation.

- **Traditional Knowledge Docketing System (hereafter referred to as TKDS)**

R.S. Praveen Raj, Senior Scientist and Former Examiner of Patents & Designs at India Patent Office, is of the view that the codification of community held TK through TKDL should not be attempted even with ‘prior informed consent’ and ‘access and benefit sharing’ as it would prove to be a gross injustice to those communities because the knowledge would be shared with patent offices or researchers and would affect the livelihoods of TK practitioners.<sup>765</sup> Rather than TKDL, TKDS would be an effective

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<sup>763</sup> Balavanth S Kalaskar, “Traditional Knowledge and Sui generis Law” 3(7) *IJSER* 6 (2012).

<sup>764</sup> *Id.* at 7.

<sup>765</sup> R.S. Praveen Raj, “Traditional Knowledge Docketing System, (TKDS) for Protecting Rights of Indigenous Communities” 2, 3, 4 (1) *Journal of Traditional and Folk Practices* 66 (2016).

method to protect TK of various communities. With the help of TKDS the community that possesses the TK will be indicated together with the location, and a short description of the nature of the TK and if there is any community protocol, that as well will be shown.<sup>766</sup> TKDS in-situ may provide better protection to TK and recognise the rights of specific communities too.

- **Innovative Schooling**

While framing the Education policy, TK should also be taken into consideration and should be included in the syllabus of the language subject. Like in Sikkim, various state languages are taught in school and college level. Certain aspects of TK should be added in the syllabus of every class. This way everyone will have knowledge regarding their TK. Like for instance, in Bhutan a person has to take up a course to become a tourist guide where he will be given knowledge regarding their culture, customs, traditions, etc. and at last have to clear an exam to become a tourist guide. Through learning in schools and colleges, the subject of TK will be less prone to vanishing. In Canada and Australia, outdoor classrooms are conducted so that the children can connect to the place with the use of oral history and the local communities of Bahamas are taught biodiversity conservation.<sup>767</sup>

- **Traditional Knowledge Day**

The first of its kind seminar on TK was held by (National Law University and Judicial Academy) NLUJA, Guwahati Assam in their own premise. It was a national seminar with title “Effective Protection of Traditional Knowledge and Cultural Expression: National and Community Experiences”. In this seminar various issues relating to TK was expressed and various issues were suggested regarding the protection of TK by various dignitaries. Among them one was celebration of “Traditional Knowledge Day”. This will be a very good initiative to spread awareness regarding the importance, protection and preservation of TK. In Sikkim, 18<sup>th</sup> January has been declared as Sikkim

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<sup>766</sup> *Id.* at 65.

<sup>767</sup> Emerging trends in the generation, transmission and protection of Traditional Knowledge, *available at*: <https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2019/04/TK-Emerging-trends-in-the-generation-transmission-and-protection-of-TK-final-paper.pdf> (last visited on May 3, 2020).

Organic Day and is to be celebrated every year. In the same way, one date should be declared as “Sikkim Traditional Knowledge Day” with an issuance of notification and should be celebrated just like ‘Sikkim Organic Day’. On this day, every communities of Sikkim should wear their traditional attire, cook traditional food, and showcase their other forms of TK. Even the individual TK holders should showcase their TK. The traditional sports should also be given encouragement and the youths should be made to participate.

Every state can adopt to celebrate ‘Traditional Knowledge Day’ to spread the importance of TK. And even India can adopt this initiative to spread the importance, preservation and protection of TK, “National Traditional Knowledge Day”. Just like Yoga Day is celebrated by the world, Traditional Knowledge Day should also be celebrated internationally. On this very date, the world will embrace its diversity where every community member will be dressed in their traditional attire, preparing their traditional food, living their traditional ways. The world will surely become one place on that day and relive its past.

- **Awareness**

The level of awareness is very low in terms of the importance of TK. It is a known fact that the way to practice TK are very difficult and time consuming. With urbanization, most people do not want to practice it. There are many Associations in Sikkim regarding the two communities. Some are combined association like Sikkim Bhutia Lepcha Apex Committee (SIBLAC), Bhutia Lepcha Protection Force, etc. and some are community-based associations like Sikkim Indigenous Lepcha Association, Bhutia Kay-Rab Yargay Tshogpo, etc. All these associations are working on their own ways to safeguard both the communities and should also work towards spreading awareness through social media, awareness campaigns, and such. In every villages or areas there are small associations of Lhopos and Renjongmus and they should work towards spreading of awareness regarding the importance and preservation of the vanishing TK of both the communities in village levels. The main focus should be the youths who have now started to question the logic behind the TK and search for a scientific (especially medical) reason to follow it.

The biodiversity-based knowledge and medicinal plants knowledge used to be very rich in Sikkim and people earlier used to use medicinal plants to treat most of the illness. Most of the elders still have knowledge regarding to these but, they hardly apply it. People have lost the importance of such knowledge as everything is available in the market and money can buy almost everything these days. They even do not know that the Medicinal plants-based knowledge has helped the pharmaceutical sector to grow and have saved their time and money for research initiatives. These medicinal plants knowledge is not given much importance these days due to easily availability of allopathy in Sikkim. Therefore, people must be made aware regarding the importance, preservation and protection of TK. Furthermore, awareness regarding the IPR laws should also be made to all the communities and TK holders of Sikkim.

- **IPRs Policy of Sikkim**

The State of Kerala has taken up the initiative to protect TK through the IPR Policy of Kerala, 2008 which was created after three years of consultations, vide Government Order (P) No. 4/2008/Law. The Chief architect of this policy is Prof. Prabhat Patnaik, a reputed economist from Jawaharlal Nehru University who also happens to be the Vice-Chair of the Kerala State Planning Board and Praveen Raj, a scientist and an expert examiner.<sup>768</sup> Experts in India feel that the law on the protection of TK should be based on the IPR Policy of Kerala, 2008.<sup>769</sup> The strategies that the Central Government has taken are commonly labelled as “defensive” approaches to the protection of TK but the Kerala Government had taken a step further and had attempted on “offensive” protection to TK by creating property interest around this knowledge.<sup>770</sup> According to Section 4 of the policy, the legal arrangement for the protection of all TK, including traditional medicine, the practice of which sustain livelihoods, must belong to the domain of “knowledge commons” and not “to the public domain”. Knowledge commons refers to the commons as the diverse array of publicly owned assets, gift-economies and natural systems that function in tandem with markets. The most

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<sup>768</sup> “Traditional Knowledge” in Kerala: God’s own “Open Source” Policy?, *available at*: <https://spicyip.com/2008/07/traditional-knowledge-in-kerala-gods.html> (last visited on October 18, 2019).

<sup>769</sup> Caution on classifying Traditional Knowledge under IPR, *available at*: <https://www.thehindu.com/news/national/kerala/caution-on-classifying-traditional-knowledge-under-ipr/article7589338.ece> (last visited on October 5, 2019).

<sup>770</sup> *Supra* note 768.

important part of this policy is the distinction drawn between the TK which belongs to particular communities especially tribal communities, or particular institutions, or particular families, often located in specific regions, and passed down from one generation to the next in a variety of traditional ways and the TK which does not have any specific community or family custodian and is practiced for sustaining livelihoods of many people living across the state.<sup>771</sup> For instance, Kotakkal Ayurvedic massage belongs to the first category and the practice of Ayurvedic medicine by numerous practitioners belongs to the second.<sup>772</sup> In the case of knowledge of the first category which has a community or family custodian, this custodian will be deemed to have rights over the knowledge, and in the case of the second category, the state of Kerala will be deemed to have rights over the knowledge.<sup>773</sup> This policy has created property rights with regards to TK of Kerala but in a restricted manner. The right holders will have two kinds of rights. Firstly, the right where applicable, to a brand name or a name associated with the unique practice of an institution or community or family, such as ‘Kotakkal massage’ and secondly, the right to use the knowledge.<sup>774</sup> If anybody other than the right-holder to the TK wishes to use the knowledge, they will have to do so under the “commons license”.<sup>775</sup> And if any kind of violation in practice of the commons license or any use of TK within or outside the state of Kerala is found then it will be considered as a violation of the rights of the right-holders and will be prosecuted.<sup>776</sup> Under the commons license, the right-holder can permit others to use the knowledge over which the right is held for non-commercial purposes. If any kind of development is made using this knowledge, then under the conditions of this license this development will have to be put back into the TK “commons” and patent will not be granted anywhere. And if any entity uses the TK commercially other than the right-holder, then the terms and conditions in which they can use has to be negotiated between the right-holders and the other potential user. In the case of second category of TK, where the Kerala state is deemed to be the right-holder, it is presumed that except medium and large enterprises, all those practitioners of this category of knowledge of Kerala are granted automatic license for commercial use by the right-holder, but those

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<sup>771</sup> The Intellectual Property Rights Policy for Kerala 2008, s. 3.

<sup>772</sup> Intellectual Property Rights Policy for Kerala 2008, *available at*: <https://www.wipo.int/edocs/lexdocs/laws/en/in/in048en.pdf> (last visited on October 10, 2019).

<sup>773</sup> *Supra* note 771, s. 4 (ii).

<sup>774</sup> *Id.*, s. 4 (iv).

<sup>775</sup> *Id.*, s. 4 (v).

<sup>776</sup> *Id.*, s. 4 (vi).

practitioners are not allowed to transfer this right of commercial use to anybody else, only the state of Kerala has this right.<sup>777</sup>

Kerala had lost several of its TK rights in the past regarding healthcare, food and food supplements as well as on designs and cultural properties because the Government did not provide support to knowledge holders. One of such example is losing the trademark rights on Jeevani tea and nutrition supplement to the US-based Nutriscience Inc. Keeping this in mind, one can understand a deep seated distrust on corporate or MNCs in the policy.<sup>778</sup> As it states that “no entity that is registered as a medium or large enterprise may be deemed to have any rights over TK”.<sup>779</sup> The main threat in the protection of TK is that the legal framework is not sufficient enough to protect the users TK against the loss of livelihood which will arise from misappropriation of such knowledge by the MNCs. The main reason for such misappropriation is the lack of codification of TK which makes any legal action against the usurpation of the rights to users of such knowledge difficult. The policy does appreciate the codification of TK that has taken place in the case of Ayurveda and believes that such codification must take in other field of TK as well. Codification does prevent direct misappropriation of TK but will not be able to prevent indirect misappropriation, or misappropriation at one remove, after some minor modification. It can be said that codification even facilitates such indirect misappropriation.<sup>780</sup> For all the enforcement and maintenance of the rights, a body has to be set up called the Kerala Traditional Knowledge Authority (hereafter referred to as KTKA) which will even create and maintain a register of traditional practitioners, under the legal arrangement mentioned in this policy.<sup>781</sup> This Authority is funded by the State Government and administered by a Board which will consist of a Chairman and four members, of whom at least one member must be from the TK community and the scientific community.<sup>782</sup>

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<sup>777</sup> *Id.*, s. 7.

<sup>778</sup> *Supra* note 768.

<sup>779</sup> *Supra* note 771, s. 4 (iii).

<sup>780</sup> *Id.*, s. 8.

<sup>781</sup> *Id.*, s. 6.

<sup>782</sup> *Ibid.*



Furthermore, for the additional protection of TK associated with the use of biological resources, which is one of the most important sources of livelihood, the Biological Diversity Act 2002 is also used.<sup>783</sup> This Act will prevent the misappropriation of TK associated with the use of biological resources by the foreigners and the Indian corporates.<sup>784</sup> Section 11, 12 and 13 of the Policy deals with the additional safeguard to TK associated with the use of biological resources at large. Section 13 of the Policy laid down emphasis on the protection of other forms of TK as well, it states, “for the protection of other TK the KTKA mechanism suggested earlier is all that can be provided but that should be quite strong”. The IPR Policy of Kerala 2008 lays down much concern on the commercial utilization of TK, ownership rights regarding the TK along with setting up terms and conditions of its usage and right-holders.

In short, the major issues which are addressed by the IPR Policy of Kerala 2008, is with regards to protection of TK and biodiversity associated TK are:<sup>785</sup>

- i) There is no sufficient codification of TK;
- ii) TK does not have any formal mode of transmission;
- iii) TK does not fall within the ambit of any legally defined IPRs;
- iv) TK largely remains outside the domain of capitalists is a very advantageous factor.

Certain questions have been raised with regards to the Policy. There seem to be a dismay regarding dedication of all TK to the term “the realm of ‘Knowledge Commons’” and a question had been raised whether it means a compulsory “open source” type policy. If the answer to this is yes, and if there is grant of patents in relation to TK which is not closed under this policy, will these be subject to an automatic compulsory license?<sup>786</sup> Another important point to be noted is that all the IPR laws fall

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<sup>783</sup> *Supra* note 771, s. 9.

<sup>784</sup> *Id.*, s. 10.

<sup>785</sup> *Supra* note 768.

<sup>786</sup> Kerala’s IPR Policy, *available at*: <https://spicyip.com/2008/06/keralas-ipr-policy.html> (last visited on October 19, 2019).

within the Union list which make them issues to be legislated only by the Central Government, does not this mean that the Kerala Government Policy will be subject to the Indian Patents Act? Law Secretary B. G. Harindranath has said that “as per the Constitution, the state has no legislative competence to introduce the TK bill. Only the Parliament can introduce that.”<sup>787</sup> It might mean that in spite of the policy, the Kerala Government may not be able to implement the “compulsory license or open source” type policy envisaged for ‘property rights’ related to TK.<sup>788</sup>

After the introduction of the IPR Policy by Kerala Government, the Kerala Government has taken a step by introducing IPR as a compulsory subject in schools and universities.<sup>789</sup> The Government has directed the universities to include IPR law in the syllabus at the degree level from the academic year 2009. One of a senior official in the state education ministry said to the media that there will be five or six centres of excellence at initial and these centres will provide degree level classes to students in all five universities and its affiliated institutions.<sup>790</sup> Faculty will also be provided. R.S. Praveen Raj, a scientist at the Intellectual Property Management and Technology Transfer office, National Institute for Interdisciplinary Science and Technology had said that the move taken by Kerala Government of inclusion of IPR in general education will provide help to overcome the severe shortage of professionals in the field of IPRs and related areas in India.<sup>791</sup> Traditional Knowledge Protection Bill presented by MP of Kerala, Shashi Tharoor in the Parliament in the year 2016, was also supported by the members of the Government of Kerala.<sup>792</sup>

Just like the State of Kerala had come with IPR Policy for the protection of TK of its land and people, Sikkim should as well take such initiative. It should focus more on protecting the rights of the communities and TK holders over their TK. Even ‘trade secret’ protection should be made available to TK. The community or TK holder should

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<sup>787</sup> Traditional Knowledge Protection Bill gathers steam in Kerala, *available at*: <https://timesofindia.indiatimes.com/city/thiruvananthapuram/Traditional-Knowledge-Protection-Bill-gathers-steam-in-Kerala/articleshow/54302952.cms> (last visited on October 22, 2019).

<sup>788</sup> *Supra* note 786.

<sup>789</sup> Kerala to introduce intellectual property rights a subject, *available at*: <https://www.livemint.com/Politics/Hu0Nm53L8y6cLkFauSVxhP/Kerala-to-introduce-intellectual-property-rights-as-a-subjec.html> (last visited on October 20, 2019).

<sup>790</sup> *Ibid.*

<sup>791</sup> *Ibid.*

<sup>792</sup> *Supra* note 787.

have monopoly over their TK and the benefits must be given to the particular community which owns it. Along with the benefit of the society, financial interests of the TK holders as well as the community should be focused on by the policy.

- **Role of BMC**

Under Section 41 of Biological Diversity Act 2002, every local body shall constitute a BMC within its area for the purpose of promoting conservation, sustainable use and documentation of biological diversity. With regards to this Section 41 of Biological Diversity Act, 2002, in every GPU in Sikkim BMC has to be constituted through open election in Gram Sabha.<sup>793</sup> The function of the BMC is to prepare, maintain and validate People's Biodiversity Registers (PBR) consulting the local people, and to maintain data about TK practitioners who uses the biological resources. In the protection, preservation and documentation of Biodiversity related TK, BMC plays a very vital role and it is even the custodian of PBR ensuring the protection of knowledge recorded in the PBR.<sup>794</sup>

BMC has a very big responsibility in their shoulders and whether they are performing their functions well have to be checked upon. In Sikkim, every GPU do not have BMC and the Biodiversity based TK are not recorded in those areas.<sup>795</sup> The implementation of Section 41 of Biological Diversity Act 2002 is not taken seriously and the Government of Sikkim have to implement it to fight biopiracy. Most of the initiatives are only there in written form and are not applied practically.

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<sup>793</sup> Biodiversity Management Committee, *available at:*

<http://sbbsikkim.nic.in/bmc.html#:~:text=Every%20local%20body%2C%20in%20accordance,races%2C%20folk%20varieties%20and%20cultivars%2C> (last visited on May 5, 2020).

<sup>794</sup> People's Biodiversity Register (PBR): Technical and Administrative Manual, *available at:*

<http://mpsbb.nic.in/pbr/PBR%20Manual%20and%20Format%20-%20English.pdf> (last visited on May 5, 2020).

<sup>795</sup> Information gathered while conducting interview with Mr. Bijay Pradhan, Panchayat President of Samlik-Marchak GPU under Rumtek-Martam Constituency, on July 24, 2019 at 11:45 a.m.

- **Language**

Language plays the most vital part in the transmission of TK and through language it is encoded and expressed. One of the main reasons why TK is vanishing and is not being transmitted by elder generation is because of the use of other languages by the youths. Those people who no longer use their mother tongue have very less access to their TK as they cannot remember the vital information regarding subsistence, health and sustainable use of natural resources. Language also plays a vital role in linking cultural and biological diversity. It is often said that a language goes extinct every four months and most languages get enlisted in endangered list.<sup>796</sup> Though languages are taught in school and college but interacting with the school level students seemed that they are not fluent in speaking, writing or reading. They are weak in grammars. For the protection and preservation of TK, language should be given more emphasis. The contemporary era youths are not comfortable in using their mother tongue and often uses another language. These days in Sikkim, Korean language, culture, etc. is in air among the youths. It is essential for people to know, and understand their language, only if they know their language the TK can be documented. Protection of language is protection of TK, as all of the terms related to TK are in the native languages.

- **Digital Technology**

Technology is what has made the world a very small place. And what is taking over the youths of world. Through digital technology, innovative products can be designed and manufactured which will give priority to the knowledge holders and can be a medium to transmit TK. There are certain digital storytelling apps which can help in transmitting TK within a community. In many regions it is proving to be helpful in preserving TK and passing it to the younger generations.<sup>797</sup> Australia has adopted it to tell stories of Aboriginal peoples of Australia. In the same way, Sikkim as well as India can adopt the way of digital technology to preserve and pass on the TK to the younger generations.

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<sup>796</sup> Endangered Languages: Why are so many languages becoming extinct? *available at:* <https://www.communicaid.com/business-language-courses/blog/why-are-languages-dying/> (last visited on May 7, 2020).

<sup>797</sup> Digital Technology and Indigenous Knowledge, *available at:* <https://pdfs.semanticscholar.org/6cce/cfd56c0ce25a8a6bd46673a0ea5626c4eb75.pdf> (last visited on May 7, 2020).

- **Women**

Within a community, a woman holds more TK than a man. Like Vandana Shiva has said, women do not need any empowerment, they are already empowered and they hold the power in them to shape the world by nurturing the coming generations.<sup>798</sup> Women do hold most of the TK and are custodians as well. They hold knowledge regarding biodiversity conservation, sustainable use of resources, agricultural practices, raising the children, horticultural practices, traditional foods, etc. A child spends most of the time with the mother and through her most of the knowledges are transmitted to the child. Every woman in the family should be respected and given importance. What the mother does is followed by the children. For transmission and sustainability of TK across generations, women play a very vital role. And when a woman of a particular community marries outside of her community then the TK will slowly start to get lost. It is her who will upbring the child and the TK of her community which she had known, practiced since her childhood will be of no use to her child who will have the roots from the father's side.

- **Importance to Blood Brotherhood Treaty of the Lhopos and the Renjongmus**

The legend of the Blood Brotherhood Treaty of the Lhopos and Renjongmus which was sworn at Kabi Lhungtok is slowly losing its value. The Lhopos and Renjongmus are blood brothers but in this contemporary era, most of them belonging to these communities (especially the younger generations) do not give importance to this treaty. While doing field survey, it came to realization that these communities do not support each other and the brotherhood which is one of the marks of history of Sikkim is getting loss.<sup>799</sup> The younger generations do not have much information regarding this treaty and they do not value it. Without the Renjongmu community, the Lhopo community will lose its value and vice versa. Though most of the TK of both the communities are the same, it is advisable to support each other and respect each other. Both the

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<sup>798</sup> The Formal Economy as Patriarchy: Vandana Shiva's Radical Vision, *available at*: <https://deeply.thenewhumanitarian.org/womensadvancement/community/2018/03/01/the-formal-economy-as-patriarchy-vandana-shivas-radical-vision> (last visited on May 8, 2020).

<sup>799</sup> Information gathered while conducting interview with Mr. Dorjee Tempay Lepcha, Marchak, East Sikkim on February 18, 2020 at 5:56 p.m.

communities hold an important place in the legislative assembly of Sikkim with 12 seats reserved for BL (out of which one seat is allotted to Sherpa community even though they do not fall in the category of Lhopo or Renjongmu) and 1 for Sangha out of 32 seats. When a political right is protected then only other rights can be protected but here in Sikkim, it is seen that the TK of Lhopos and Renjogmus whose political rights are reserved are slowly vanishing. The ones who become MLAs through these 12 seats have the obligation upon them to protect and preserve their communities' TK as well as the communities.<sup>800</sup>

One of the questions in my questionnaire was regarding the suggestions to preserve TK of both the communities. Most provided similar suggestions. Among all the suggestions, the most vital ones are mentioned below. The people of both communities feel that if there is active participation of both communities in the process of preservation and transmission of TK, then it can be preserved sustainably. For that, it has to start from every household and certain aspects of TK should be practiced in every household. These days the youths, especially the male, do not know how to even wear the Traditional attire neatly and properly, they need support from someone who knows how to wear to tie their Kho. They do not seem comfortable at all in their traditional attire. For this, traditional attire should be made compulsory when visiting gyempa (monastery) every time and even when visiting offices just like in neighbor country of Bhutan. What the elites of the communities do influence almost all of the communities, if they work towards protection and preservation then the rest will surely follow. Instead of talking to their children in English, they should use the mother tongue and teach the kids about aspects of TK since childhood. Furthermore, what has been seen and felt is the poor families of the two communities are very vulnerable and with some benefits adopts another religion which hampers the TK. If the elites or associations works on the upliftment of these poor families then it will be beneficial in the preservation of TK.

Another suggestion was with regards to the villages and urban areas of Sikkim where sizeable amount of Lhopos and Renjongmus live. Classes should be initiated where courses regarding every aspects of TK are taught to the young generations which can be a way of transmitting. This can be used as a platform where the elder generations

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<sup>800</sup> *Ibid.*

get time to interact with the younger generations. For the financial assistance, both the communities can appeal the State Government to name it under a certain scheme and should be made free to all the community members (free traditional education system). Firstly, there has to be unity within the community itself. Folk dances, songs traditional dishes, rituals, medicinal plants and herbs, ecological knowledge, biodiversity, etc. should all be taught. Competitions regarding certain aspects of TK should be held in each and every part of the state. Quiz, debates, programs have to be conducted timely and from every village representative should take participation in every competition regarding TK (village level competition). Just like the Churches in Sikkim have Sunday schools where the preaching relating to bible are taught and discussed, in the same both the communities can avail of such school. Every district in Sikkim should have TK institution where TK can be taught and transmitted. It can even work in the process of documentation of TK. Such institution should organize seminars and workshops to spread awareness regarding the importance, preservation, protection of TK. These institutions can even work in making lessons of TK interesting for younger generations which they will find interested in. Efforts should also be made to make animations of folk songs, dances, folklores, etc. and should be in mother tongue which the kids will find easier to learn. Even rhymes will be helpful. It can either be uploaded in social networking sites or DVDs can also be made to sell it. This institution can even set up a museum with regards to the aspects of TK of both the communities. Even a magazine relating to TK can be issued every month to protect and preserve it. It can even hold a digital library where articles, books, news, etc. relating to TK and its ways of protection can be found.

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## Appendix

### Interview Schedule regarding Protection of Traditional Knowledge of Lepcha and Bhutia Communities of Sikkim under the Intellectual Property Rights Regime

*“Traditional Knowledge (TK) refers to the knowledge, innovations and practices of indigenous and local communities around the world which is developed from experience gained over the centuries and adapted to the local culture and environment. It is transmitted orally from generation to generation and is also in written forms. The indigenous or local communities collectively own the TK and it takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, traditional medicinal system and agricultural practices, including the development of plant species and animal breeds. Sometimes it is referred to as an oral traditional for it is practiced, sung, danced, painted, carved, chanted and performed down through millennia. TK is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, forestry and environmental management in general.”*

Name:..... Resident of:..... Age:.....

Educational Level:..... Occupation:.....

1. Can you read, write or understand your mother tongue? Do you think mother tongue is important to better understand Traditional Knowledge of your community?
2. Do you know any Traditional Knowledge of your community? Kindly mention.
3. From where did you come to know about the Traditional Knowledge?
4. Do you think Traditional Knowledge is important for your community?
5. Is there any economic benefit of Traditional Knowledge for your community?

6. Is any Traditional Knowledge of your community being exploited without the consent of your people?
7. Has the Government of Sikkim/Government of India made any efforts for protecting Traditional Knowledge of your community?
8. Is your Community working towards protecting the Traditional Knowledge of your community?
9. What constraints your community is facing in preserving the Traditional Knowledge of your community?
10. What steps would you suggest for preserving the traditional knowledge?
11. Do you think some traditional knowledge of your community has vanished?