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The Intellectual Property and Alternative Legal Protection for Thai Cultural Heritage Properties, Traditional Knowledge and Products

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Doctor of Philosophy

Department of Law

Durham University

2015

Abstract

This thesis comprises a study into whether the existing intellectual property regime, a *sui generis* system, or any adaptations or modifications of them have been successfully adopted for protecting both tangible and intangible cultural property and traditional knowledge of Thailand. How other developing countries have dealt with misappropriation issues and the limitations of the current intellectual property regime has also been studied. A number of concerns about and obstacles to traditional knowledge have been pointed out: the existing intellectual property system may have increased the risk of misappropriation or unauthorised use of traditional knowledge without consent; most developing countries have no comprehensive national policies or legal frameworks covering traditional knowledge; lack of effective legislation, authorities and mechanisms associated with intellectual property; the high cost of intellectual property procedures and management; the threat to the intellectual and cultural property rights of indigenous peoples; loss of cultural traditions/ articles and biodiversity; problems with maintaining and passing on cultural expression; as well as inequitable benefit-sharing and remedies.

Intellectual property rights and traditional knowledge have become increasingly controversial globally, and sometimes they overlap. Due to the presumption that traditional knowledge is in the public domain, the current intellectual property rights regime can not efficiently and appropriately protect traditional knowledge and traditional cultural expressions/folklore, or provide equitable sharing for indigenous and local communities. Sometimes domestic legislation is insufficient, incompatible or in conflict with international intellectual property norms and policies. The most feasible solutions need to be rigorous, but flexible enough to cover the various forms of traditional knowledge and access to the generic resources of individual communities. Policy-making, development of categorisation and management of biodiversity data and local knowledge systems, effective strategies and mechanisms, international co-operation and support all need to be taken into consideration.

It would be ideal to have a single legal system to protect all forms of intellectual property; unfortunately, in reality, this is impossible. However, depending on the capacity of governments and the readiness of their people, alternative or *sui generis* rights or a combination of any regimes of both preventive and positive protection could be developed and adapted and play a complementary role to balance the interests of all parties, while the general public can still access appropriate usage and benefits. Various ideas and alternative solutions from the different perspectives of international forums and other countries are gathered, analysed, proposed and recommended here for Thailand in particular.

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Definitions

'B.E.' is the Thai Buddhist Era. B.E. year references used in this thesis can be converted to the year of the Christian Era by subtracting 543.[1]

'Biological Diversity' or 'Biodiversity' is the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.[2]

'Biological Resources' includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity.[3]

'Biotechnology' refers to any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.[4]

'Breeder' means the person who bred, or discovered and developed, a variety; the person who is the employer of the aforementioned person or who has commissioned the latter's work, where the laws of the relevant Contracting Party so provide, or the successor in title of the first or second aforementioned person, as the case may be [5]

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[1] The Buddhist calendar is a lunisolar calendar used in Thailand, Cambodia, Laos, Myanmar and Sri Lanka in different forms. For those interested in further details, please consult Herbert, P. M. and A. C. Milner (1989). South-East Asia: Languages and Literatures : a Select Guide, University of Hawaii Press.

[2] Convention on Biological Diversity, Article 2.

[3] Ibid.

[4] Ibid.

[5] International Convention for the Protection of New Varieties of Plants of December 2, 1961, as Revised at Geneva on November 10, 1972, on October 23, 1978, and on March 19, 1991.

'Cultural Heritage': the following shall be considered to be 'cultural heritage':[6]

***Monuments*:** architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;

***Groups of Buildings*:** groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;

***Sites*:** works of man or the combined works of nature and man, and areas including archaeological sites that are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

'Developing Country', 'Developed Country': countries announce themselves to be either 'developed' or 'developing' under many factors.

'Ecosystem' means a dynamic complex of communities of plants, animals, micro-organisms and their non-living environment, interacting as a functional unit.[7]

'European Union' is a European economic and political partnership between 27 member countries, as of 2013, consisting of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary,

[6] According to the Convention concerning the Protection of the World Cultural and Natural Heritage (1972), 'UNESCO World Heritage Conventions', available at http://whc.unesco.org/en/conventiontext.

[7] Convention on Biological Diversity, Article 2.

Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.[8]

'Ex situ conservation' (*Latin* — meaning 'off-site) is the conservation of components of biological diversity outside their natural habitats.[9]

'Farmers' Rights' refers to rights held by local and indigenous communities and farmers of all regions to the protection of traditional knowledge relevant to plant genetic resources for food and agriculture; the right to equitably participate in sharing benefits arising from the utilisation of plant genetic resources for food and agriculture; and, the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.[10]

'Free, Prior and Informed Consen't is a specific right for Indigenous Peoples, as recognised in the United Nations Declaration on the Rights of Indigenous Peoples, stated as the right to give or withhold their free, prior and informed consent to actions that affect their lands, territories and natural resources.[11]

'Genetic Material' means any material of plant, animal, microbial or other origin containing functional units of heredity.[12]

'Genetically Modified Organisms' can be defined as organisms in which the genetic

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[8] European Union. "Basic information on the European Union." 2013, from http://europa.eu/about-eu/basic-information/index_en.htm.

[9] Convention on Biological Diversity, Article 2.

[10] Food and Agriculture Organization of the United Nations' International Treaty on Plant Genetic Resources for Food and Agriculture, Article 9.2.

[11] Hill, C., S. Lillywhite, et al. (2010). Guide to Free Prior and Informed Consent. Victoria, Australia, Oxfam Australia.

[12] Convention on Biological Diversity, Article 2.

material (DNA) has been altered in a way that does not occur naturally. The technology is often called 'modern biotechnology' or 'gene technology', and sometimes 'recombinant DNA technology' or 'genetic engineering'. It allows selected individual genes to be transferred from one organism into another, and also between non-related species. Such methods are used to create genetically modified (GM) plants - which are then used to grow GM food crops.[13]

'Genetic Resources' are genetic materials of actual or potential value.[14]

'Geographical Indications' are indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.[15]

'Indigenous Knowledge' refers, in broad terms, to popular or folk knowledge that can be contrasted to formal and specialised knowledge. It is the systematic information that remains in the informal sector, usually unwritten and preserved in oral tradition rather than texts. A narrower definition refers to the knowledge systems of indigenous people and minority cultures.[16]

'In situ' (*Latin* — 'in the place') refers to an artifact that has not been moved from its original resting place or the place where it was deposited.[17] The Convention on Biological Diversity refers to it as being within ecosystems and natural habitats or, in

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[13] World Health Organization (2012). Food safety.

[14] Convention on Biological Diversity, Article 2.

[15] TRIPS Agreement, Part II, Section 3, Article 22 (1).

[16] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

[17] Smithsonian's The Secret in the Cellar Webcomic, an educational resource from the Written in Bone exhibition, (2009 - 2011). Definition: In situ.

the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.[18]

'***Intangible Cultural Heritage'*** means the practices, representations, expressions, knowledge, skills — as well as the instruments, objects, artefacts and cultural spaces associated therewith — that communities, groups and, in some cases, individuals recognise as part of their cultural heritage.[19]

'Intellectual Property' consists of Industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and Copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, drawings, paintings, photographs, sculptures, and architectural designs.[20]

'Material Transfer Agreements' are agreements in commercial and academic research partnerships involving the transfer of biological materials, such as germplasm, microorganisms and cell cultures, from a provider to a recipient and setting conditions for access to public germplasm collections, seed banks or *in situ* genetic resources.[21]

'Medicinal Plants' are plants that have medicinal properties to heal various diseases.

'Medicine' is a substance used to treat disease or injury.

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[18] Secretariat of the Convention on Biological Diversity. "Chapter 2 The Convention on Biological Diversity." 2013, from http://www.cbd.int/gbo1/chap-02.shtml.

[19] Article 2 (Definitions) of the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage 2003.

[20] World Intellectual Property Organization. 2013, from http://www.wipo.int/about-ip/en/.

[21] World Intellectual Property Organization. "Glossary." 2013, from http://www.wipo.int/tk/en/resources/glossary.html.

'Misappropriation of Traditional Biodiversity Knowledge' is an exploitation of traditional knowledge or indigenous biological resources by third parties without respecting the ownership and/or the right laid procedures.

'National Monument' means an immovable property, which by its age or architectural characteristics or historical evidence, is useful in the field of art, history or archaeology and shall include places that are archaeological sites, historic sites and historic parks. It also covers ***'Antiques'*** and '***Objects of Art',*** which are significantly movable properties and archaeological objects.[22]

'Native Peoples', 'Indigenous Peoples', 'Aboriginal Peoples', 'First Peoples', 'Ethnic Minorities' and 'Tribal Peoples' are any ethnic group inhabiting a geographic region with which they have the earliest known historical connection.[23] They are terms used in regions with a colonial history that has left a predominant national culture and autochthonous cultures that coexist and compete for limited resources, especially land.[24]

'Pharmaceutical' is a medicinal drug used for medical treatment.

'Plant Breeding' is a scientific method of changing or developing the genetics of plants to increase their value.

'Plant Variety' means a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a breeder's right are fully met, can be defined by the expression of the characteristics resulting from a given genotype or combination of genotypes; distinguished from any

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[22] According to Section 4 of the Thailand's Act on Ancient Monuments, Antiques, Objects of Art and National Museums, B.E. 2504 (1961), Amendment B.E. 2535 (1992).

[23] National Geographic Society (2001). Peoples of the World: Their Cultures, Traditions, and Ways of Life National Geographic (1 November 2001).

[24] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

other plant grouping by the expression of at least one of the said characteristics and considered as a unit with regard to its suitability for being propagated unchanged.[25]

'Plant Variety Protection', ***'Plant Breeder's Rights'*** or ***'Plant Variety Rights'*** are intellectual property exclusive rights granted to the breeder of a new plant variety to protect and utilise that plant variety.

'Sui Generis' (*Latin*) literally means 'of its own kind', or unique.[26]

'Sustainable Use' means the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.[27]

'Technology Transfer' or 'Transfer of Technology' is an assignment of technological intellectual property or sharing technical information by legal means or education.

'Thai Traditional/ Agricultural Product' means any product or commodity entirely produced in Thailand.

'Traditional Cultural Expressions' ('Expressions of Folklore') include music, art, designs, names, signs and symbols, performances, architectural forms, handicrafts and narratives.[28]

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[25] International Convention for the Protection of New Varieties of Plants of December 2, 1961, as Revised at Geneva on November 10, 1972, on October 23, 1978, and on March 19, 1991.

[26] Oxford University (2012). Oxford Dictionaries, Oxford University Press.

[27] Convention on Biological Diversity, Article 2.

[28] World Intellectual Property Organization (2010). Traditional Cultural Expressions (Folklore).

'Traditional Knowledge (TK)'

- is used in a narrow sense to refer to the content or substance of knowledge that is the result of intellectual activity and insight in a traditional context, and includes the know-how, skills, innovations, practices and learning that form part of traditional knowledge systems, and knowledge that is embodied in the traditional lifestyle of a community or people, or is contained in codified knowledge systems passed between generations. It is not limited to any specific technical field, and may include agricultural, environmental and medicinal knowledge, and knowledge associated with genetic resources.
- refers to tradition-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 or artistic fields. 'Tradition-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 constantly evolving in response to a changing environment. Categories of traditional knowledge could include: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge, including related medicines and remedies; biodiversity-related knowledge; 'traditional cultural expressions' ('expressions 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 TK are items not resulting from intellectual activity in the industrial, scientific, literary or artistic fields, such as human remains, languages, and other similar elements of 'heritage' in the broad sense.[29]

[29] World Intellectual Property Organization (2010). Glossary of Terms.

'Traditional Medicine' is the sum total of the knowledge, skills and practice of holistic healthcare, which is recognised and accepted by the community for its role in the maintenance of health and the treatment of diseases. Traditional medicine is based on theories, beliefs and experiences indigenous to different cultures, and is developed and handed down from generation to generation.[30]

[30] World Health Organization (1999). Development of National Policy on Traditional Medicine: A Report of the Workshop on Development of National Policy on Traditional Medicine. Beijing, China, World Health Organization (Western Pacific Region).

List of Acronyms and Abbreviations

AANZFTA	ASEAN-Australia-New Zealand Free Trade Agreement
ABS	Access and Benefit-Sharing
ADR	Alternative Dispute Resolution
AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Area
ALADI/ LAIA	Latin American Integration Association
AO	Appellation of Origin
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
AU	African Union
B.E.	Buddhist Era
BIOTEC	National Center for Genetic Engineering and Biotechnology, Thailand
CAM	Complementary and Alternative Medicine
CBD	Convention on Biological Diversity
CESCR	Committee on Economic, Social and Cultural Rights
CGIAR	Consultative Group on International Agricultural Research
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoFaB	Convention of Farmers and Breeders
CPVR	Community Protection of Plant Varieties (European Union)
CSIR	South African Council for Scientific and Industrial Research
DIP	Department of Intellectual Property, Thailand
DOP	Protected Denomination of Origin
DSI	Department of Special Investigation, Thailand
EC	European Community
ECAP	EU-ASEAN Project on the Protection of Intellectual Property Rights
ECD	Economic and Cyber Crime Division, Thailand
ECJ	European Court of Justice
EFTA	European Free Trade Area

EPC	European Patent Convention
EPO	European Patent Office
EU	European Union
FAO	Food and Agriculture Organization
FPIC/ PIC	(Free) Prior Informed Consent
FTA	Free Trade Agreement
GATT	General Agreement on Tariffs and Trade
GHF	Global Heritage Fund
GI	Geographical Indication
GM	Genetically Modified
GMO	Genetically Modified Organism
GRs	Genetic Resources
GSP	Generalised System of Preferences
IARC	International Agricultural Research Centre
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICJ	International Court of Justice
ICTSD	International Centre for Trade and Sustainable Development
IGC	Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore
IIPI	International Intellectual Property Institute
IK	Indigenous Knowledge
INTA	International Trademark Association
IP	Intellectual Property
IPGRI	International Plant Genetic Resources Institute
IPITC	Central Intellectual Property and International Trade Court, Thailand
IPOs	International Patent Offices
IPRs	Intellectual Property Rights
IRRI	International Rice Research Institute
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IU	International Undertaking on Plant Genetic Resources

JPO	Japan Patent Office
MAT	Mutually Agreed Terms
MONRE	Ministry of Natural Resource and Environment, Thailand
MTA	Material Transfer Agreement
NAFTA	North American Free Trade Area
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
OAPI	African Intellectual Property Organization
OAU	Organization of African Unity
ONCC	Department of Culture Promotion and Office of the National Culture Commission, Thailand
PBR	Plant Breeder's Rights
PBRs	People's Biodiversity Registers, India
PCT	Patent Cooperation Treaty
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resources for Food and Agriculture
PVP	Plant Variety Protection
PVR	Plant Variety Rights
RCEP	Regional Comprehensive Economic Partnership
RTA	Regional Trade Agreement
R&D	Research and Development
TAI	Thai Arbitration Institute
TCEs	Traditional Cultural Expressions
TEK	Traditional Ecological Knowledge
TK	Traditional Knowledge
TKDL	Traditional Knowledge Digital Library, India
TKRC	Traditional Knowledge Resource Classification
TM	Traditional Medicine
TOT	Transfer of Technology/ Technology Transfer
TPP	Trans-Pacific Transpacific Strategic Economic Partnership Agreement

TRIPS	Agreement on Trade Related Aspects of Intellectual Property Rights
TSG	Traditional Speciality Guaranteed
TTM	Thai Traditional Medicine
UK	United Kingdom
UKIPO	United Kingdom Intellectual Property Office
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCTAD	United Nations Conference on Trade and Development
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UPC	Unified Patent Court
UPOV	Convention of the International Union for the Protection of New Varieties of Plants
US/ USA	United States of America
USDA	United States Department of Agriculture
USPTO	United States Patent and Trademark Office
USTR	United States Trade Representative
WARDA	West Africa Rice Development Association
WHO	World Health Organization
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

Statement of Copyright

The copyright of this thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

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Research Structure

Research problems

The current Thai intellectual property regime is still limited as it can only protect some aspects of traditional knowledge and traditional cultural expressions. It does not take into account the unique characteristics of Thai traditional knowledge and cultural expressions. The hypothesis is whether Thailand should have a *sui generis* protection system and/or it should amend its existing laws to find more coherent concepts in order to provide effective protection, preservation and promotion for its traditional knowledge, cultural heritage and agricultural products, as well as dealing with the misappropriation.

Research methodology

This research is based on research of the available literature. Relevant information, both primary and secondary sources, will be collected from various institutions and data sources, e.g., academic works such as theses, formal books and articles from journals. The information will also be gathered from government reports, publications, inter-governmental organisations and international and non-governmental organisations (NGOs), international and national legislation, treaties and conventions, multilateral and bilateral agreements, as well as online databases. The author will scrutinise the intellectual property-related laws of Thailand to analyse what would be most suitable between the existing intellectual property law system and the *sui generis* regime. Case studies and national laws of selected countries will also be studied, then some of their advantages and disadvantages assessed in order to determine the most practical approaches or appropriate solutions for achieving the best outcomes.

Research framework

This research is aimed at studying the legal protection of Thai cultural heritage sites, traditional knowledge and traditional cultural expressions/folklore under current

intellectual property laws and the *sui generis* system as well as in other practical ways. The study will look at practical legal systems for protecting, for example, medicinal plants, traditional agricultural crops, and folklore, using 'Thai Jasmine rice' as one of the case studies. In addition, International law and Thai law will be learned and commented on, and the experiences and perspectives of other selected countries examined. Finally, alternative means that are appropriate for Thailand and other developing countries to protect, preserve, and promote their national knowledge and products will be analysed and recommendations made.

The thesis, describing the research comprises six chapters. Each chapter is divided into different sections as follows:

Chapter 1

Begins with the historical, economic, social, legal and biological background of Thailand: what are some Thai traditional knowledge/agricultural products — and their importance? Examples of conflicts and disputes; the form and the efficiency of the protection of intellectual property rights in Thailand; what issues have been discussed and what are the problems with the country's traditional knowledge, cultural expression and agricultural products, particularly Thai Jasmine rice as well as Thai cultural artefacts? What initiatives and projects does the government of Thailand have? How are the government dealing with these? What are the roles of non-governmental organisations? How will this research further explore and analyse these issues?

Chapter 2

This covers the development of the relevant international legal instruments and frameworks; international organisations; multilateral agreements and fora relevant to the intellectual property, traditional knowledge and biodiversity nexus. For example, The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), The World Trade Organisation (WTO), The World Intellectual Property Organisation (WIPO), The United Nations Educational, Scientific, and Cultural Organisation (UNESCO), The Food and Agriculture Organization (FAO), The International Union for the Protection of New Varieties of Plants (UPOV), The Convention on Biological

Diversity (CBD), The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), etc; challenges of and concerns about intellectual property rights issues for developing countries; how these agreements and/or organisations have affected developing countries in their policy-making and benefit-sharing; what are the advantages and disadvantages in becoming a party or ratifying international agreements? What needs to be done for these countries to conform with the international standard, while better organising their own traditional knowledge and products?

Chapter 3

Here an overview of intellectual property-related legislation and authorities in Thailand is introduced; the problems of the protection of Thai cultural heritage sites, expressions/ folklore, traditional knowledge and products under intellectual property rights both in general and using a case study of Thai Jasmine rice are specifically dealt with; Thai intellectual property associated legislation - its enforcement, legal and administrative mechanisms, some demerits and inefficiencies are identified; what Thailand, together with other developing countries, could do to formulate an intellectual property policy into their laws and regulations to be in compliance with the national and international legal framework and obligations is discussed; how Thailand could prepare for regional and global intellectual property legal harmonisation is posited.

Chapter 4

Focuses on interesting international perspectives of selected countries to survey their legal systems and prospectives of intellectual property law, experiences and lessons; the ways they protect and enhance their cultural heritage sites, traditional knowledge, cultural expressions, folklore and domestic products nationally, regionally and internationally by various means; benefits and drawbacks; certain international and regional debates, initiatives and cooperation; as well as how to cope with the conflicts that occurred. The countries selected, in the hope of finding some good examples and lessons learned, include the United States, Canada, Australia, New Zealand, China, India and other countries in Asia, South America, Europe and Africa.

Chapter 5

States and analyses the trends and strategies of international intellectual property protection under *sui generis* and other alternative regimes; studies how to balance the rights of the intellectual property holder and those of the farmer, especially small-scale ones, in developing countries; discusses the use of associated traditional knowledge of indigenous or local communities; seeks to clarify potential solutions as to how globally and domestically to protect, preserve and enhance cultural heritage sites, traditional knowledge, cultural expressions, folklore and agricultural products of developing countries under intellectual property regimes, either by trademark, geographical indication, certification mark, service mark, famous/well-known mark, patent, plant variety, trade secrets, copyright regime, or even consumer confusion, unfair competition/antitrust or the use of alternative dispute resolution (ADRs), as well as proposing any other possible practical alternative approaches. A section of analysis and comments on Thailand's Draft law on traditional knowledge is also included in this Chapter.

Chapter 6

Ties together the themes developed in the thesis; evaluates national and international policies and legal instruments; states the existing problems and obstacles; proposes the adoption of harmonised rules with respect to traditional knowledge in relation to intellectual property law; concludes and makes recommendations on what would be most suitable for dealing equitably and sustainably, both in theory and in practice, with intellectual property and alternative legal protection of cultural heritage sites, traditional knowledge, cultural expressions, folklore and important products, specifically for Thailand, by combining all of the possible and equitable solutions.

Chapter 1
Introduction

Thailand, like any other developing country, has experienced sometimes similarly and at other times its own unique problems regarding TK and cultural heritage. Currently, Thailand only has the Plant Varieties Protection Act, the Protection and Promotion of Intellectual Thai Traditional Medicine Act, and Ancient Monument Act as *sui generis* laws. However, it looks like the existing Thai legislation fails to cover TK-related matters and the Thai authoritities are not effectively dealing with TK legal issues. The hypothesis of this thesis is whether Thailand should have a *sui generis* protection system for TK, cultural heritage and misappropriations, and to achieve that goal it should amend its existing laws in this regard to find more effective ways of dealing with a diverse range of the country's TK, TCEs, biological resources and agricultural products.

Here, the author would like to show examples of TK, cultural heritage or biological misappropriations from both Thailand - Thai Jasmine rice and Thai artefact repatriation cases - and selected countries from different regions around the world, to see what legal limitations those countries experienced and how they have dealt with problems using their domestic laws, and what IP justifications or alternative options are applied, to learn about international law aspects and experience, how TK and cultural heritage are preserved, protected, and promoted domestically and internationally. The author hopes to adapt useful strategies to the cases of Thailand in order to enact new *sui generis* laws on TK and intangible cultural expressions, as well as improving the effectiveness of the current TK/IP-related legislation and management.

1.1 Background

As a lower-middle-income country with a population of nearly 70 million,[31] cultivation has, historically, played a crucial role in the Thai economy, its culture and society. Thailand's agricultural population comprises 28 million individuals. The country farms about 3,650,000 hectares of permanent crops across 51,089,000 hectares of land area.[32] Thailand may be deemed rich in diversity since people who live in different areas of the country, i.e., in the Northern, North-eastern, Southern, and Middle regions have their own agricultural products, cultures and traditions. Its culture has a rich and varied history dating back many centuries, constituting transmitted patterns and models of living that distinguish Thai society and assert the identity of Thai people.[33]

The country has a variety of agricultural products, dependent upon local needs, climate, temperature and soil conditions. Some of the main exported agricultural products and also a major source of the country's income are rice, cassava, rubber, oil palm, corn, sugar, tobacco, kenaf, coffee beans, fruits and vegetables. Thai fruit crops can be classified into seasonal and year-round. Seasonal fruits include mangos, durian, rambutan, longan, and lychees; year-round fruits are pineapples, bananas, papayas, and jackfruit.[34] The government encourages greater exports of these products, but there remains much room for increasing the value of the country's fruit exports as export markets are viewed as alternative sources of sales during times of oversupply in the domestic market, creating problems related to product quality, low bargaining power and poor brand recognition, which have hindered the ability of the

[31] As of the year 2014, according to the National Statistical Office of Thailand and the World Bank Report.

[32] Food and Agriculture Organization of the United Nations. (2012). "Country Facts: Thailand." from http://www.fao.org/countries/55528/en/tha/.

[33] Ministry of Culture, Thailand. "About us." 2013, from http://en.m-culture.go.th/index.php?option=com_content&view=article&id=1&Itemid=2.

[34] The National Identity Board (2005). Thailand: Traits and Treasures, The National Identity Board, Office of The Permanent Secretary, The Prime Minister's Office, Royal Thai Government.

country's fruit growers to achieve high market shares.[35] It has long been a Thai tradition to collect propagation material, especially seeds, from one cropping season to use as stock to grow the next season's crops. The exchange of seeds between families and communities has long been practiced in farming communities, creating an ideal gene bank and leading to the production of new breeds of crops, which farmers can utilise freely.[36]

Various agricultural products, such as Thai Jasmine rice, are not only an essential part of the Thai people's diet, but also part of their cultural identity. There is a long tradition that most Thais eat rice with almost every meal. Interestingly, the expression 'let's eat' in Thai may be implied to mean 'let's eat rice'. Thai Jasmine rice, among other things, is perhaps the most important exported good of the country and has been one of the main commodities for global consumers. Rice has been cultivated by mankind for more than 10,000 years and it is a symbol of global unity and cultural identity for many countries where rice cultivation is practically intertwined with religious observances, festivals, customs, folklore, and traditions.[37] Rice is the dominant staple food crop in developing countries, particularly in the humid tropics, across the globe. Although more rice tends to be consumed in traditionally nonrice-eating countries, almost 90% of rice is produced and consumed in Asia, and 96% in developing countries.[38]

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[35] Pongpanich, C. and P. Phitya-Isarakul (2008). "Enhancing the Competitiveness of Thai Fruit Exports: an Empirical Study in China." Contemporary Management Research **Vol 4** (No 1): 15-28.

36 Naboriboon, P. (2007). "Plant Variety Protection in Thailand ", from http://www.tillekeandgibbins.com/Publications/Articles/IP/plant_variety_protection.pdf.

37 Redoña, E. D. and L. F. G. Mula (2004). "Some Imperatives and Challenges for Rice Biotechnology in Asian National Agricultural Research and Extension Systems." Asian Biotechnology and Development Review **7**(1): 9-38.

38 Hossain, M. and J. Narciso (2004). **GLOBAL RICE ECONOMY: LONG-TERM PERSPECTIVES** FAO Conference to celebrate the International Year of Rice 2004, " Rice in Global Markets and Sustainable Production Systems" Rome, Italy, FAO.

1.2 Economic importance of rice

In terms of economics, rice provides Thailand with at least five important benefits. Firstly, rice exports are Thailand's second largest source of foreign exchange income. Secondly, it provides local income for many rural communities. Thirdly, it provides at least seasonal employment for many low-income, vulnerable Thais living in urban areas. Fourthly, rice seed acts as a form of savings and collateral against which farmers can borrow to purchase other inputs. Fifthly, and most importantly, it is by far the single most important component of the Thai diet and provides food security for the poorest.[39] Thailand, India, Vietnam, China, the US, and Pakistan are among the major rice exporters of the world, accounting for more than 80 percent of global rice exports. Thailand is one of the world's largest rice-exporting countries and has accounted for about 28 percent of global rice exports over the past decade. Thailand's yields are low compared with most other major countries in Southeast Asia. Traditional rice varieties, which sell at a premium in global markets, account for the bulk of Thailand's production. These varieties achieve lower yields than modern varieties, which are typically grown under irrigated conditions. Three quarters of Thailand's rice is grown in rain-fed conditions. Thailand exports mostly long-grain rice, including parboiled rice and 100 percent broken rice, and smaller quantities of its premium jasmine rice, an aromatic or fragrant rice. Thailand exports more than 2 million tons of jasmine rice each year, with the US, Hong Kong, Singapore, Senegal, and China the major buyers. Thailand also exports small quantities of glutinous rice, mostly to Asian markets. Yields are typically lower for both jasmine rice and glutinous rice than for nonspecialty rice.[40] Thailand has the capacity to increase rice

[39] Lofgren, A. Thai Rice: Trade, Culture and Freedom from GM Seed. TED Case Studies Number 635

[40] USDA (RCS-2006 / November 2006). USDA Economic Research Service, Rice Situation and Outlook Yearbook.

production. Its rice yield remains low and additional land could be cultivated, particularly by increasing rice-cropping intensity.[41]

According to statistics from the US Department of Agriculture, Foreign Agricultural Service, Thailand was the top rice exporter until 2011. In 2012 Thailand's rice exports fell more than 30 per cent to about 7 million tonnes due to high prices.[42] However, Thailand exported about 11 million tonnes of rice in 2014, making it the world's biggest rice exporter. But in 2015 exports of Thai rice are expected to fall again since the prices are still higher than other countries' due to the strong currency (Thai Baht), including the global economy and other factors, which will continue to affect Thai export competitiveness.

World Rice Trade Exporters

Country	2009	2010	2011	2012	2013	% Change
Thailand	8.57	9.05	10.65	6.50	8.00	23.08
Vietnam	5.95	6.73	7.00	7.50	7.00	-6.67
India	2.15	2.23	4.64	10.00	6.50	-35.00
Pakistan	3.19	4.00	3.41	3.75	4.00	6.67
United States	3.02	3.87	3.25	3.30	3.45	4.55
Cambodia	0.82	0.75	0.86	0.80	0.95	18.75
Egypt	0.58	0.57	0.32	0.60	0.85	41.67
Uruguay	0.93	0.81	0.84	1.05	0.85	-19.05

[41] Hossain, M. and J. Narciso (2004). **GLOBAL RICE ECONOMY: LONG-TERM PERSPECTIVES** FAO Conference to celebrate the International Year of Rice 2004, " Rice in Global Markets and Sustainable Production Systems" Rome, Italy, FAO.

42 Janssen, P. (2012). Thai rice exports expected to fall more than 30 per cent. Bikyamasr. Bangkok (dpa).

Brazil	0.59	0.43	1.30	1.20	0.80	-33.33
Burma	1.05	0.45	0.78	0.70	0.60	-14.29
Argentina	0.59	0.47	0.73	0.68	0.53	-22.22
Australia	0.02	0.05	0.31	0.45	0.50	11.11
China	0.78	0.62	0.49	0.40	0.50	25.00
Guyana	0.24	0.28	0.25	0.23	0.25	8.70
EU-27	0.15	0.28	0.24	0.21	0.24	11.90
Japan	0.20	0.20	0.20	0.20	0.20	0.00
Others	0.58	0.77	0.95	0.94	0.91	-4.13
World Total	**29.40**	**31.55**	**36.21**	**38.51**	**36.12**	**-6.22**

Source : World Market & Trade, USDA Unit: MT (Metric Tons)

World Rice Trade Importers

Country	2009	2010	2011	2012	2013	% Change
Nigeria	2.00	2.00	2.55	3.20	2.25	-29.69
China	0.34	0.37	0.58	2.60	2.00	-23.08
Iran	1.47	1.52	1.87	1.75	1.80	2.86
Philippines	2.00	2.40	1.20	1.50	1.50	0.00
Indonesia	0.25	1.15	3.10	1.70	1.45	-14.71
EU-27	1.38	1.22	1.48	1.20	1.40	16.67
Iraq	1.09	1.19	1.04	1.35	1.35	0.00
Saudi Arabia	1.07	1.07	1.06	1.15	1.23	6.52

Malaysia	1.09	0.91	1.08	1.09	1.05	-3.23
South Africa	0.75	0.73	0.89	0.95	1.00	5.26
Cote d'Ivoire	0.80	0.84	0.94	1.30	0.95	-26.92
Senegal	0.72	0.69	0.81	1.20	0.82	-31.67
Brazil	0.65	0.78	0.59	0.72	0.75	4.17
Mexico	0.61	0.58	0.71	0.64	0.73	13.28
Japan	0.75	0.65	0.70	0.70	0.70	0.00
United States	0.68	0.56	0.62	0.65	0.70	7.69
South Korea	0.24	0.32	0.53	0.24	0.64	166.67
Cuba	0.46	0.50	0.56	0.45	0.53	16.67
United Arab Emirates	0.38	0.40	0.42	0.43	0.44	2.33
Hong Kong	0.40	0.39	0.38	0.42	0.43	2.41
Yemen	0.33	0.33	0.34	0.40	0.43	6.25
Cameroon	0.30	0.30	0.31	0.38	0.40	6.67
Ghana	0.41	0.32	0.55	0.48	0.40	-15.79
Thailand	0.30	0.30	0.20	0.60	0.40	-33.33
Mozambique	0.39	0.33	0.36	0.38	0.38	0.00
Kenya	0.30	0.28	0.34	0.39	0.36	-7.69
Others	10.27	11.45	13.06	12.66	12.06	-4.81
World Total	**29.40**	**31.55**	**36.21**	**38.51**	**36.12**	**-6.22**

Source : World Market & Trade, USDA Unit : MT (Metric Tons)

Five characteristics have arisen in Thailand, due to developments in recent years: an orientation towards export markets, with domestic prices in the main being strongly influenced by international prices; expansion of the crop sector in the past has been mainly based on conversion of forest land to cultivated areas; rice has been progressively replaced by field crops including maize, kenaf, cassava and sugar cane; governmental involvement in the agricultural sector including regulation of foreign trade, taxation, exchange rates, and trade restrictions, and also public resources for infrastucture and support services for agriculture; and institutional changes, such as the emergence of large food processing agribusiness, have affected farming systems.[43]

Many projects have been implemented from the Food and Agriculture Organization of the United Nations (FAO), including food and industrial crop development, which supported Thailand to become one of the world's top food and natural rubber exporters and one of the leading producers of oil palm in the world. Also, food safety and quality control to promote exports and the supply of safe foods to consumers, and poverty alleviation and the promotion of household food security to support poor farmers and disadvantaged groups have been implemented.[44]

1.3 Population and ethnicity in Thailand

As to its ethnology and sociology, around seventy five percent of Thailand's population is ethnically Thai, the remainder being of Chinese origin with a few of Malay. While Theravada Buddhism is important to the spiritual and secular lives of ninety-four percent of its population, Islam, Mahayana Buddhism, Brahmanism, Christianity, and other belief systems of several ethnic and tribal groups have introduced other ideational and cultural traditions, making Thailand a multiethnic and

[43] Falvey, L. (2000). Thai agriculture: golden cradle of millennia, Kasetsart University Press.

[44] Thai Affairs Section, FAO Regional Office for Asia and the Pacific,. (2011). "Thailand and FAO: Achievements and success stories." from http://www.fao.org/fileadmin/templates/rap/files/epublications/ThailandedocFINAL.pdf.

multi-cultural society.[45] Buddhism in Thailand is strongly influenced by traditional beliefs of ancestral and natural spirits, which have been incorporated into Buddhist cosmology. With its rich land, abundant rainfall and ample sunshine, the country has attracted a variety of foreign ethnic groups, which have blended with indigenous populations.[46] There are minority groups of various hill tribes in the Northern region such as Hmong, Khmers, Akha, Karen, Lisu, Shan, Mien, Lahu, Pa-long, U-raklawoy and Tai. Other groups of indigenous peoples live along the coast and on islands in the Southern region of the country.

Ethnic and religious minorities such as Burmese refugees, Northern indigenous hill tribes, and the Muslims of the South sometimes face disadvantages in Thai society.[47] Around a million of the indigenous and highland ethic people lack citizenship, land for their livelihood, medical care and education, as well as facing the problem of natural resource management. For instance, the Lahu, one of the largest main tribes in northern Thailand, migrated into Thailand from Myanmar during the past 100 years. Most still live in the hills over 1,200 m and practice swidden agriculture. Health is a main theme of Lahu culture and they treat illnesses and injuries in a variety of ways. Traditional medicines derived from plants are usually employed first, although modern medical treatment is becoming more widespread, hence they may be losing their knowledge of medicinal plants.[48]

Thailand is a multiethnic and multi-cultural society due to several ethnic and tribal groups representative of their own beliefs and cultural traditions. Yet much of this TK, TCE and expression of folklore has not been properly identified or exploited in a way

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[45] Anderson, W. W. (1989). "Folklore and Folklife of Thailand Foreword." Asian Folklore Studies **48**: 1-3.

[46] Beek, S. V. and L. Invernizzi (1999). The arts of Thailand, Periplus Editions (HK) Ltd.

[47] Harding, A. (2007). "Buddhism, Human Rights and Constitutional Reform in Thailand." Asian Journal of Comparative Law **2**(1): Article 1.

[48] Anderson, E. (1986). "Ethnobotany of hill tribes of northern thailand. II. Lahu medicinal plants." Economic Botany **40**(4): 442-450.

that can allow it to be formally protected under national law or exploited for the benefit of communities and the country as a whole. Therefore, it is essential for Thailand to produce coherent policies and legislation to address these problems.

Internationally, depending on the historical and socio-political context, several terms are used to describe cultural minorities, with them varying from region to region: 'indigenous people', 'native people', 'ethnic minorities', 'aboriginals', and 'tribal people'.[49] Typically, the following are characteristics of indigenous people:[50]

a) They live in small societies and may not have access to formal education. They are unaware of the worth of the knowledge they possess. Such communities are often found in developing and underdeveloped countries where there is a concentration of ethnocentric societies.
b) Most often, the knowledge in question will be known to the entire community and remains exclusively within it. However, within the society, the knowledge is in the public domain.
c) Occasionally, knowledge of a special skill or art is limited to a few members of the community.
d) The knowledge and its components are normally required for a regular lifestyle within the society. It is passed down through generations while still retaining its original individuality.
e) Knowledge present in one form, such as art, music, or folklore, can be developed into other forms more understandable to the rest of the world. However, these informal innovations do not get formal recognition.
f) Indigenous people often believe that IP law is neither a necessary, nor a desirable, means of encouraging innovation within their communities. As a consequence, they are sometimes easily willing to share this knowledge, which leads to its exploitation.

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[49] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

[50] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

This situation gives rise to concerns because, although the original holders have not acquired any benefit, the exploiters have benefited from the knowledge.

However, in Thailand the term, 'indigenous peoples', has been rejected by government agencies although it is estimated that there are at least 60 language groups in the country.[51] There is an official designation '*Chao Khao'*, meaning, 'the hill tribes' or 'the hill people', referring to several ethnic groups living in the mountainous areas.[52]

1.4 Biological diversity in Thailand

Biological diversity is important because it is a repository of genetic information gained through the long process of biological evolution. It is valued both for its potential use, for instance as a source of new drugs or crops, and for its aesthetic contribution.[53] Biological diversity can be classified into genetic diversity, species diversity and geological/ecosystem diversity. Species diversity relates to the varieties of animals, plants, and micro-organisms in any particular area. Genetic diversity is potentially beneficial to livelihood, especially in agriculture and related industries. Ecosystem diversity comprises habitats, substitution, and topography, in that creatures form a community, in which they interact with one another and with the air, water, and soil around them. [54]

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[51] Suwilai Premsrirat et al. (2001). An Ethnolinguistic Map of Thailand, Bangkok: Printing House of the Department of Religious Affairs.

[52] Kesmanee, C. and P. Trakansuphakorn (2008). An Assessment of the Implementation of the Thai Government's International Commitments on Traditional Forest-Related Knowledge from the Perspective of Indigenous Peoples, The Akha Heritage Foundation, Oregon, USA.

[53] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

[54] The Government Public Relations Department, Thailand. (2010). "Thailand Declares 2010 the Year of Biodiversity." from http://thailand.prd.go.th/view_inside.php?id=4667.

Thailand has a land area of 513,115 square kilometres and is situated in the Southeast Asia tropical zone, called the Indo-Chinese region in the North and Sundaic region in the South, with a coast-line of around 2,700 kilometres in length. It is also a 'bridge' connecting communities from the northern regions of the world in the Himalayan mountain range and southern China to the Malay Peninsula, including the hot and dry areas from Cambodia to Laos.[55] It has several ecosystems and a high degree of biodiversity, including several different types of forest: rain forest, evergreen forest, deciduous forest, mangrove forest, shrub and savannah forest.[56] It is the home of 12,000 vascular plant species, 302 mammal species, and 982 species of birds. There are more than 2,100 marine and 720 freshwater fish species in the country. About one third of Thailand's population makes use of medicinal plants from the forests, which are increasingly used by the pharmaceutical industry. Research on biodiversity is conducted in cooperation with numerous countries, and covers species, genetics, and ecosystems.[57] The government of Thailand announced that 2010 was Thailand's Year of Biodiversity, in line with a resolution of the United Nations General Assembly, which declared 2010 as the International Year of Biodiversity, coinciding with the 2010 Biodiversity Target adopted by the Parties to the Convention on Biological Diversity (CBD). Thailand ratified the CBD in 2003 and the Convention became effective in 2004, making Thailand the 188th Contracting Party.[58]

Unfortunately, biodiversity in Thailand, has long been threatened by the extension of agricultural lands and shifts in cultivation. It is facing a decline due to over-exploitation, with many water basins and wetlands having been transformed as a result of development projects. For example, the construction of mines, dams, the

[55] Office of Natural Resources and Environmental Policy and Planning (2009). Thailand: National Report on the Implementation of the Convention on Biological Diversity, Ministry of Natural Resources and Environment, Bangkok, Thailand**:** 76 p.

[56] Kesmanee, C. and P. Trakansuphakorn (2008). An Assessment of the Implementation of the Thai Government's International Commitments on Traditional Forest-Related Knowledge from the Perspective of Indigenous Peoples, The Akha Heritage Foundation, Oregon, USA.

[57] The Government Public Relations Department, Thailand. (2010). "Thailand Declares 2010 the Year of Biodiversity." from http://thailand.prd.go.th/view_inside.php?id=4667.

[58] Ibid.

poaching of forests for wild orchids and wildlife, with activities such as bird hunting and egg collecting. These activities all play a crucial rolr in biodiversity devastation. The biodiversity of tourist attractions including coral reefs is threatened by rubbish, pollution, anchors and the search for seashells and ornamental fish.[59] Acquiring knowledge on biodiversity in Thailand by collecting and finding new and widely disseminated species has been managed by an organisation or an individual, which is an obstacle to utilising this information for the collation of data on Thailand's biodiversity.[60] The Thai government can play an active role by raising the awareness of the general public to conservation and the sustainable use of biodiversity through educational campaigns or other means. Better preservation could be achieved through effective legal protection of TK. Effective protection can lead to development that communities can develop. This will eventually lead to preservation to keep that knowledge in some ways.

1.5 Thailand's biotechnological development and activities

In recent years Thailand has gained increasing international recognition as a medical hub at the centre of Asia, attracting patients from all over the world due to its significantly cheaper but high quality medical care. Thailand's research facilities and universities are working hard to gain a reputation in the field of biotechnology, including advanced gene and stem cell research, and research on infectious diseases.[61] A strong indication that the global community recognises Thailand's biotechnological capabilities came when the World Health Organization (WHO) approved the country as a manufacturer of the H1N1 flu vaccine. Thailand has recently become one of two countries to develop an endoscope scanner for near real

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[59] Office of Natural Resources and Environmental Policy and Planning (2009). Thailand: National Report on the Implementation of the Convention on Biological Diversity, Ministry of Natural Resources and Environment, Bangkok, Thailand**:** 76 p.

[60] Biodiversity-Based Economy Development Office (PO). "Thai Biodiversity - Information Centre for Organisms in Thailand." 2012, from http://www.thaibiodiversity.org/AboutUs.aspx.

[61] The Thailand Board of Investment (2008). "Thailand Moves Biotechnology Forward." Thailand Investment Review.

time detection of nearly all types of early stage cancers; the first scanner went into use in 2011. Nearly 100 biotechnology companies have been established in Thailand since 2000. The country's rich agricultural background helps to feed the development of the industry,[62] in which agricultural biotechnology and genetic engineering have focused on three main areas: crop improvement through plant transformation; DNA fingerprinting; and the molecular diagnosis of plant and animal diseases.[63]

1.6 Thai cultural heritage sites

Cultural property creates exchange networks and reflects continuums between the past and the present, between people and generations, and people and places. There is increasing pressure to exploit and use cultural property and TK for developmental reasons, hence there is a need for legal measures.[64]

Apart from its varied agricultural products, Thailand has several important cultural properties located throughout the country. According to UNESCO, Thailand has five properties on the World Heritage List and four properties submitted on the Tentative List:[65]

Natural

1.6.1 Dong Phayayen – Khao Yai Forest Complex (2005)

The Dong Phayayen-Khao Yai Forest Complex, in the provinces of Saraburi, Nakhon Nayok, Nakhon Rachsima, Prachinburi, Srakaew and Burirum, spans 230 km between

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[62] The Board of Investment of Thailand (14 April 2010). Thailand's Biotechnology New Perspective. Thailand Business News.

[63] Tanticharoen, M. (1999). Thailand: Biotechnology for Farm Products and Agro-Industries. Agricultural Biotechnology and the Poor. G. J. Persley and M. M. Lantin. Washington, D.C., USA, An International Conference on Biotechnology convened by Consultative Group on International Agricultural Research and US National Academy of Sciences.

[64] Farran, S. E. (2012). "The 'Unnatural' Legal Framing of Traditional Knowledge and Forms of Cultural Expression." from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2188597.

[65] United Nations Educational Scientific and Cultural Organization. "About World Heritage: Thailand." 2013, from http://whc.unesco.org/en/statesparties/th.

Ta Phraya National Park on the Cambodian border in the east, and Khao Yai National Park in the west. The site is home to more than 800 species of fauna, including 112 mammalian species (two species of gibbon), 392 bird species and 200 reptile and amphibian species. It is internationally important for the conservation of globally threatened and endangered species of mammals, birds and reptiles; among these 19 are vulnerable, four are endangered, and one is critically endangered. The area contains substantial and important tropical forest ecosystems, which can provide a viable habitat for the long-term survival of these species.

1.6.2 Thungyai – Huai Kha Khaeng Wildlife Sanctuaries (1991)

Located in Kanchanaburi, in the Tak and Uthai Thani Provinces, stretching over more than 600,000 ha along the Myanmar border, these sanctuaries, which are relatively intact, contain examples of almost all the types of forest found in continental South-East Asia. They are home to a very diverse array of animals, including 77% of the large mammals (especially elephants and tigers), 50% of the large birds and 33% of the land vertebrates to be found in this region.

This confirms the richness of biodiversity in Thailand, which is supported by a large variety of tropical ecosystems, landscapes and habitats, but unfortunately increasingly vulnerable. Thailand is, therefore, in need for identification and assessment, preservation through implementing provisions in relevant laws, and development for sustainable use of biodiversity.

Cultural

1.6.3 Ban Chiang Archaeological Site (1992)

Ban Chiang, Udon Thani Province on the Khorat plateau of North-East Thailand, is considered the most important prehistoric settlement discovered, so far, in South-East Asia. It marks an important stage in human cultural, social and technological evolution, representing the earliest evidence of farming in the region and of the manufacture and use of metals.

1.6.4 Historic City of Ayutthaya (1991)

Founded c. 1350, Ayutthaya became the second Thai capital after Sukhothai; it was destroyed by the Burmese in the 18th century. Its remains, characterised by the Prang (reliquary towers) and gigantic monasteries, give an idea of its past splendour. Being an island city on the Chao Praya River, and having flooded during the past two decades, structural damage has occurred as well as erosion of the soil foundations of many of its temples. In 2011, major floods damaged 158 historical monuments and so, in 2012, the Thai government allocated a budget for the implementation of new 'flagship' water management and flood prevention projects and for the repair and strengthening of ancient sites.[66]

1.6.5 Historic Town of Sukhothai and Associated Historic Towns (1991)

Sukhothai was the capital of the first Kingdom of Thailand in the 13th and 14th centuries. It has a number of fine monuments, which illustrate the beginnings of Thai architecture. The great civilization that evolved in the Kingdom of Sukhothai absorbed numerous influences and ancient local traditions; the rapid assimilation of all these elements forged what is known as the 'Sukhothai style'.

Here we have some good examples representing the country's significant cultural heritage. Some aspects of Thai TK concepts have been embedded into Thai culture; therefore, any legal regimes, such as TK *sui generis* system aimed at protection TK, must respect and reflect the cultural elements. Existing IP idea is of Western that only fucuses on economic context, rather than social and welfare elements. Hence, it is vital to justify moral/ethical concept for Thai TK.

1.7 Thai Traditional Knowledge

TK in Thailand is quite broad and can be separated into TK of local wisdom and cultural heritage. It includes, but is not limited to, language and literature, agriculture, beliefs, traditions, rituals, musical performances, games and activities, fine arts, food

[66] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

and nutrition, Thai traditional medicine (TTM), industry and crafts, management of natural resources and the environment.[67] However, there are variations to the term 'TK' in Thailand as it can be used to mean 'local wisdom', 'local knowledge', or 'local people's knowledge'. Interestingly, none of these variations resembles the literal translation of 'traditional' knowledge because the word 'local' in Thai generally means those living in specific areas.[68]

TK/ IK has been used for centuries by indigenous and local communities under local laws, customs and traditions. It has been transmitted and evolved from generation to generation. TK has played an important role in vital areas such as food security, the development of agriculture and medical treatment.[69] Based on WIPO's work, IP issues regarding the protection of TK related to GRs and TK, innovations and creativity in general, can be grouped into four categories:[70]

- *Terminological and conceptual issues.* Issues to be discussed in this category include: the selection of appropriate terms to describe the subject matter for which protection is sought; a clear definition or description of what is meant (and not meant) for IP purposes by the selected terms; a study of customary laws and regulatory systems that apply to TK in local and traditional communities; examination of certain conceptual issues, such as collectivity of creation, innovation and ownership and cultural understandings of property rights.

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[67] Deewised, K. (2011). Overview of Nature and Form of Traditional Knowledge in Thailand. India, Ministry of Public Health, Thailand.

[68] Thathong, S. (2008). Rethinking Strategies in Legal Protection of Traditional Knowledge - a case study of Thailand. Law. Durham, Durham University. **LLB:** 32.

[69] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

[70] Bhatti, S. (2000). Intellectual Property and Traditional Knowledge: The Work and Role of the World Intellectual Property Organization. UNCTAD Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices. Geneva, Switzerland, The United Nations Conference on Trade and Development (UNCTAD).

- *Standards concerning the availability, scope and use of IPRs in TK.* Issues include: in the short term, facilitating access to the IP system to enable TK holders to acquire and use IPRs, where available, under current standards; in the longer term, the possible development of new standards to protect TK unprotected by existing IP tools, the elaboration of an international framework for TK protection, and the development of a system of 'community' or 'collective' rights to protect TK.
- *Certain criteria for the application of technical elements of standards, namely legal criteria for the definition of prior art and administrative and procedural issues related to the examination of patent applications.* Issues include: the integration of TK into IP office procedures for the filing, examination, publication and granting of industrial property titles through the documentation and publication of TK as searchable prior art, where so desired by the relevant TK holders; an analysis of how prior art is established for the purposes of patent examinations in the context of TK; and the provision of legal assistance with TK documentation.
- *The enforcement of rights in TK.* This involves facilitating access to the IP system to enable TK holders to use and enforce rights under it.

1.8 Non-agricultural products: Thai traditional medicine, cuisine, arts, architecture, literature, plays, sports and customs

Some of Thai traditional cuisine, arts and crafts, architecture, plays, local customs, common practices, religious rites, and folklore have been influenced a great deal by other countries like India, Malaysia, Cambodia, China etc., so they are unique to different parts of the country.

1.8.1 Traditional Thai Medicine (TTM)

The World Health Organization (WHO) defines traditional medicine (TM) as including diverse health practices, approaches, knowledge and beliefs incorporating plant, animal, and/or mineral based medicines, spiritual therapies, manual techniques

and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.[71]

TM use remains widespread in developing countries, while the use of complementary and alternative medicine (CAM) is increasing rapidly in developed countries.[72] TM usually involves biological resources and knowledge of their medicinal use possessed by local and indigenous peoples and/or healers; thus, it is interlinked with biodiversity conservation and indigenous people's rights over their knowledge and resources.[73] Acupuncture, one of the most popular healing methods, originated in China, and is now used in at least 78 countries, including Thailand, and is practised not only by acupuncturists, but also by allopathic practitioners.[74]

Thai traditional medicine (TTM) is seen to comprise the traditional philosophies, bodies of knowledge and modes of practice to care for the health of Thai people, which are congruent with Thai culture and way of life, and based on the principles of Buddhism. TTM uses various practices to complement each other: medicine, pharmacy, massage, midwifery, maternal and child health care, Buddhist rites and meditation, as well as other rituals based on the belief in a supernatural power or the power of the universe.[75] For example, based on a traditional belief, a part of Thai rice can be used as a herbal medicine for different purposes. *White rice* — to relieve swellings and pains, soak white rice in water and pound it until sticky. Apply the mixture on the swelling or aching area. To help unconscious people or those whose

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[71] World Health Organization (2002). WHO Traditional Medicine Strategy 2002–2005. Geneva, Switzerland, WHO.

[72] Ibid.

[73] Timmermans, K. (2003). "Intellectual property rights and traditional medicine: policy dilemmas at the interface." Social Science & Medicine **57**: 745–756.

[74] World Health Organization (2002). WHO Traditional Medicine Strategy 2002–2005. Geneva, Switzerland, WHO.

[75] Chokevivat, V. and A. Chuthaputti (2005). The Role of Thai Traditional Medicine in Health Promotion 6 GC H P Bangkok Thailand 2005 Bangkok, Thailand, Department for the Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, Thailand

hands and feet are cold as a result of submerging in water, apply newly-roasted rice wrapped in a piece of cloth to their body. *Spike (ear of rice)* — squeeze and mix it with sugar to refresh patients. *Paddy* — to prevent wasting diseases, drink the water extract from newly-gathered paddy. *Rice root* — to prevent malnutrition, local remedies are prepared by mixing 10-inch tall rice roots with cough medicine. *Rice stubble* — harvested paddy stubble can be used as emmenagogues to stimulate menstruation; and *Cargo rice* — cooked cargo rice can prevent beriberi.[76]

There are several traditional healers called 'mor baan' who have played an important role in Thai health prior to the introduction of Western medicine. Today, although modern health professionals play a key role in providing health care in the Thai health care system, around 50,000 traditional healers, choosing their roles according to their ancestors and their practice, still exist in most rural areas. Based on a holistic and flexible approach suited to people's lifestyles and needs, all are trained in multiple skills, using supernatural spirits, ceremonies and natural plant products as resources for counteracting various health problems.[77]

The main reasons for the Thai government reconsidering the value of TM and deciding to revive TTM and to integrate it into the national health system can be summarised as follows:[78]

1. The WHO policy on indigenous medicine and primary health care (PHC). In 1978, WHO/UNICEF issued the Alma-Ata Declaration urging member countries to formulate national policies, strategies and plans of action to launch and sustain PHC as a part of comprehensive national health systems in order to attain the 'Health for

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[76] Department of Foreign Trade, Ministry of Commerce. "Thai Hom Mali Rice." 2012, from http://www.thai-hommalirice.com/ewt_news.php?nid=1.

[77] Suwankhong, D., P. Liamputtong, et al. (2011). "Existing Roles of Traditional Healers (*mor baan*) in Southern Thailand." Journal of Community Health **36**(3): 438-445.

[78] Chokevivat, V. and A. Chuthaputti (2005). The Role of Thai Traditional Medicine in Health Promotion 6 GC H P Bangkok Thailand 2005 Bangkok, Thailand, Department for the Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, Thailand

All by the Year 2000' target. This included the promotion of the maximum level of community involvement and individual self-reliance and participation and making the fullest use of local, national and other available resources, e.g., medicinal plants, indigenous medicine and appropriate technology.

2. The high cost of modern medicine and loss of self-reliance in health care. It was estimated that the inability of modern doctors to assess the cost-effectiveness of their treatments and non-compliance with the essential drug policy accounted for the wasting of tens of billions of baht per year. Moreover, most of the health-care budget was spent on diagnosis and treatment rather than on health promotion and disease prevention, which cost less. The reliance on modern medicines, even for the relief of common minor symptoms, which in the past could easily have been healed with herbal medicines, led to the country losing its ability to rely on domestic health care resources, or its ability to control national spending on health care.

3. Awareness of the limitations of modern medicine. Even though modern medicine can successfully treat many infectious and serious diseases and increase life expectancy, it also has some limitations, i.e., serious side-effects caused by certain classes of drugs, the high cost of medicines and technology, and the inability to cure several lifestyle-related chronic diseases, e.g., hypertension, diabetes, or cancer. Therefore, TM might serve as an alternative choice for people.

4. Problems with the quality of the TTM health-care system. Although modern medicine is the mainstream health system, TTM services are still available for people in rural as well as in some urban areas of the country. However, owing to over 60 years of neglect, the overall quality of the TTM health-care system is seriously in need of major improvements to conserve local wisdom and for consumer protection.

5. The potential of TTM practice and herbal products for the country's economy. Following the Dietary Supplement Health and Education Act (DSHEA) coming into effect in 1994 in the US, the 'health conscious' move towards exercise, good diet and the use of dietary supplements for health promotion spread all over the world. This global trend led to the opening up and expansion, in the West, of the botanical dietary supplement market, worth tens of billions of dollars. Hence, the government has fully

supported the research and development (R&D) of new herbal products by research institutes and the production of herbal products by industry in order to satisfy the global demand. In addition, the global boom in the spa and wellness business during the past decade has not only kept the demand for herbal products high, but it has also created the opportunity for Thai people to learn Thai massage and work as massage therapists at home and abroad. The training of traditional Thai masseurs/masseuses using the Ministry's curricula is now conducted in many schools to meet the demands of the spa business.

6. The success of China and India in integrating traditional medical knowledge into modern medicine in their national health systems serves as good examples of the benefit that countries and people may gain from TM. The success of these two countries has helped to boost the confidence of other countries in developing their own TM and promoting its integration into the mainstream health system.

1.8.2 Traditional Thai cuisine

Thai food is a combination of both indigenous foods and the influences of other countries such as China, India, Java or Indonesia, and even Portuguese cuisines, among many others. Northern Thai food was influenced by the Chinese and Burmese culinary schools, and most of the food has a mild taste. Northeastern or *Isaan* Thai food reflects the long relationship with a neighbouring country. Southern food is typified by the Malay culinary culture. The Central Plain is a melting pot where different culinary spheres have mixed. The invention of the culinary arts of the royal courts has highlighted food's beautification and presentation, such as fruit and vegetable carving, as well as the harmonisation of tastes by using a great variety of herbs and spices, examples are: coconut, cardamom, chilli, cinnamon, clove, coriander, cummin, galanga, garlic, ginger, kaffir lime, krachai, lemongrass, mint, and shallot.[79]

[79] The National Identity Board (2005). Thailand: Traits and Treasures, The National Identity Board, Office of The Permanent Secretary, The Prime Minister's Office, Royal Thai Government.

Thai people have developed effective methods of preparing Thai traditional beverages (or 'nam' in Thai) with healthy and refreshing properties, from ancient times, by using traditional and local wisdom and knowledge of local plants. The preparation and techniques involved in making beverages from flowers, fruits, leaves and sugar cane include infusion, decoction, concoction, expression, and exudation. A variety of juices from some parts of plants are considered to be antidotes to some forms of chemical poisoning, with effects ranging from fever reduction to bile and gall bladder treatment to lowering blood sugar levels.[80]

1.8.3 Thai handicrafts and clothes

Thai handicrafts are products of intricate creativity and long-held heritage of the Thai people in various parts of the country. They are made primarily for practical and aesthetic purposes and can be classified into different categories such as Nielloware, Bronze Ware, Weaving, Lacquer Ware, Enamel Ware, Ceramics, Mother-of-pearl Inlay Products, Wood Ware, Basketry and Silverware.[81] There are also numerous types of locally hand-woven textiles in Thailand depending on the raw materials in each locality. Thai locally hand-woven silk textiles are categorised, depending on their characteristics and the method of weaving, into various types such as Mudmee (IKAT), Jok, Khit, Praewa, Yok Dok, Khao, Yoh Muk, Khuab Sen, Lue Khat, etc. The textile patterns mostly originate from weavers' imaginations and the nature that has surrounded them since ancient times.[82]

1.8.4 Architecture

Thailand's architecture is an amalgam of ideas borrowed from other sources, but blended in the alembic of Thai architects' genius to evolve an architectural aesthetic

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[80] Chomchalow, N. and A. Hicks (2001). "Health Potential of Thai Traditional Beverages." AU J.T. **5(2)**(Assumption University): 20.

[81] The National Identity Board (2005). Thailand: Traits and Treasures, The National Identity Board, Office of The Permanent Secretary, The Prime Minister's Office, Royal Thai Government.

[82] Ministry of Culture, Thailand (2001). "Art of Fabric Patterns: Her Majesty the Queen and Her Attempts to Conserve." Thai Culture Magazine **2**(3): 2-5.

and the language to express it. Buddhists modified many of the Hindu concepts of India to fit their own needs.[83] The *Wat Po* temple in Bangkok, for example, constructed in the nineteenth century, and historically the centre of the Royal Tradition of Thai medicine, has retained its importance as a medical facility. Housing the ancient stone tablets, the temple has long been a repository for healing techniques like a medical library of traditional herbalism and massage.[84]

Cultural heritage in Thailand has been regarded as less important in the modern context of development due to the lack of sufficient and effective management, as well as problems and conflicts among national and local authorities, causing difficulties in protecting, conserving and managing cultural heritage. Also, a lack of awareness and the inadequate preparation of local authorities have various effects on the safeguarding and managing of cultural heritage at the operational level.[85]

1.8.5 Thai indigenous arts, dance, music and plays

Thailand has seen the emergence and extinction of a number of widely varying art styles. These have been brought unaltered from countries such as India, Sri Lanka and Cambodia, and been developed by indigenous populations, or have resulted from a fusion of several modes, alien and native, to create one, which is entirely new.[86]

Thai traditional dance has grown rapidly due to cultural and tourist promotions. New experimental productions using Thai traditional dance as the main element have been increasing in number. Many of these have expressed local folk life and work. Thai dance and dance drama have been handed down through the centuries from generation

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[83] Beek, S. V. and L. Invernizzi (1999). The arts of Thailand, Periplus Editions (HK) Ltd.

[84] Salguero, C. P. (2004). Encyclopedia of Thai Massage: A Complete Guide to Traditional Thai Massage Therapy and Acupressure, Findhorn Press, Scotland.

[85] Ruktae-Ngan, K. (2003). Monument Grading System as a Means for Local Management of Cultural Heritage in Thailand. Faculty of Architecture, Civil Engineering and Urban Planning. Cottbus, Germany, Brandenburg University of Technology. Master of Arts in World Heritage Studies: 152.

[86] Beek, S. V. and L. Invernizzi (1999). The arts of Thailand, Periplus Editions (HK) Ltd.

to generation through the oral tradition. They have been preserved and adopted, with artists sometimes adapting them and using innovations to adjust to the constant changes in Thai society. Music is an indispensable ingredient of dance and dance drama and each genre tends to have its own master tune, which is used throughout the whole performance.[87] Some examples of Thai plays and indigenous arts are Shadow Play (*Nang Yai*), Thai Chess (*Makruk*) and Thai Boxing (*Muay Thai).*

1.8.6 Local customs, traditions, common practices and religious rites

The traditional Thai mode of greeting is called '*Wai*', carried out by joining the palms of hands and bowing heads in order to show respect. The head is considered to be the highest and purest part of the human body by the Thai people. It is mandatory to open one's footwear before entering a temple or a house. It has been the tradition of Buddhist families in Thailand to send twenty-year-old boys to endure a three-month monkhood. In traditional Buddhist marriages the couple must first bow before the idol of Buddha, and the presence of a monk during a marriage ceremony is considered to be ominous. Thai funerals usually last for one week; the monks chant hymns and after the cremation of the body, the ashes are put in an urn and kept in a Chedi in the local temple.[88]

As part of the Thai tradition, Thai folk celebrate festivals such as the Royal Ploughing Ceremony, and a rice farming ceremony that gives moral support to Thai farmers and blesses them with a good harvest. Songkran is the observance of the Thai New Year, which is based on the lunar system and is celebrated on 13-15 April every year and Loy Krathong is a much cherished festival held during high tide in the middle of the

[87] Virulrak, S. (1999). Preservation and Promotion of Traditional/Folk Performing Arts: 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

[88] Asiarooms.com. (2011). "Culture of Thailand." from http://www.asiarooms.com/en/travel-guide/thailand/culture-of-thailand/index.html.

lunar month. People make krathongs to float along the river in order to pay their respect to the water goddess (Kongka Mother) and to thank her for her kindness.[89]

1.8.7 Thai legends and folklore/folktales

Legends and folktales customarily consist of tales and stories handed down from generation to generation. Not only do they reflect a particular cultural heritage in the form of entertainment but they also embody local ideas, beliefs and surroundings. Although the four cultural groups in Thailand are divided into Northern, Central, Northeastern and Southern regions and each may have experienced different historical, social and cultural developments, all share a common belief in Buddhism and a comparable tradition of agricultural society.[90]

1.8.8 Traditional Thai medical massage

Massage has a long history of therapeutic healing, and it is still practiced in Thailand today. The origins of Thai massage can be traced back to oriental medicine and yoga. Thai massage is directly related to *Ayurvedic* principles, which originated in India, and is said to have arrived in Thailand with Buddhism. *Ayurvedic* bodywork is a form of therapy based on a theory of the flow of energy between specific points on the periphery of the body and the internal organs. So, even when treating a disease or injury associated with a particular part of the body, a therapist will typically work on acupressure points.[91]

Medical knowledge originally passed down from generation to generation by word of mouth, but since the Sukhotai Era (1240 to 1320), it has also been preserved in stone inscriptions, on palm leaves and by other means. In 1836, over 1,000 formulae and the

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[89] Office of Natural Resources and Environmental Policy and Planning (2009). Thailand: National Report on the Implementation of the Convention on Biological Diversity, Ministry of Natural Resources and Environment, Bangkok, Thailand**:** 76 p.

[90] The National Identity Board (2005). Thailand: Traits and Treasures, The National Identity Board, Office of The Permanent Secretary, The Prime Minister's Office, Royal Thai Government.

[91] Salguero, C. P. (2004). Encyclopedia of Thai Massage: A Complete Guide to Traditional Thai Massage Therapy and Acupressure, Findhorn Press, Scotland.

knowledge and theories of TM with respect to the origins of diseases and their treatments were gathered and inscribed on marble tablets and placed on the walls of Thai temples, i.e. Wat Po and Wat Raja Oros. The marble tablet inscriptions also included the principles of Thai traditional massage with explanations of the symptoms or diseases each massage spot could heal. In the carvings are 60 diagrams of the body, 20 of which explain the energy lines and the four elements, earth, water, wind and fire; the other 40 describe the effect of the therapy points. Many of these points are used to treat orthopedic disorders, but many others are aimed at treating internal disorders. During its history, generations of practitioners have composed combinations of massage spots to treat many diffferent orthopedic ailments.[92]

Attempts have been made to develop a centralised organisation at the national level to control the education and licensing of practitioners, and to standardise the practice and teaching of Thai massage, so that it more accurately reflects the theoretical foundations of the royal tradition.[93]

1.8.9 Thai spa

Thailand is one of the best spa destinations, famous for the healing power of various indigenous herbs and plants. Thai traditional healing is based on the use of herbal remedies and traditional practices such as massage and heat therapies. Many of the rejuvenating treatments offered in modern spas have evolved from these ancient practices. The term ‘spa’, derived from the Latin phrase ‘*solus per aqua*’, or health through water, is also the name of a town in Belgium where Roman legionnaires took advantage of the natural therapeutic mineral springs. Spas are generally facilities where individuals can receive a variety of treatments to promote and enhance their overall health, beauty, and well-being. Thai spas now have many professionally

[92] Tyroler, N. (2008). "Thai Accupressure: the medical branch of Thai massage, Traditional protocals for the treatment of orthopedic disorders as instructed by the school of Wat Po, Bangkok." from http://www.thaiacu.com/thai_acupressure_history.html.

[93] Salguero, C. P. (2004). Encyclopedia of Thai Massage: A Complete Guide to Traditional Thai Massage Therapy and Acupressure, Findhorn Press, Scotland.

trained therapists and masseuses with a friendly and caring nature, offering gentle service and hospitality.[94]

1.8.10 Yoga/Meditation

Yoga has long been a part of Thai massage. In India, the art of yoga developed into an individual spiritual practice, while in Thailand it is largely seen as a collective medical practice.[95] One study suggested that the brains of experienced meditators may work differently to the brains of those who do not meditate, with decreased activity in an area of the brain called the default mode network, a region that is usually active when the mind wanders. The practice could help to increase awareness, improve concentration, and lead to a better ability to deal with cognitive and emotional stresses. It may also be helpful to sufferers of mental illnesses such as anxiety, depression, post-traumatic stress disorder, and schizophrenia.[96]

This section shows a potentially vast array of Thai TK that would need protection. As Thai local knowledge has been developed, sustained and passed on from generation to generation, TK is not easy to define and also is not easily protected by the current IP system. We are, therefore, looking at the need for a *sui generis* system to see whether a *sui generis* system would be a better option for protecting a vast range of TK, including the need for the establishment of a well-managed database to identify and acknowledge TK, as well as a benefit-sharing scheme and greater international co-operation.

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[94] Wetprasit, P. (2006). Impacts of work-realted determinants on job satisfaction and retention intentions in Thai SPA industry Faculty of the Graduate College of the Oklahoma State University, Oklahoma State University. **Doctor of Philosophy**

[95] Salguero, C. P. (2004). Encyclopedia of Thai Massage: A Complete Guide to Traditional Thai Massage Therapy and Acupressure, Findhorn Press, Scotland.

[96] Gann, C. (2011). Brain Imaging Illuminates Neuro Basis of Meditation. ABC News Medical Unit.

1.9 Thailand's main agricultural products

Thailand is aware of the importance of its agricultural sector, which has historically played a vital role in the country's economy and development. According to the Ministry of Agriculture and Cooperatives of Thailand, Thai agricultural goods are expected to meet 'Agricultural Goods Standards', which means methodological or procedural guidance in relation to the characteristics of agricultural goods, production methods and steps, including implementation related to sanitation and safety. The standards arise from a collaboration between producers and consumers and are accepted by both parties as the norm for implementation related to any particular agricultural goods in terms of Food Safety, Standards, and Sanitary and Phytosanitary Measures.[97] Rice standards should be in accordance with the Notification of Ministry of Commerce.[98]

Examples of important Thai agricultural products include: rice, cassava, rubber, corn, sugar, tobacco, kenaf, pineapples and coffee beans. Rice is one of the most fundamental food sources for the world's population. The United Nations reports that rice makes up 20% of the world's diet and more than one billion households worldwide depend on rice production as a source of income.[99] The famous Thai Jasmine rice or *kao hom mali* is the Kao Hom Mali 105 variety (KDML105), which is unique in its aroma and characteristics.

Several agricultural products from all over the country and some from other countries have been already registered as GIs in Thailand, for example: Nakornchaisri Pomelo; Phetchabun Sweet Tamarind, Phurua Plateau Wine, Suratthani Oyster, Chainat khaotangkwa pomelo, Sriracha Pineapple, Trang Roasted Pork, Doi Tung Coffee, Doi

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[97] Ministry of Agriculture and Cooperatives, Thailand. "Agricultural Goods Standards." from http://eng.moac.go.th/ewt_news.php?nid=116&filename=index.

[98] Please see Notification of Ministry Of Commerce, Subject: Rice Standards B.E. 2540, Published in the Royal Gazette Vol. 114, Section 31 D. dated 17 April B.E. 2540 available at http://www.dft.go.th/level4Frame.asp?sPage=the_files/$$8/level4/rice_standard.pdf&level4=599.

[99] According to the United Nations Food and Agriculture Organization (FAO), Commodities and Trade Division.

Chaang Coffee, Khao Sang Yod Muang Phatthalung, Nanglae Pineapple, Chiangrai Phulae Pineapple, Chaiya Salted Eggs, Sakon Dhavapi Haang Golden Aromatic Rice, Thung Kula Rong-Hai Thai Hom Mali Rice, TKR, Surin Hom Mali Rice, Kalasinth Praewa Silk, Lamphun Brocade Thai Silk, Ban Chiang Pottery, PISCO from Peru, Champagne from France, Cognac from France, Brunello Di Montalcino from Italy, Prosciutto Di Parma from Italy, Napa Valley from California, USA, and Scotch Whisky from Scotland.[100] In the EU, Thailand has already received Protected Geographical Indication (PGI) for Khao Hom Mali Thung Kula Rong-Hai.[101] Doi Tung coffee and Doi Chaang coffee are the second and third products from Thailand to receive GI from the EU.[102] Several other Thai products are being considered for potential future applications.

1.10 Examples of conflicts about agricultural and non-agricultural products

This section highlights the existing problems, examples of misappropriation of both Thai agricultural and non-agricultural products. It reveals that Thailand already has misappropriations and the knowledge exploitation is owned by non-Thai people and/or organisations. Often, informal knowledge has been made publicly available and exploited without adequate compensation, and occasionally it has been claimed as the IPRs of researchers or companies. Such illicit and uncompensated appropriation of

[100] Geographical Indication Registration in Thailand can be checked online on the official website of the Department of Intellectual Property at http://www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=category&sectionid=24&id=676&Itemid=573.

[101] Check for the update at The European Commission. "Agriculture and food: DOOR." 2013, from http://ec.europa.eu/agriculture/quality/door/list.html.

[102] From 3rd August 2015, these both Thai coffee brands can use the GI mark, which will be able to export more. In 2014, Thailand exported 700 tonnes of coffee, 10% was exported to EU.

TK is exploitative and is a cause for concern among governments of developing country as well as among indigenous and local communities.[103]

Jasmine rice is not the only Thai example; other TK and products have been threatened by inappropriate exploitation. Corporations and private research institutions in industrialised countries have utilised this knowledge and subsequently patented genes, identified medicines and produced new plant varieties for their own commercial benefit. Thai TK is, therefore, facing threats from the misappropriation of the knowledge of local communities and indigenous people with no foreseeable benefit returning to these communities. One possible consequence of this is that some TK and biodiversity may be lost completely as communities are no longer able to maintain their way of life.

1.10.1 The case of marine fungi

In one research project, there was a custody battle between Thailand and a UK university over local fungi strains with potential medicinal uses. At issue was a collection of more than 200 strains of marine fungi, taken from mangrove and coastal areas in southern Thailand, which were stored in laboratories in the UK's Portsmouth University. A Portsmouth University professor took the marine fungi specimens in 1993 as part of a research project sponsored by a pharmaceutical company. They were finally returned years later.[104]

1.10.2 The case of Plao-noi (Croton sublyratus)

The medicinal uses for this plant have been documented in Thailand's traditional palm leaf books for centuries. The primary use of plao-noi has been for the treatment of peptic ulcers. In 1975, Sankyo of Japan extracted the active ingredient of the local

[103] Kuanpoth, J. (2005). "Closing in on Biopiracy: Legal Dilemmas and Opportunities", in Meléndez-Ortiz, R. and V. Sánchez (eds.), Trading in Genes: Development Perspectives on Biotechnology, Trade and Sustainability, Earthscan, London, pp.139-152."

[104] Noikorn, U. J. (1998). Some strains sold to drug companies. Bangkok Post. Bangkok, Thailand.

Thai plant to produce the patented product, Kelnac.[105] The active ingredient in the plant, plaonotal, was extracted by the second largest pharmaceutical company in Japan and consequently patented. Patents have also been approved in the US for novel extraction methods for the active ingredient in plao-noi. Currently, it is reported that an American patent-holding company is considering commercial production of medicines based on plao-noi.[106]

1.10.3 The case of Rusie Dutton

Rusie Dutton or 'Hermit Body Twists' refers to the traditional art of body twisting exercises, comparable to India's Yoga, that has existed in Thailand for at least 200 years. Japanese entrepreneur Mr Masaki Furuya submitted two trademark applications under the name 'Rusie Dutton', in both English and Japanese letters. The first application, submitted on 24 February 2006, was for prints, including books and magazines. The second application, submitted on 17 March, 2006, was for his services of teaching the public Thai body twists, as well as other activities related to the art of body twisting. His business was established as a non-profit organisation, as stated on his website. The Japan Patent Office (JPO) approved these applications and allowed the public a chance to object to their decision within 60 days of the approval date. These periods ended on 29 May and 17 June 2006 for the two trademarks, respectively. On 26 May, Thailand's Ministry of Commerce submitted an objection to the approval of the first trademark.[107] Thailand's Department of Intellectual Property (DIP) contested the JPO's approval of the trademark applications on the grounds that Rusie Dutton is a common name, which according to both Japanese and international law, cannot be registered as a trademark. Another reason was that international and Japanese property laws prohibit registration of widely recognised goods and services

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[105] GRAIN, AND KALPAVRIKSH. TRADITIONAL KNOWLEDGE OF BIODIVERSITY IN ASIA-PACIFIC.

[106] Bangkok Bank. (2001). "Thai Herbal." from http://www.bangkokbank.com/Bangkok+Bank/Business+Services/Corporate+Banking/News+and+Info/Economic+News+and+Research/News/Thai+Herbal.htm.

[107] International Institute for Trade and Development. (2006). "Trademarking Traditional Knowledge: the Case of Rusie Dutton." from http://www.itd.or.th/en/node/406.

without innovation.[108] The JPO later decided in favour of Thailand, and Mr Furuya did not appeal.

1.10.4 The case of Sriracha chilli sauce

'*Sriracha*', a chilli sauce for dipping, was originally a Thai hot sauce named after the seaside city of *Sri Racha* in the Chonburi Province of Thailand. It is another potential GI in Thailand. Globally and especially in the US, some consumers believe Sriracha to be a Thai sauce, others think it is Vietnamese or American as it is manufactured by Huy Fong Foods, California, who claim the recipes to be their own.[109]

1.10.5 The case of Kwao Krua

In 1999, Thai patent No. 8912 was granted on a composition containing Kwao Krua, an indigenous medicinal herb with much potential for human sexuality. Due to some peculiarities in the way the claims were written, many people were confused and were led to believe that the patent granted exclusive rights for all products containing over 10 per cent Kwao Krua. It turns out that the patent examiners did not have access to the non-patent literature of traditional medicine.[110]

In the US, a patent application was rejected for cosmetic uses of extracts of the Thai vine *Kwao Krua*. This has long been practiced by indigenous healers and is documented in Thai religious literature. If enforced locally the patents on *Kwao Krua*

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[108] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

[109] Edge, J. T. (2009). A Chili Sauce to Crow About. The New York Times.

[110] Tanasugarn, L. (1999). "When patent rights may not be enforceable: The case of Kwao Krua patent." Intellectual Property and International Trade Law Forum (Special Issue 1999), Central Intellectual Property and International Trade Court. Bangkok, Thailand.

would prevent Thai healers from selling their preparations in Thailand, and enforcement abroad would prevent their export.[111]

1.10.6 The case of bitter gourd

Thailand has a big problem with AIDS and Thai scientists continue to research all sorts of avenues in an attempt to relieve suffering and maybe develop a medicine to prevent against infection from the HIV virus. One research team was focusing on bitter gourd (*Momordica spp.*), which Thai scientists found to contain compounds that work against HIV. The variety is called 'Bird Droppings Gourd' in Thai, because of its small size. The Thai team recently learned that American scientists had not only copied their research agenda, but had patented in the US, the active Map-30 protein from a native strain of Thai bitter gourd. The Thai scientists feel that their work as well as the country's indigenous biodiversity has been misappropriated.[112]

1.10.7 The case of traditional Thai cloth/silk

Although Thai silk products have been exported to many countries, they still have limitations. For example, Thai weavers only know a few textile patterns mostly dependent on the needs of weavers and wearers; Thai silk woven by local people usually fades; local people do not know how to use chemical dyes in proportions suitable for the quantity of silk thread and the dyes they use are of low quality; they do not know how to use natural, low-cost coloured dyes; silk threads are not woven neatly, hence the beauty of the patterns is sub-standard; and production by the silk

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[111] Robinson, D.F. (2010). "Locating biopiracy: geographically and culturally situated knowledges." Environment and Planning. 42: 38-56.

[112] Assisi Foundation, Biothai, CEC, GRAIN, Greens Philippines, Hayuma, MAPISAN, MASIPAG, PAN Indonesia, PDG, SIBAT, TREE, Dr Romy Quijano (University of the Philippines) and Dr Oscar Zamora (University of the Philippines). (1998). "Biopiracy, TRIPs and the Patenting of Asia's Rice Bowl: A collective NGO situationer on IPRs on rice." from http://www.grain.org/briefings/?id=29.

industry is not seriously promoted, therefore silk products are sold in small quantities.[113]

This is an example of unauthorised reproduction and false claims of traditional hand-made Thai silk from other countries. Unique oriental silk products made by households in Surin Province represent major exported Thai goods. There is no specific law to seriously protect Thai silk works. Existing laws may not reflect the protection of Thai silk works or be in the spirit of Thai culture. The manufacturers of Surin silk works expect that the Government should have special legal measures in place. The designs on silk fabrics may be the copyrighted work of applied art and are protected under Thai copyright law, while ancient patterns on silk fabrics might not be copyrighted work. The embroidery, knitting and weaving methods may be only a work of art, as they are not used for creating applied art work in Thailand. The definition of 'Applied Art' in the Thai copyright Act should be amended so that more forms of Thai art work can be protected.[114]

Ban krua or *Baan Krua*, is a village alongside the Maharat canal in Bangkok, which has been well-known for its precious silk fabric since Jim Thompson, a foreign visitor with a penchant for Thai silk, set up his silk shop and sold silk from this village internationally. The *Ban Krua* silk skill was brought in by Cham people, immigrants from Cambodia, more than 200 years ago.[115] The simple operation changed dramatically when Thompson stepped into the community and gave support to the *Ban Krua* residents' weaving heritage by helping them to improve their designs and patterns. He also introduced them to chemical dyes and the vivid and bright shades added value and variety to their work.[116]

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[113] Ministry of Culture, Thailand (2001). "Art of Fabric Patterns: Her Majesty the Queen and Her Attempts to Conserve." Thai Culture Magazine **2**(3): 2-5.

[114] Sirisakbunjong, T. and C. Tamisanont. (2010). Copyright in Thai Silk Works : Study about Thai Silk Works in Surin Province.

[115] Thai Silk Home. (2008). "About Ban Krua." from http://www.thaisilkhome.com/bankrua.html.

[116] Kranlert, P. (2009). Silken Ties to Thai History Bangkok Post. Bangkok, Thailand.

The village woman's hand-woven tubeskirts or '*Phasing*', for which the ancient craft of weaving fibres ranging from cotton to luxurious silk decorated with silver and gold thread has been used, are found in many parts of Thailand. These textiles require different technical weaving knowledge, design patterns and dying art. The women of each region have born the exclusive responsibility for preserving the original characteristics of weaving and passing this tradition down from generation to generation without change for centuries.[117]

1.10.8 The case of the 'Jeeb' hand position

The Ministry of Thai Culture has taken ownership and wishes to take back the 'jeeb' hand position, with the thumb and index finger touching and the three other fingers fanned out, in traditional dancing and the shadow play from Cambodia because it is part of Thai cultural heritage. In 2008, Cambodia had the Sbek Thom, Khmer Shadow Theatre, inscribed on the Representative List of the Intangible Cultural Heritage of Humanity (originally proclaimed in 2005) along with the Royal Ballet of Cambodia, also known as Khmer Classical Dance (originally proclaimed in 2003), which included graceful hand gestures including the 'jeeb' hand position.[118] The claiming of the ownership of the 'jeeb' has caused tensions between both countries, and UNESCO is likely to consider the origins of the 'jeeb'. There are worries that the rights to UNESCO's listings of similar items could possibly be deprived.

1.10.9 The case of Moken or Chao Lay

There is an ethnic group of sea nomads called 'Moken', generally known as *Chao Lay*, who have developed their TK and belief system over several centuries. Their intimate knowledge of the sea and the forest, boat-building skills and other technologies has been obtained by interactiing with local ecosystems and from

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[117] Manomaiphibul, W. and P. Ounsiri (1995). Hand woven tubeskirts: Traditional weaving of Thailand, AGRIS: International Information System for the Agricultural Sciences and Technology.

[118] The Nation. (2011). "Thailand wants to take back the 'jeep'." from http://www.nationmultimedia.com/2011/08/11/national/Thailand-wants-to-take-back-the-jeep-30162548.html.

observation and experimentation in everyday life. It comprises: 1) knowledge and skills that depend upon simple technologies that have minimal impact on the natural environment and its resources; 2) a nomadic life with frequent displacements that allow the Moken to rotate their foraging grounds and prevent overuse and degradation of specific areas; 3) knowledge about numerous forest and marine species, their characteristics, behaviour, habitats and eco-niches, which enables the Moken to make use of a diversity of local ecosystems; 4) a hunter-gatherer livelihood focusing primarily upon subsistence, with little accumulation of material goods, and 5) a philosophy and belief system that holds that natural resources are not owned individually, but are to be shared without restrictions on access. The sharing ethic is very strong within the community and resources are shared with fellow humans as well as with supernatural beings. The Moken are likely to lose their TK and sustainable livelihood as this system of TK and know-how has never been recognised or respected. It has been misinterpreted as a 'primitive', underdeveloped, and materially poor livelihood.[119]

1.10.10 The case of *the Temple of Preah Vihear*

The Temple of Preah Vihear[120] is one of the most impressive Hindu temples, situated on the contentious borderland between Thailand and Cambodia. While most Khmer sanctuaries face east, Preah Vihear faces north towards the highlands, which form a part of modern Thailand.[121] In the case of the Temple of Preah Vihear, between Cambodia and Thailand, the International Court of Justice (ICJ)'s Judgment of 15th June 1962 concluded that Thailand had accepted the frontier at Preah Vihear as it was drawn on the Annex I map, which France and Cambodia had relied upon. Thailand had enjoyed such benefits for fifty years. The Court therefore felt bound to pronounce in favour of the frontier indicated on the Annex I map of the disputed area and it

[119] Arunotai, N. (2006). "Moken traditional knowledge: an unrecognised form of natural resources management and conservation." International Social Science Journal **58**(187): 139-150.

[120] Known as Khao Phra Viharn in Thailand.

[121] St.John, R. B. (1994). "Preah Vihear and the Cambodia-Thailand Borderland " IBRU Boundary and Security Bulletin: 64-68.

became unnecessary to consider whether the line, as mapped, did in fact correspond to the true watershed line. The Court found that the Temple of Preah Vihear was situated in territory under the sovereignty of Cambodia and that Thailand was under an obligation to withdraw any military, police forces, other guards or keepers from the Temple, or its vicinity who were on Cambodian territory. Thailand was obliged to restore any sculptures, stelae, fragments of monuments, sandstone models or ancient pottery to Cambodia; these may, after the date of the occupation of the Temple by Thailand in 1954, have been removed from the Temple or the Temple area by the Thai authorities.[122] Cambodia asked the Court to interpret its 1962 Judgment, to explain the sovereignty of the disputed area surrounding the temple, and has requested an indication of provisional measures.[123] In 2013, the Court concludes that the 1962 Judgment determined that Cambodia had sovereignty over the whole territory of the promontory of Preah Vihear and Thailand is required to withdraw Thai military or police forces, or other guards or keepers from that territory.

1.10.11 The case of the Thai Supreme Court building

Historically in Ayuthaya and early Rattanakosin Eras, citizens appealed directly to the King. In 1891, King Rama V set up the Ministry of Justice and gathered all courts into the Ministry. Today, the courts, being independent from the Minister of Justice, are divided into three levels: Courts of First Instance, Courts of Appeal and the Supreme Court. The President of the Supreme Court, as the head of the Judiciary, has ultimate authority over the Courts of Justice, completely independently of other branches of government, while the Office of the Judiciary has autonomy in personnel administration, budgeting and other activities.[124]

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[122] Summarised from International Court of Justice, Case concerning the Temple of Preah Vihear (Merits) Judgment of 15 June 1962, available at http://www.icj-cij.org/docket/index.php?sum=284&code=ct&p1=3&p2=3&case=45&k=46&p3=5

[123] Foreign Office, The Government Public Relations Department, Office of the Prime Minister (2013). Government Reiterates Its Strong Intention to Protect Thailand's Sovereignty on the Phra Viharn Temple Issue. Bangkok, Thailand.

[124] The Office of the Judiciary of Thailand. "The Supreme Court of Thailand." 2013, from http://www.supremecourt.or.th/file/dika_eng.pdf.

The Supreme Court building was built in 1939 by the Pibulsonggram Government, and in 2009 it received a conservation award from the Association of Siamese Architects (ASA). The Office of the Judiciary's plan, based on a cabinet resolution passed in 1988, is to dismantle buildings inside the Supreme Court's compound in the historic Rattanakhosin area of Bangkok and to replace them with modern Thai architecture. This has caused a dispute between the Thai Supreme Court and the Department of Fine Arts as well as public uproar. For some opponents, these buildings are historically important structures as they are protected by the Historic Buildings and Historic Artefacts Act 1961. The new buildings would breach the height limit of the building control code, so the old buildings should be restored rather than demolished.[125]

These are some examples of a variety of TK misappropriation, clearly demonstrating that the current IP regime is not effective and that it is difficult to fit TK into traditional IP protection schemes.

1.11 Legal issues surrounding Thai Jasmine rice

1.11.1 Cultural significance, situation and the changing role of Thai Jasmine rice

Globally, rice is one of the most fundamental food sources for the world's population. The UN reports that rice makes up 20% of the world's diet and more than one billion households worldwide depend on rice production as a source of income, according to the FAO. Generally, rice is grown on small family farms, except in the USA, Australia, Southern Europe, and parts of South America. Rice production and post-production processes in Asia are severely compromised by pests, diseases, and physiological and environmental factors.[126] Rice is seen by many Asian governments

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[125] Local News (2012). Expert blasts 'Ilegitimate' supreme court demolition. Bangkok Post. Bangkok, Thailand.

[126] Redoña, E. D. and L. F. G. Mula (2004). "Some Imperatives and Challenges for Rice Biotechnology in Asian National Agricultural Research and Extension Systems." Asian Biotechnology and Development Review **7**(1): 9-38.

as a strategic commodity, as it is the single most important element in the diet of the poor and an important source of employment and income for farmers. Large fluctuations in rice prices lead to political disturbances. As a result, governments intervene in their country's rice market. These interventions take many forms: subsidies and taxes on inputs and outputs, government control of international trade, and the direct participation in marketing through the procurement and distribution of grains.[127]

More than a century ago, Thai farmers developed the ancestors of Thai Jasmine rice. Following World War II and nearly two decades of testing, the Thai government board officially released Jasmine; 'Khao Dawk Mali' in the vernacular. It is generally harvested by hand. Thai Jasmine rice is a rice variety that is indigenous to Thailand, due to the appropriate temperatures and soil conditions, and millions of livelihoods depend upon it. It grows well in drought conditions and on saline soils.[128] The major rice plantation is in the Northeast of Thailand (Thung Kula Field). Surin, Buri Rum, Si Sa Ket, Nakhon Ratchasima, Ubon Ratchathani, and Roi Et Provinces are the major producers of the region. The second largest production area is in the North. These regions are suitable due to their similar climates and geography; they are hilly and have a rainy season from May. Farmers will start ploughing in June and planting around July and August, they will begin harvesting in November, when there is low humidity as there is a cool wind from China blowing into these two regions. The dry season is appropriate for harvesting, drying, and threshing because there is no seasonal rain and good quality rice crops will result.[129] The future of Thailand and poor farmers relies on the sustainable management of the Thai Jasmine rice sector and of the Thai collective heritage.[130]

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[127] Hossain, M. and J. Narciso (2004). **GLOBAL RICE ECONOMY: LONG-TERM PERSPECTIVES** FAO Conference to celebrate the International Year of Rice 2004, " Rice in Global Markets and Sustainable Production Systems" Rome, Italy, FAO.

[128] Ir. Corn van Dooren (2005). Rice Value Chain Analysis ''Each life starts with a little seed"

[129] Department of Foreign Trade, Ministry of Commerce. "Thai Hom Mali Rice." 2012, from http://www.thai-hommalirice.com/ewt_news.php?nid=1.

[130] Lianchamroon, W. (1998). Jasmine Rice of Thailand, Third World Network, Bangkok

1.11.2 Problem awareness

'Khao Hom Mali' is the most well known Thai Jasmine rice, and is grown only in the North-Eastern region of the country. Unfortunately, the name 'Jasmine Rice' and the plant itself has been modified and exploited by non-Thai companies in various countries, which could be misleading or confusing for the public, as they may believe that this other rice is genuine Thai jasmine rice. Researchers have developed, patented or genetically mutated the rice to make a new strain of Jasmine rice for their own commercial benefit, while poor farmers with no bargaining power get almost nothing back.

For example, a US plant geneticist has developed a strain of Jasmine rice able to grow in the US; he received the original seeds of the Thai Khao Dok Mali 105 (KDML 105) Jasmine rice variety from the International Rice Research Institute (IRRI) in 1995.[131] The US Company RiceTech, Inc. registered 'Jasmati' as the US trademark for a Texas-grown version of Jasmine rice from Thailand. RiceTech, Inc. also obtained US patent protection in the form of a plant variety protection certificate under the PVPA. Although the hybrid is in fact derived from a cross between the American 'della' and Italian 'bertone' varieties, evidence has shown that over half of US consumers bought Jasmati believing it to be a cross-breed of Thai Jasmine rice and basmati rice from India/Pakistan.[132] The popularity of Thai fragrant rice has also resulted in the exploitation of the Thai Hom Mali trademark and the Jasmine variety in many other countries including China and Argentina. The 'Thai Hom Mali' trademark, which has been registered in 55 countries by the Ministry of Commerce's Department of Foreign Trade, is used in the packaging of Thai Jasmine rice. A very

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[131] GRAIN, AND KALPAVRIKSH. TRADITIONAL KNOWLEDGE OF BIODIVERSITY IN ASIA-PACIFIC.

[132] Shillito, M. (2002). "Patenting genetically engineered plants." European Intellectual Property Review **24 (6)**: 333-336.

similar trademark has been used on Chinese and Vietnamese rice, which is sold for 20% less in Hong Kong.[133]

The first group to voice concern for Jasmine rice was a nongovernmental agency (NGO) called BioThai, which heard about the alleged misappropriation from an international network of NGOs. Meanwhile, the media reported that the registered Jasmine rice variety for which the US Company was seeking IP protection came from the International Rice Research Institute (IRRI), which had been collecting varieties of aromatic rice from Thailand for over half a century. Some IRRI executives were reportedly acting as advisors to this US Company.[134] The Thai Government are extremely concerned about the potential damage to the Thai rice industry. Various legal moves have been made.

In 2005, the National Human Rights Commission of Thailand (NHRC) issued a statement on 'The Thai-US Free Trade Agreement and its Impacts on Thai Jasmine Rice and Biological Resources', which can be summarised as follows: the Agreement may affect the future of Thai fragrant Jasmine rice and biological resources based in Thailand, and it can also infringe local farmers' rights to get access to local natural resources as well as national sovereignty. The US will demand that Thailand patent all life forms and provide patent or *sui generis* protection for the ownership of plant varieties by joining the UPOV, which would allow the American plant genetic researchers and companies to patent any new variety of rice developed from Thai Jasmine rice. Foreigners may also utilise biological resources from Thailand and seek patent protection without any licensing or royalty payments to share the benefits with Thailand. Furthermore, it will affect Thai farmers' rights and ways of life; for example, they will not be allowed to keep patented seeds for cultivation next season or exchange them with neighbours. The existing laws, including the Plant Varieties Protection Act and the Patent Act will need amendments that will curtail the rights

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[133] Online news (2011). Thai Hom Mali hit by copycats abroad. Bangkok Post. Bangkok, Thailand.

[134] Tanasugarn, L. (1998). "Jasmine rice crisis: A Thai perspective." *Intellectual Property and International Trade Law Forum (Special Issue 1998).* Central Intellectual Property and International Trade Court. Bangkok, Thailand.
, from http://lerson.org/ip/jasmine1.html.

and profits of local farmers and communities. The NHRC proposed that The Thai Government must maintain a strong position in not accepting the US patent regime, which includes the patenting of life forms, ratifying UPOV, and replacing GI with trademarks; and the Thai Government must play a pro-active role in the protection of Thai Jasmine rice, biological resources and TK by calling for the US government to undertake any necessary measures to protect the IP of Thai jasmine rice.[135]

In 2010, Thailand applied to register for Protected Geographical Indication (PGI) for Thai Hom Mali rice with the European Union (EU). Five EU member countries, Britain, France, Italy, the Netherlands and Belgium, opposed Thailand's bid for PGI registration of 'Khao Hom Mali Thung Kula Rong-Hai', commonly known as Jasmine rice. They said that 'Hom Mali or Jasmine rice' is a commonly named rice, which is also grown in other countries, and it would bar European traders from using the words to promote their own rice, but they asked that Thailand should register the name 'Kula Rong-Hai'.[136] The DIP of Thailand reapplied to the EU using the full name, based on the fact that 'Hom Mali' is in the Thai language and in Thailand, Thung Kula Rong-hai is not the specific name of Jasmine rice, so the whole phase 'Hom Mali Thung Kula Rong-Hai' must be used as the full name for PGI registration to clearly signify this kind of rice product. Hom Mali Thung Kula Rong-Hai's certification mark, approved by more than 50 countries, will be shown to the EU to confirm that Thailand has used this name for a long time.[137] The DIP insists that the name 'Khao Hom Mali Thung Kula Ronghai' signifies the product's origin and the words 'Khao Hom Mali', meaning 'Jasmine Rice, are not English.[138]

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[135] See the full version of the Unofficial Translation Statement 'The Thai-US Free Trade Agreement and its Impacts on Thai Jasmine Rice and Biological Resources', available at http://www.nhrc.or.th/2012/wb/download/statement20050614rice.pdf.

[136] Online news (2011). Five European nations oppose Thai registration of Thai Hom Mali rice. MCOT Bangkok, Thailand.

[137] Ibid.

[138] Ngamsaithong, N. (2012). Thailand hopes EU accredits 'Khao Hom Mali Thung Kula Ronghai' rice. National News Bureau of Thailand, Public Relations Department. Bangkok.

In 2013, Thailand's 'Khao Hom Mali Thung Kula Rong-Hai' Jasmine rice has finally been certified as protected designations of origin and protected geographical indications (PGI). It is the first Southeast Asian GI product in the EU and the third non-EU product, after Indian tea and Colombian coffee, to receive such protection and recognition. which will greatly benefit Thai farmers, people and economy. Also, two more products from Thailand, Doi Chang and Doi Tung coffee varieties made from beans cultivated in the hills of Chiang Rai Province, were also seeking GI certification from the EU and have just been granted in 2015, to be followed by Sung Yod rice from Phatthalung Province in the South.[139] However, due to the fact that Thai Jasmine rice is not as well-known as Basmati rice of India and Pakistan or sometimes people even think they are the same thing, and world consumers do not associate Jasmine rice with Thailand, it is important to eliminate this confusion by raising awareness to convince consumers that the name 'Jasmine rice' is a product of distinct quality and of Thai origin.

It is apparent that protecting Thai Jasmine rice through conventional IP law, for example through the use of patent law, copyright law, GIs law, trademark law, or PBR system do not effectively protect Jasmine rice from misappropriation worldwide. 'Jasmine' is arguably a generic name for a plant variety, not a geographical indication *per se*. Most international consumers do not realise that Jasmine rice is from Thailand. For patent, Jasmine rice have been genetically engineered by foreigners to be able to grow anywhere else although Thai scientists recently patented genes that can control the aroma of Thai Jasmine rice in the US. Trademark can only be used to protect the names of individual traders, but would not stop misuses of Thai Jasmine rice name. It also causes misleading feelings and public confusion about the tradenames of Jasmine and Basmati rice. PBR system is not universally used as it is operated only in the 28 member states of the EU. These are reasons why Thailand should urgently adopt a *sui generis* protection system as well as other necessary measures.

[139] Pratruangkrai, P. (2013). EU set to grant recognition to Hom Mali jasmine rice. The Nation. Bangkok, Thailand.

1.12 Technological developments and economic support for the Thai rice industry

Globally, the private sector has invested in biotechnological research on rice, as well as there having been numerous scientific initiatives and strategies aimed at increasing food production, especially of rice. Rice DNA has been sequenced and shared to facilitate understanding of the genetic composition of rice and associated proteins for the purposes of pest/disease and abiotic stress resistance, nutritional improvement and biopharming.[140] Industry's involvement in the rice sector has focused on chemical inputs, machinery, transport and trade. Some examples of genetic research on rice include: *Herbicide tolerant rice*, grown recently in Asia due to direct seeding strategies promoted by the IRRI. Corporations are now inserting genes into rice to make the plant withstand chemicals. *Bt rice* contains an insect-killing toxin derived from the soil microbe *Bacillus thuringiensis*. It produces its own pesticide so that an insect such as the yellow stem borer bites the plant and dies. However, insects are quickly developing resistance to the toxin and consumers are at risk of allergic and other reactions from eating Bt rice. *Hybrid rice* is grown from F1 hybrids. Rice seeds can normally be saved at harvest time and sown for the next cropping season. Different technologies are under development to ensure this, many of them coming from IRRI.[141]

A special variety of Thai Jasmine rice, called KDML 105, is known for its superior and unique qualities. Amylose content (AC), gel consistency (GC) and gelatinisation

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[140] Global Knowledge Center on Crop Biotechnology. (2010). "Biotech Rice." Pocket K No. 37, from http://www.isaaa.org/resources/publications/pocketk/foldable/Pocket%20K37%20(English).pdf.

[141] Assisi Foundation, Biothai, CEC, GRAIN, Greens Philippines, Hayuma, MAPISAN, MASIPAG, PAN Indonesia, PDG, SIBAT, TREE, Dr Romy Quijano (University of the Philippines) and Dr Oscar Zamora (University of the Philippines). (1998). "Biopiracy, TRIPs and the Patenting of Asia's Rice Bowl: A collective NGO situationer on IPRs on rice." from http://www.grain.org/briefings/?id=29.

temperature (GT) are important factors in determining rice quality.[142] Many varieties of rice have been discovered, developed and sold in the market, for example, Jasmine 85, a soft-cooking aromatic rice (*Oryza sativa* L.) cultivar, was released in the USA with the objective of displacing imported Thai Jasmine rice in local markets, but the reduced aroma and off-white colour of this milled rice limited its marketability.[143]

In Thailand average rice yields are low, one of the major constraints being blast disease. Attempts have been made to breed higher blast resistance levels into Thai rice. Limiting factors, however, are the lack of insight and information on the genes for resistance, and the complex structure of the pathogenic populations.[144] Moreover, the efficiency of Jasmine rice producers in Northern and North-Eastern Thailand is low and production is lost due to technical inefficiency. Implications for policy include measures to keep the price of Jasmine rice high, increase the access to irrigation and fertiliser, as well as investment in education targeted at farming households, which will synergistically increase the adoption of Jasmine rice and farm productivity.[145] Recently, the role and significance of rice to the Thai economy have been slowly declining, reflected in the reducing percentage of paddy land in agricultural landholdings and the decreasing share of rice in gross agricultural production and agricultural exports.[146] As a result, Thailand is attempting to develop projects as follows:

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[142] Lanceras, J. C., Z.-L. Huang, et al. (2000). "Mapping of Genes for Cooking and Eating Qualities in Thai Jasmine Rice (KDML105)." **7**(2): 93-101.

[143] Pinson, S. R. M. (1993). Inheritance of Aroma in Six Rice Cultivars. **34:** 1151-1157.

[144] Tanticharoen, M. (1999). Thailand: Biotechnology for Farm Products and Agro-Industries. Agricultural Biotechnology and the Poor. G. J. Persley and M. M. Lantin. Washington, D.C., USA, An International Conference on Biotechnology convened by Consultative Group on International Agricultural Research and US National Academy of Sciences.

[145] Rahman, S., A. Wiboonpongse, et al. (2009). "Production Efficiency of Jasmine Rice Producers in Northern and North-eastern Thailand." Journal of Agricultural Economics **60**(2): 419-435.

[146] Titapiwatanakun, B. (2012). The Rice Situation in Thailand. Technical Assistance Consultant's Report: Project Number: TA-REG 7495, Asian Development Bank.

1.12.1 Deciphering the aromatic gene in rice

Rice grain aroma is hereditary, from generation to generation. Its genetics are coded in a unit of DNA called a 'gene'. It is not as expressive as its non-aromatic counterpart and the outcome of breeding between aromatic and non-aromatic rice varieties is always non-aromatic. Thai Scientists successfully developed 'isogonic's line', which is similar to an identical twin carrying different allelic copies of the aromatic gene, and this later led to the discovery of the coding sequence and function of the aromatic gene of Jasmine Rice.[147] The National Science and Technology Development Agency (NSTDA) obtained the US patent on genes that can control the aroma of Thai Jasmine rice. However, it is possible that anyone may put aromatic genes in any rice variety after the protection period expires.

1.12.2 Major subsidy programmes

Public sector support or subsidy through the paddy pledging programme has raised prices both domestically and in the world market, and brought about other issues such as the fiscal deficit, excess governmental stockholding, and the concentration of benefits among millers. Two important policies are also being implemented, which are the farm income guarantee or price insurance programme and the rice standard control system, which have been benefiting rice farmers. Other measures are less complicated regulations enabling the government not to get involved with the preservation or conversion of products; marketing mechanisms are not distorted unlike with the pledging project; farmers receive the full benefits; and the price support mechanism does not contravene the rules of the WTO, as it does not subsidise exports but only supports and maintains the prices of agricultural products within the country. [148] The country's controversial rice-pledging scheme has been severely commented on its possible corruptions in agricultural pledging programme and the government is also unable to pay off farmers rice programme debt.

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[147] Rice Science Center & Rice Gene Discovery Unit, Kasetsart University Kamphangsaen Campus, Thailand, (2012). Deciphering Aromatic Gene in Rice.

[148] Titapiwatanakun, B. (2012). The Rice Situation in Thailand. Technical Assistance Consultant's Report: Project Number: TA-REG 7495, Asian Development Bank.

In addition, to improve rice production and good collaboration, Thailand's Ministry of Agriculture and Cooperatives and the IRRI have signed an agreement to expand their co-operation in rice research, to include TOT, exchange of rice germplasm, and rice processing research.[149]

1.13 Problems with Thai Cultural Artefacts

This section will be focusing on problems and legal issues surrounding cultural heritage properties/artefacts in Thailand.

1.13.1 Significance for the communities

Thailand is rich in a variety of world renowned cultural heritage sites, cultural properties and artefacts. They are unique, invaluable, irreplacable and inseparable from Thai ways of life and culture, which can be used as educational tools to teach Thai people about its history and heritage. The origin, style, material and age can also be learned from those artefacts to better understand the rich history of Thai people as well as for archaeological art research. Examples of Thai cultural properties include numerous ancient temples, palaces, old monuments all around the country, and pottery with its characteristic brownish orange hue and circular pattern from Ban Chiang, Udon Thani Province in Thailand's Northeast, one of the world famous archaeological sites. Interestingly, some pieces date back 5,000 years.

1.13.2 Who the individuals claiming the property are

One of the difficulties is to find, authenticate the items, determine who the true ownership is, and how to send them back to their place of origin. There may be a question about who really owns the cultural property. Should it remain with the country where it was discoved or should it be returned to the country where it was originated/created? Thailand should find ways how to better protect and repatriate its cultural properties, as well as by what appropriate approach to identify the country's

[149] International Rice Research Institute. "Partnerships: Thailand." 2013, from http://www.irri.org/index.php?option=com_k2&view=itemlist&layout=category&task=category&id=485&Itemid=100214&lang=en.

ownership of cultural property, which may require experts from the Fine Arts Department.

Thai artefacts are mainly kept in the museums throughout the country. They are sometimes damaged, broken into separate parts, and have not been well preserved. They require repair by preservation experts, however, there is a shortage of staff specialising in archaeology and having expertise to identify genuine antiques from imitation artefacts.

1.13.3 What the threats are to them in relation to breaches or abuses of them

Many ancient and high historic valued Thai cultural properties/artefacts especially from historic archaeological sites have been threatened by various factors such as social transformation, urbanisation, deterioration, disappearance, lost, looted or smuggled from Thailand which is the country of origin and the rightful owner. Thailand has suffered from the large-scale looting of its archaeological, cultural sites and artefacts. Moreover, Southeast Asia is also a centre for the illicit trade in art and antique objects. There are increasing illicit trades in cultural heritage, referred to as transnational crime, throughout the region, particular on the Internet. Fortunately, some of the smuggled ancient artefacts have been returned to Thailand by other countries; but most of them still have not been returned.

Another issue is antiques and Buddha sculptures are restricted to be exported from Thailand, but newly made Buddha statues are not included; there are some Buddha scultures being exported. The Thai existing Act on Ancient Monuments, Antiques, Objects of Art and Natural Museums 1961 does not govern any trafficking of foreign artefacts in Thailand. Although Thai and other countries' officials have tried to stop those misappropriations, many of them are still at risk.

1.13.4 What the impact of those misappropriations and misuses are on individuals and communities

Those misappropriations surely have economic, social, political and cultural impacts on Thailand as well as the countries of origin, transit and final destination. Moreover, many Thais do not know about their true origins of the culture, and they do not realise that most archaeological work on the ancient Thai sites are conducted by foreign experts, and how many of them are misappropriated.

At present, Thailand only has the Act on Ancient Monuments, Antiques, Objects of Art and National Museums B.E.2504 (1961) as amended in B.E.2535 (1992) under the supervision of the Ministry of Culture stating the illicit transport of cultural objects or artefacts, and conserving areas for antiques and art objects located under water and on land. Although this Act protects ancient buildings and ancient articles of both public and private sectors; makes it mandatory to register ancient buildings and articles; and protects tangible items, to the exclusion of intangible things such as the signing or dancing manners, this Act is not sufficient to cover some TK and cultural properties. Regarding copyright law, it only protects the exclusive rights of a person, not the whole/entire national treasures. It seems that the Thai existing laws dealing with these problems are not the most effective legal mechanisms; therefore, a new *sui generis* law in this regard should be created to have a better protection to the country's cultural property.

In addition, as the country's legal procedure is costly, time-consuming and there are some jurisdictional complications. Thailand has to ensure that law enforcement by the related government organisations such as the police, Fine Arts Department, Customs Department, as well as the Ministry of Foreign Affairs is in full operation in order to get rid of the country's misappropriation as a source of stolen artefacts, to cooperate with other countries for better dealing with different jurisdiction challenges, and to raise awareness among general public. Preparing to ratify the UNESCO 2003 Convention for safeguarding intangible cultural heritage, establishing the designation, surveying and registering the nation's intangible cultural heritage to the database inventory would assist Thailand better cope with the increasing misappropriations and threats.

1.14 Roles of the Thai Government, private sector, NGOs and academics in dealing with IP issues

The government of Thailand has realised the importance of international cultural relations and has promoted cultural cooperation and exchanges. Thailand has made cultural agreements with several countries by stating the extent of cooperation and methods that would lead to closer ties. Activities to consolidate and develop friendly relations and enhance understanding are: encouraging and promoting cultural exchanges of cultural personnel; exhibitions related to history, culture, arts and contemporary life; presentations of musical, dramatic and dance performances, the production and dissemination of films and other materials.[150]

With changes in the international IP environment and biodiversity regulations, the government has responded by ensuring that TM, texts, traditional medical formulae, medicinal plants and herbs are protected by developing a *sui generis* law.[151] Many government departments have been involved in discussions of the treatment and protection of GRs and associated TK. Most of them have specific ideas and interests about TK. Departments include the National Human Rights Commission of Thailand, the Department of Intellectual Property, the Department of Agriculture, the Department of Public Health, the Department of Forestry and the Department of National Parks, Wildlife and Plant Conservation. Some departments have explicitly documented their standpoint on the treatment of TK, and others havea less clear policy that is often only verbally disclosed. NGOs and academics also play a crucial role in disseminating information to local communities and farmers, as well as often advocating on their behalf in the media, and lobbying the government.[152]

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[150] Ministry of Culture, Thailand. "Cultural Relations - Contents." 2013, from http://en.m-culture.go.th/index.php?option=com_sectionex&view=category&id=13&Itemid=44.

[151] Robinson, D. and J. Kuanpoth (2008). "The Traditional Medicines Predicament: A Case Study of Thailand." The Journal of World Intellectual Property **11**(5-6): 375-403.

[152] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

IP capitalisation was initiated by the Government's 'Asset Capitalisation Policy', which aims to create opportunities for people to have more access to funding sources in the system by utilising existing assets as their capital. This will create more jobs and income, as well as encouraging new business operators, and hence sustainable economic development in the country. Currently, there are seven categories of assets that can be capitalised: land and property attached to the land; permission to utilise public lands and other certification documents; leasing and hire-purchasing contracts; machinery; IP; permission to utilise a marine area for aquaculture purpose, and; rubber plantations. DIP is a major organisation responsible for work involving national IP issues. The 'IP Project' has been established to create opportunities for the owners of IP, who have registered or notified the information with the Department, to use their documents of rights to have access to capital in the system and utilise existing IP for commercial purposes and for the maximisation of economic value.[153]

The idea of 'One Tambon (Village) One Product' (OTOP) originally started in Japan and was adopted by the government of Thailand in 2001. It refers to a government initiative to promote local small to medium enterprises, and the promotion of local heritage through their products. Essentially, as the title suggests, it seeks to focus the Tambon (local administrative sub-district) on one or a few specific products that the area specialises in.[154] The main purposes are to construct a comprehensive database that accommodates necessary information from every Tambon in Thailand; to promote local Thai products for every Tambon, and to facilitate the buying and selling prossess; to bring internet technology to villages; to help encourage and promote tourism in Thailand down to the Tambon level. Thus more income will be distributed to rural people to help them exchange information, ideas and improve communication

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[153] Department of Intellectual Property, Ministry of Commerce,Thailand. "IP Capitalisation." from http://www.ipthailand.go.th/ipthailand/index.php.

[154] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

across various Tambons.[155] The government is taking action to raise public awareness and proper protection for TK. Nevertheless, after years of implementation, some critics state that OTOP has never achieved in terms of real development. It actually increased income for some as well as poverty and conflict for others.[156]

A National Artists' Project was launched in order to preserve the high quality of artworks and to honour, acclaim and make known the artistic wisdom of artists whose expertise has contributed to the greatness of Thai cultural heritage in any field of the visual arts (painting, sculpture, graphics and design arts, photography), performing arts (dance and drama, choreography, theatre, plays, film direction, singing and music composition), literature (poetry and prose, novels, documentaries, plays) and architecture (construction techniques, buildings).[157]

There is practical assistance available for the 'hill-tribe' people of North and Northwest Thailand but, apparently, little recognition of their customary law.[158] The Thai Ministry of Foreign Affairs has pointed out that it is committed to capacity building programmes for 'local communities and grassroots populations in rural areas'.[159] In addition, the Thai Constitution now gives 'traditional communities' the

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[155] Thai-OTOP-City.com. (2003). "About Thai OTOP." from http://www.thai-otop-city.com/about-thai-otop.asp.

[156] Wattanapong Luechoowong and Suntharee T. Chaisumritchoke. "Disclosure of "One Tambon One Product": A Tool of Political Power." from http://buddhist-economics.info/papers/Wattanapong.pdf.

[157] United Nations Educational, S. a. C. O. "Thailand - Information related to Intangible Cultural Heritage." 2013, from http://www.unesco.org/culture/ich/index.php?cp=TH&lg=en.

[158] B. Kingsbury, 'The Applicability of the International Legal Concept of "Indigenous Peoples" in Asia', in: J.R. Bauer/D.A. Bell, The East Asian Challenge for Human Rights, Cambridge University Press 1999.

[159] See the website of the Ministry of Foreign Affairs, Kingdom of Thailand at http://www.mfa.go.th/web/24.php.

right ‘to conserve or restore their customs’ but the precise meaning of this right is yet to be established.[160]

Efforts to document TK have begun in Thailand. The DIP is liaising with several ministries, such as the Ministry of Public Health’s Department for the Development of Thai Traditional and Alternative Medicine, the Ministry of Culture and the Ministry of Natural Resources and the Environment to create a TK database. Progress has recently stalled, partly due to differences between each ministry’s information management systems. Some officers are also concerned that publicising TK may do more harm than good to indigenous communities. However, as the current IP system does not recognise the positive rights of community members as TK holders; registries and databases of TK are still a necessary measure to protect TK from misappropriation.[161]

With respect to international cultural co-operation, the Office of the National Culture Commission of the Ministry of Education has arranged cultural exchanges on a bilateral basis with 15 countries who signed the cultural agreement. Cultural exchanges in various forms of art such as paintings, sculptures, handicrafts and dance has also been carried out. Cultural co-operation with the Association of Southeast Asian Nations (ASEAN) is established on a multilateral basis among the six member countries. The role of the ASEAN Cultural Fund is also very important for the development of cultural activities in the fields of the visual and performing arts, literarature and ASEAN studies, mass media, motion pictures, radio and television. Thailand has also participated in, and contributed to, regional programmes organised under bilateral or multilateral agreements or through regional or international organisations such as the Seameo Project in Archaeology and Fine Arts (SPAFA), the

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[160] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[161] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

Asian Cultural Forum on Development (ACFOD), the Asian Cultural Centre for UNESCO (ACCU) and UNESCO.[162]

The government, in collaboration with the Thai private sector, has started working towards getting Thai GIs recognised and protected worldwide. The government has applied for some certification marks abroad. The DIP has done well in the past and should keep pursuing public relations to make Thai businessmen treat IPR systems as tools for global competition.[163] The government must try to create an environment where inventions in the form of utility models, petty patents or invention patents thrive. This could be achieved by education, capacity building, incentives for innovations, effective frameworks and mechanisms for transfer of technology (TOT), and efficient and effective enforcement of IPRs.[164] Further detailed proposals and recommendations are clarified in Chapters 5 and 6.

Conclusion

Thailand is rich in having a wide range of habitats supporting a diverse flora and fauna as well as varied TK, cultural heritage and agricultural products. Agricultural products, especially rice which is one of the country's most important crops, are a major source of income from exporting. TK and cultural heritage have long been highly regarded for their embedded values in Thai society.

However, Thailand has experienced problems and issues relating to TK systems and IPRs. The loss of biodiversity and misappropriation/over-exploitation of the country's assets are at crisis point. The historic structure and the cultural environment have been

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[162] Culturelink. "Cultural Policy in Thailand." from http://www.wwcd.org/policy/clink/Thailand.html.

[163] Tanasugarn, L. (1998). "Jasmine rice crisis: A Thai perspective." *Intellectual Property and International Trade Law Forum (Special Issue 1998).* Central Intellectual Property and International Trade Court. Bangkok, Thailand.
, from http://lerson.org/ip/jasmine1.html.

[164] Weeraworawit, W. (2003). Utility Models in Thailand. Industrial Property in the Bio-Medical Age: Challenges for Asia. C. Health, and A.K. Sanders. Great Britain, Kluwer Law International**:** 269-275.

damaged. Moreover, most Thai people and school children do not possess any social awareness or consciousness of preserving the country's TK and natural resources. Inevitably some Thai people are against IP law and there may be opposition from some groups or a lack of respect/awareness of the IP regime as well as a lack of public engagement and interest because most Thai people, like those from developing countries, are consumers, not creators of products. As a result, their local participation in any IP-related activities is low, which may lead to a struggle to develop and enforce IP law globally and nationally.

This chapter also highlights some examples of misappropriation of Thai TK/products that could be protected by a variety of legal methods. However, considering that TK is often informal and oral, it is not well protected by conventional IP systems. As a result, *sui generis* system that can deal with a wide range of subject matter more effectively and appropriately is needed. It is also important to take into account the cultural/ethical issues that can promote TK preservation and reward owners of TK in some ways.

The Thai government has been aware of the importance of its TK and products, and has implemented many actions related to biodiversity and TK conservation and sustainable use of resources. Some of these work well, but some do not due to several factors. It is hoped that Thai TK and products, among other things of Thai origin, will get more recognition and protection, and will be a driving force for the Thai economy and culture. Awareness raising and education of the importance of TK as well as public participation in a variety of TK-related activities should also be taken seriously.

A starting point may be to look at international treaties and conventions for legal framework that Thailand operates under. There will probably be some useful ideas and lessons Thailand could learn, utilise, get support, and put in place.

Chapter 2
International Legal Instruments and Entities

2.1 Introduction

IP is an umbrella term that covers an array of different rights; therefore, it can be said that there is no single rule or theory of protection of IP.[165] IP-related issues have to be studied in relation to international entities and agreements. There are good reasons for adapting the worldwide IP system to accommodate a suitable form of protection for TK and TCEs,[166] which are very broad terms. This Chapter will be looking into TK and cultural heritage-related international laws to consider whether the current international law system has provided a sufficient framework upon which a national jurisdiction can safeguard TK and cultural property.

Since indigenous and local communities justly cherish TK as a part of their very cultural identities, maintaining the distinct knowledge systems that give rise to TK is vital for their future well-being, sustainable development and for their intellectual and cultural vitality.[167] Indigenous peoples often have much in common with other neglected sectors of societies, i.e. lack of political representation and participation, economic marginalization and poverty, lack of access to social services and discrimination. Despite their cultural differences, diverse indigenous peoples also share common problems related to the protection of their rights. They strive for recognition of their identities, their ways of life and their rights to traditional lands,

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[165] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[166] Cottier, T. and M. Panizzon (2004). "LEGAL PERSPECTIVES ON TRADITIONAL KNOWLEDGE: THE CASE FOR INTELLECTUAL PROPERTY PROTECTION." **7**(2): 371.

[167] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

territories and natural resources.[168] Native leaders and indigenous-advocacy organisations have embarked on a global campaign to assert control over elements of culture that they consider part of their patrimony: art, music, folklore, even landscapes, which are regarded as sacred.[169] Through their reliance on biodiversity and natural resources, indigenous and local communities have acquired immense knowledge of these resources. Yet this accumulated knowledge is rapidly disappearing as the world becomes more culturally and biologically uniform.[170] Indigenous peoples have an evolving status in international law and policy, and many of their rights are not secured. Scientists will be affected by the incorporation of indigenous and local community rights into policies and laws that regulate access to knowledge and resources and benefits sharing on mutually agreeable terms.[171]

Why international treaties are important for TK? That is because they set standards and guidelines for business, trade, IP, human rights, access and benefit-sharing, conservation, and the management of biological resources.[172] While international covenants recognise indigenous people's property as tangible objects, they do not

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[168] United Nations Permanent Forum on Indigenous Issues. "Factsheet: Who are indigenous peoples? ." from http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf.

[169] Brown, M. F. (2003). Who Owns Native Culture?, Harvard University Press (Cambridge, Massachusetts and London, England).

[170] IIED, Kechua-Aymara Association for Nature and Sustainable Development (ANDES, Peru), Fundacion Dobbo Yala (Panama), University of Panama, Ecoserve (India), Centre for Indigenous Farming Systems (India), Herbal and Folklore Research Centre (India), Centre for Chinese Agricultural Policy (CCAP, China), Southern Environmental and Agricultural Policy Research Institute (ICIPE, Kenya), Kenya Forestry Research Institute (2005). Sui Generis Systems for the Protection of Traditional Knowledge (Information for the Secretariat of the Convention on Biological Diversity)**:** 1-21.

[171] Mauro, F. and P. D. Hardison (2000). "Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Initiatives." Ecological Applications **10**(5): 1263-1269.

[172] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

cover cultural IP, such as rituals, ways of life, or folk songs.[173] There is still no comprehensive legal regime that covers the protection and exploitation of TK/folklore and biological resources. Rules and standards, adopted and reinforced by international agreements, have been increasingly perceived as being unresponsive to growing demands, especially in the developing world, that innovation and creativity in the forms of TK and folklore should be accorded international legal protection, and that sovereign rights over GRs be respected. Many assert that the present IP system is not geared to protect GRs, TK or folklore. Some argue that IP concepts and mechanisms exist that could and should be applied to give sufficient legal protection to these categories, while others contend that there is a need to create a *sui generis* system for them.[174]

TK has been broadly recognised for playing the following important roles: sustaining or improving the livelihoods of a vast array of local communities; playing a part in the sustainable use and conservation of the environment; experimentation and provision of innovations that can be used to benefit society; and benefiting national economies.[175] Four facts suggest the need for indigenous people to control and market their knowledge: 1) indigenous people control and maintain a significant amount of biological resources; 2) these resources are useful to industry and to the world community; 3) both indigenous people and biological resources are threatened; 4) IP is an accepted way to encourage the creation and sharing of intellectual goods such as knowledge of plants.[176]

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[173] Coleman, E. B. (2005). Aboriginal Art, Identity and Appropriation, Ashgate.

[174] Weeraworawit, W. (2003). International Legal Protection for Genetic Resources, Traditional Knowledge and Folklore: challenges for the intellectual property system. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 157-165.

[175] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

[176] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

TK is collective in nature and is often considered to be the property of the entire community, not belonging to any single individual within the community.[177] The idea of a 'common heritage of mankind' encourages the free exchange and free flow of TK and biological resources. Countries are required not to restrict access to resources found in their territory so that they may be used, without restriction, by researchers and scientists, which encourages medical and agricultural research, etc. This idea has worked to the disadvantage of many developing countries. Although modern innovators may claim the benefits of making obscure traditional and indigenous knowledge into a drug or an agricultural crop, most people in the developing world consider this practice incomprehensible and reprehensible. Developing countries and their local communities, who help to supply the resources and the associated TK for developed countries, are barred from asserting any rights over the resources and from claiming adequate and fair compensation.[178]

International conventions and treaties dealing with TK are characterised by containing provisions that are not self-executing, and therefore they do not establish clearly binding legal obligations on governments. Even where benefit-sharing clauses exist, their meanings are contested and many governments refuse to implement or support them.[179] Documenting TK in a participatory fashion may lead to the protection of

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[177] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

[178] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

[179] Sahai, S. (2003). Indigenous Knowledge and its Protection in India. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 166-174.

IPRs of knowledge contributors, and benefit-sharing thereof can promote the sustainable utilisation of biodiversity.[180]

Developing countries have shown a keen interest in GIs in recent years as they are useful for protecting TK-based goods, of indigenous people and local communities, as instruments that may contribute to remunerative marketing of agricultural production based upon traditional cultivation methods. Chile, Brazil, Argentina, India, Malaysia, Singapore, Thailand, Jordan and Egypt, among others, have adopted a *sui generis* system of GI legislation.[181]

With the internationalisation of economies and the advent of free trade agreements, the subject of IP rights is now an obligatory topic for discussion and negotiation in free market agreements worldwide.[182] Furthermore, problems at the interface of IP and Antitrust law have become more frequent because of the high IP density in information technology. Problems in this context vary considerably and include matters like refusal to licence, essential facilities, monopoly leveraging, de facto-standards, computer interfaces and so forth.[183]

Several factors are probably involved in the increased attention paid to traditional ecological knowledge: the presence of a dedicated core group of scholars producing

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[180] Utkarsh, G. (2003). Documentation of Traditional Knowledge: People's Biodiversity Registers. Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 190-195.

[181] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

[182] Salazar, S. (2003). The World of Biotechnology Patents. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 117-126.

[183] Heinemann, A. (2007). International Antitrust and Intellectual Property. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 261-282.

academic material, but also feeding information into international policy circles; parallel developments in other disciplinary, policy-relevant fields such as environmental ethics, common property resources, and environmental history; and public dissatisfaction with the outcomes of modernist analysis in fields such as resource conservation and management.[184]

2.2 Relationship between IP and other disciplines

The relationships between IP protection, human rights, and science and technology have largely evolved. For example, the right to health has become much more visible following the adoption of the TRIPS Agreement; there is a need to clarify the scope of human rights provisions protecting individual contributions to knowledge; and new challenges need to be addressed concerning contributions to knowledge, which cannot effectively be protected under existing IPRs regimes.[185]

IPRs are seen as monopolies or dominant positions on relevant markets, but as exclusive rights similar to tangible property. The short-term exclusion of competition is opposed to the long-term promotion of innovation and new competition. The implementation of IP law attempts to reach its aims by giving incentives to invest in research and development. Competition law strengthens innovation because enterprises are more likely to invest in innovation if they act in contested and therefore competitive markets.[186] How to seek the balance between these two areas of law is to take into consideration the exclusive rights of the IPRs owner and the market mechanism/situation.

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[184] Berkes, F. (1999). Sacred ecology: traditional ecological knowledge and resource management, Taylor & Francis.

[185] Cullet, P. (2007). "Human Rights and Intellectual Property Protection in the TRIPS Era." Human Rights Quarterly, The Johns Hopkins University Press **29**: 403-430.

[186] Heinemann, A. (2007). International Antitrust and Intellectual Property. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 261-282.

Commonly, both national IP statutes and international IP conventions do not contain Antitrust rules. An exception is Art 17 of the Berne Convention, which clarifies that the Convention does not prohibit the application of national administrative control, possibly covering national competition law. Also, Arts 8, 31 and 40 of the TRIPs Agreement all contain rules on competition law control of IPRs. Thus, it was the first international IP convention to explicitly recognise the necessity of submitting IPRs to competition law control.[187]

Countries with civil law, like Germany or Japan, have specific legislation against unfair competition, which includes the protection of trade secrets. Other countries like the UK or Australia with common law rely on the common law of tort and breach of confidence or on contract law and even criminal law to protect confidential business and industrial information. However, most countries have some statute on fair trading, covering deceptive conduct or false representation.[188]

Technology could also play a vital role. Transfer of technology (TOT) is the process of transferring knowledge, know-how, skills, technology, and production methods among institutions and between institutions and governments. At present, there are several sectors involved in TOT: the pharmaceutical industry, industrial activities, the computer and software industry, environmental technologies, the energy sector, etc. Most developing countries in Asia rely upon technology from developed countries. TK and technology existed and evolved for a long period of time, contributing to the development of society to some degree. Development and modification may be needed before these technologies can be fully deployed and transferred. In the broad scope of the environment there are several areas in which TK and technology have existed in Asian countries.[189]

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[187] Ibid.

[188] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

[189] Chotichanathawewong, Q. Technology Transfer in Asia, Thailand Environment Institute (TEI)**:** Slide Presentation.

A great deal of formal international TOT takes place within the same company. Informal TOT can take place on a large scale and in developing countries. Article 18 of the CBD acknowledges the existence of 'indigenous and traditional technologies', which rarely flow through formal transactions. By definition, informal transfers are not based on any monetary transactions or legal agreements. Technology flows are likely to involve a great many factors of varying importance from one country to another.[190]

2.3 Challenges of and concerns about IPR issues in developing countries

There is mounting pressure from developing nations to view IP not just as a means to guarantee the interests of rightholders, but also to bring about economic development and welfare for the whole of the global society. A balance of interest between IPRs and the public domain features highly among new international initiatives aiming to harmonise and streamline IPR and procedures. Concerns over public interest and a developmental dimension will be key features in the search for this balance.[191] It is the aim of the WIPO Development Agenda to make sure that all future WIPO initiatives reflect these TRIPs objectives.[192]

IPRs are economically and politically important but still controversial. To proponents, IPRs contribute to the enrichment of society through: (i) making the widest possible range of new and useful goods, and services and technical information that derive from innovative activity available and; (ii) giving rise to the highest possible level of economic activity based on the production, circulation and further development of such goods, services and information. However, balancing conflicting aims and

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[190] Dutfield, G. (2004). Intellectual property, biogenetic resources and traditional knowledge, Earthscan.

[191] Sanders, A. K. (2007). The Development Agenda for Intellectual Property Rational Humane Policy or 'Modern-day Communism'? Intellectual Property and Free Trade Agreements. Christopher Heath, and Anselm Kamperman Sanders. Oxford and Portland, Oregon, Hart Publishing. **International Intellectual Property Law: Volume 4:** 1-25.

[192] Ibid.

interests in order to achieve certain public policy goals most effectively is very difficult for policy-makers. Many consider IPRs to be harmful and to have deleterious effects such as: raising the prices of essential drugs to levels that are too high for the poor; legitimising the misappropriation of TK; and undermining the self-reliance of resource-poor farmers.[193]

The only access to medicines for the poor is via the public sector, where medicines are cost-free. Public sector health expenditure in most developing countries is very low, resulting in people having no regular access to essential medicines. Several studies based on the critical analysis of empirical data have reported the negative impact of strong pharmaceutical protection on public health, and specifically on the prices of medicines. TRIPs require that developing countries have to give a 20-year patent protection period for pharmaceutical products.[194]

TM/CAM challenges fall into four categories:[195]

1) National policy and regulatory frameworks

There is a lack of official recognition of TM/CAM, the providers, regulatory and legal mechanisms as TM/CAM has not been integrated into national health care systems. There should be an equitable distribution of benefits from indigenous TM knowledge and products as well as adequate allocation of resources for TM/CAM development and capacity building.

2) Safety, efficacy and quality

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[193] Christophe Bellmann, Graham Dutfield, et al. (2003). Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. London ; Sterling, VA, Earthscan Publications

[194] Balasubramanian, K. (2003). Access to Medicines and Public Policy Safeguards under TRIPS. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 135-142.

[195] World Health Organization (2002). WHO Traditional Medicine Strategy 2002–2005. Geneva, Switzerland, WHO.

There remains a lack of research methodology, and an inadequate evidence-base for TM/CAM therapies and products. Support for research is insufficient, and there are a lack of international and national standards for ensuring safety, efficacy and quality control of TM/CAM therapies and products. Adequate regulation and registration of herbal medicines and registration of TM/CAM providers should be promoted.

3) Access

There is a need to have data on accessability and affordability to identify safe and effective therapies and products. The role of TM/CAM providers should be officially recognised; co-operation between TM/CAM providers and allopathic practitioners, and sustainable use of medicinal plant resources should all be increased.

4) Rational use

TM/CAM providers and TM/CAM allopathic practitioners could be well trained and appropriate information on the rational use of TM/CAM could be made available to the public.

Many developing countries are concerned that TRIPs work in the interests of and favour advanced industrialised countries rather than developing nations. Some major concerns relating to the standards and scope of the IPR regime include: a strong IPR regime established in each country through TRIPs will confer monopoly rights on private research organisations and powerful corporations; the provisions in TRIPs make it mandatory for WTO member countries to patent some categories of life forms and living processes, which also raises ethical, religious, environmental and developmental issues; TRIPs and IPRs favours the private person or company and modern technology, and do not recognise the crucial role TK plays or the legitimate rights of farmers, indigenous people and local communities, resulting in misappropriation of TK; and allowing genetic material to be subjected to IPRs will increase the global control of a few corporations over seeds and crops, reducing biodiversity.[196]

[196] Khor, M. (2002). Intellectual Property, Biodiversity and Sustainable Development: Resolving the difficult Issues. London, UK, Zed Books Ltd.

Also, concerns about the potential environmental effects of TRIPs are: 1) will they encourage the spread of environmentally harmful technologies? 2) Will they discourage or prevent the spread and transfer of environmentally sound technologies? 3) Will they facilitate the transfer of knowledge about the use of biological resources from communities in developing countries to enterprises or institutions in developed countries, with the former being unrewarded and the latter granted exclusive patent rights?[197]

TK is a form of knowledge that has been reproduced using different cultural codes, is passed on from generation to generation, and has the characteristic of being collective and integral. Moreover, much TK is secret and cannot be disclosed publicly such as that related to ceremonies in sacred sites and places.[198] The issue of collective versus individual ownership of IP by a community raises questions about where the line should be drawn between TK belonging to everyone and innovations produced by individual members of the community.[199] As TK is often held collectively by communities, rather than by individual owners, it is extremely hard to determine with accuracy which communities are the rightful owners, holders, bearers or custodians of certain knowledge or the relationship between individuals within a community and TK.[200]

Copyright protection for indigenous cultural protection has the difficulty of proving the work's originality. It is not a communal right, so can only be applied for with an identifiable author. In most cases, knowledge of TM originating in developing countries has been utilised and patented by scientists and industry from developed

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[197] Ibid.

[198] Cruz, R. d. l., J. G. Mirabal, et al. (2006). Regional Study in the Andean Countries: "Customary Law in the Protection of Traditional Knowledge". Final Report Revised for WIPO. Quito, Ecuador.

[199] Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

[200] O'Connor, B. (2004). The Law of Geographical Indications, Cameron May Ltd.

countries with little or no compensation to the custodians of this knowledge, and without their PIC. Moreover, the production of herbal pharmaceuticals requires large quantities of medicinal plants, resulting in their over collection and making them endangered species.[201]

Various TM practices have been developed in different cultures and in different regions without the parallel development of international standards and appropriate methods for evaluating TM. Countries face major challenges to the development and implementation of the regulation of TM, CAMs and herbal medicines, e.g., regulatory status, assessment of safety and efficacy, quality control, safety monitoring and a lack of knowledge about TM/CAM within national drug regulatory authorities.[202] TK is likely to be at risk, as it has usually been handed down from generation to generation without being written down. Not many countries have national policies for TM. The regulation of TM products, practices and practitioners is difficult due to variations in the definitions and categorisation of TM therapies. Furthermore, the scientific evidence available from tests done to evaluate the safety and effectiveness of TM products and practices is limited. The requirements and methods for such research and evaluation are complex. The expanding herbal product market could drive over-harvesting of plants and threaten biodiversity. Poorly managed collection and cultivation practices could lead to the extinction of endangered plant species and the destruction of natural resources.[203]

TEK has also been disrupted by acculturative forces. For example, many Hawaiian crop cultivars could be authenticated and conserved while IPRs of Native Hawaiians would be recognised and compensated. However, two significant problems may

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[201] Zhang, X. (2004). Traditional Medicine: Its Important and Protection. United Nations Conference on Trade and Development - Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimentions Sophia Twarog and Promila Kapoor, Editors, United Nations Publication, New York and Geneva. UNCTAD/DITC/TED/10.

[202] World Health Organization (2005). National policy on traditional medicine and regulation of herbal medicines: Report of a WHO global survey.

[203] World Health Organization. (2008). "Traditional medicine." Fact sheet N°134 from http://www.who.int/mediacentre/factsheets/fs134/en/.

occur: firstly, published scientific information about the Hawaiian cultivars can be contradictory and confusing; secondly, in a modern world where their economic utility has all but been eliminated, and where most Hawaiians are unable to recognise and name them or describe their cultural significance, no comprehensive programme ensures their conservation or study.[204]

The options existing under current systems of IPRs may not match well with the need to protect TM, instead possible modifications and new forms of IP may better suit the requirement. The inherent contradiction between ensuring access to medicines and providing IP protection in order to enhance their further development resurfaces in the context of TM. As this is interlinked with biodiversity conservation and with indigenous people's rights over their knowledge and resources, complex ethical questions arise.[205]

There may be some contradictory domestic laws or overlapping mandates, as well as enforcement powers of governmental institutions. Governmental institutions and local communities do not interact and co-ordinate their activities. The questions that need to be reviewed are: how to harmonise all IP related laws; how to eliminate overlapping authorities; and how to enhance the enforcement of IPRs. Policy-makers sometimes do not realise that IPR laws and policies have not yet met the needs of their people. More research and development (R&D) is needed. The exploitation of TK and GRs is increasingly coming under the governance of various, and sometimes conflicting, IPR frameworks. The effectiveness of IPRs depends on local capability within developing countries to engage in market production and exchange, and

[204] Meilleur, B. A. (1996). Selling Hawaiian Crop Cultivars. Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 244-256.

[205] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

negotiate and establish the right legal infrastructure and enforcement.[206]

Cultural institutions play an invaluable role in the preservation, safeguarding and promotion of collections of TCEs, which document communities' lives, cultural expressions and knowledge systems. However, the growing interest of indigenous peoples and traditional communities in owning, controlling and accessing the documentation of their cultures held by museums, libraries and archives raises a number of IP issues. For example: to whom do the TCEs in the collections belong? To whom do the rights in the TCEs belong? Who should determine the conditions for display, access and use of the material in the collections? How should an institution respond to the cultural and customary needs of the traditional holders of the TCEs in its collection? How could traditional holders gain more control over the representation of their culture by institutions?[207]

There are a number of ambiguities and contradictions in the relationship between cultural rights and universal human rights. The use of cultural rights in the context of heritage gives rise to challenges and difficulties in: deciding the heritage to be selected, preserved or presented; establishing who can legitimately speak on behalf of a particular cultural group, and the dangers of governments presuming to act on behalf of a group; the legal relationship between cultural and human rights, especially when the rights of one group or individual could be interpreted as being contravened by the promotion of a particular aspect of cultural heritage by others; and the way in which cultural heritage can be used as a controlling influence either by governments in

[206] Hassan, E., O. Yaqub, et al. (2010). Intellectual Property and Developing Countries: A review of the literature, The RAND Corporation, Europe. Prepared for the UK Intellectual Property Office and the UK Department for International Development.

[207] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

seeking to assimilate minorities or by minority groups seeking secession from the political mainstream.[208]

In terms of enforcement, as some IP-related agreements such as TOT are international, dispute resolution issues may raise an important difficulty. Parties relying on the courts must ensure that a judgment will be enforceable in any jurisdiction where it is required. The enforcement of a court judgment, obtained in the claimant's jurisdiction, can be difficult in the defendant's jurisdiction. This can be overcome by initiating proceedings in the respondent's jurisdiction, but a claimant may not accept this due to non/less familiarity with this jurisdiction's law, legal culture, courts and language, as well as the problem of enforcing a judgment in a third jurisdiction where the respondent has assets.[209]

The international community is tentatively addressing the key areas of reform in international law to ensure the ongoing contribution of all peoples to the cultural heritage of humankind. The effective exercising of the right to self-determination by all peoples, including indigenous peoples, must be recognised by states and facilitated by the international community. There is an acknowledgment that the ability of non-state groups, including indigenous peoples, to maintain and develop their cultural identity must be recognised and enforceable in international law as a group and individual right. The international community must recognise that a group's legal ownership and control of their cultural heritage is crucial to their right to determine the preservation and development of their cultural identity.[210]

As the existing framework for international protection of IPRs fails to accommodate and protect the interests of TK owners, there is a need for amendment and to have a binding international legal instrument that: defines what is meant by TK and TCEs,

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[208] Northern Ireland Assembly (2011). Heritage and Cultural Rights: International Standards. Belfast, Northern Ireland, Research and Library Service, Research Paper.

[209] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

[210] Vrdoljak, A. F. (2006). International Law, Museums and the Return of Cultural Objects, Cambridge University Press.

clear and precise key definitions should be given to eliminate any controversial legal terms; states who the rights holders and beneficiaries would be; states how competing claims by communities would be resolved; and deciphers what rights and exceptions ought to apply. Working out the details is complex and there are divergent views on the best ways forward, including whether IP-type rights are appropriate for protecting traditional forms of innovation and creativity. Countries agree that IP protection and the conservation of the biodiversity of GRs should be mutually supportive, but differ on how this should be achieved and whether any changes to current IP rules are necessary.[211]

2.4 TRIPs, biodiversity, GRs and biotechnology

There is a need to balance the fact that public sector institutions, due to limited resources, cannot avoid accessing private sector-held IP during the development of its own products with the private sector needing IPR protection to protect its investments and commercial interests, as well to share their IP with other sectors without exploitation.[212]

Local communities have long been using biological resources to cater for daily needs such as food, traditional medicine, housing or cosmetics.[213] PGR resources are considered crucial to the pharmaceutical industry, world agriculture and economically.

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[211] World Intellectual Property Organization. "Traditional Knowledge and Intellectual Property." 2013, from http://www.wipo.int/pressroom/en/briefs/tk_ip.html.

[212] Redoña, E. D. and L. F. G. Mula (2004). "Some Imperatives and Challenges for Rice Biotechnology in Asian National Agricultural Research and Extension Systems." Asian Biotechnology and Development Review **7**(1): 9-38.

[213] Zoundjihekpon, J. (2003). The Revised Bangui Agreement and Plant Variety Protection in OAPI Countries. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 109-116.

In the 1980s, there was an explosion in investments in biotechnology-based ventures, particularly in the US. This was fuelled by high expectations for financial returns.[214] The new biotechnologies included recombinant DNA, gene transfer, embryo manipulation and transfer, plant regeneration, tissue culture, monoclonal antibodies, and bioprocess engineering. These new technologies have allowed scientists to improve animals and plants genetically, to control diseases and pests, and to increase productivity and quality. For example, scientists have developed plants with improved resistance to insects and environmental stresses such as drought or cold.[215]

The application of modern biotechnology to food production by altering the nutrient content of foods, decreasing their allergenic potential, and improving the efficiency of food production processes brings about new opportunities and challenges for human health. Genetically modified (GM) foods are derived from organisms whose genetic material (DNA) has been modified in an unnatural way, e.g. through the introduction of a gene from a different organism. Currently available GM foods are mostly plants, but in the future those derived from GM microorganisms or GM animals are likely to be introduced to the market. Most existing GM crops have been developed to improve yield, by the introduction of plant disease resistance or increased herbicide tolerance. Rigorous evaluations of the effects of GM organisms and GM foods on both human health and the environment are being carried out.[216]

The application of biotechnology may present risks to the environment and biodiversity, depending on the policies and regulatory framework applied. Public support for research in biotechnology and related fields is important. Discoveries of basic, natural facts should not be given patent protection, this should be limited to biotechnological discoveries that are novel and, therefore require meaningful

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[214] Sullivan, N. F. (1995). Technology Transfer: Making the most of your intellectual property, Cambridge University Press.

[215] Salazar, S. (2003). The World of Biotechnology Patents. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 117-126.

[216] World Health Organization (2012). Food safety.

protection. There should be a framework for smooth trading and effective enforcement of IPR in biotechnology. The side-effects of biotechnological products should be continually monitored, analysed and acted upon in terms of their regulation and product design.[217]

Advances in modern biotechnology have resulted in profound and far-reaching implications for the relationship between humans, animals and the environment. There is currently strong debate about the legal, moral and social issues arising from this technology. Biotechnology refers to a wide range of techniques that make use of living organisms. The use of biological processes in technology is not new. The making of cheese and wine, and plant and animal breeding are examples of biological processes applied by man for hundreds, if not thousands, of years. However, modern biotechnology is concerned with living organisms and their genetic modification. [218] Biotechnological inventions are sometimes based upon TK of the beneficial properties of plants and animals of indigenous communities. Some institutions have adopted the uniqueness of TK approach, which maintains that indigenous communities have *sui generis* rights to a share of the profits from such inventions. Others have adopted 'the protection of inventive steps' approach, which maintains that the inventors are entitled to the full profits from the invention if it involves a non-obvious and novel inventive step.[219]

For their proponents, biotechnological innovations are modest, natural and productive improvements; but for its opponents, biotechnology is a source of novel and monstrous hazards linked to a fundamental shift in the relationship between humans

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[217] Zilberman, D., C. Yarkin, et al. (2000). Knowledge Management and the Economics of Agricultural Biotechnology. Agriculture and Intellectual Property Rights: Economic, Institutional and Implementation Issues in Biotechnology. V. Santaniello, R. E. Evenson, D. Zilberman and G. A. Carlson, CABI Publishing**:** 139-154.

[218] Mills, O. (2005). Biotechnological Inventions: Moral Restraints and Patent Law, Ashgate Publishing Limited, England.

[219] Baruch A. Brody (September 2010). "Traditional Knowledge and Intellectual Property." Kennedy Institute of Ethics Journal **20**(3): 231-249.

and nature.[220] The two major debates in biotechnology concern the patentability of: (a) life forms such as transgenic animals; and (b) DNA sequences without apparent functions.[221] In addition, questions arising in public debate include: ones of moral considerations relating to human life; on research on the human genome; on animal welfare issues; on issues relating to the limits of IPRs; and environmental as well as health and safety issues.[222]

'Genetic engineering' is the combining of genetic material from totally different organisms for the purpose of introducing new characteristics into a host organism. So far this has been carried out in the fields of health care, agriculture and the in the food industry. Biotechnology has been used to produce medicines for the treatment of diseases, such as cystic fibrosis and various cancers, as well as diagnostic kits. Research is ongoing into *gene therapies,* which aim to correct congenital disorders. Agricultural biotechnology uses recombinant DNA techniques in animal and plant breeding processes to produce animals and plants with the required characteristics. Transgenic plants include tomatoes, potatoes, sugarbeet and tobacco. In environmental biotechnology, micro-organisms have been modified for cleaning soil, water and air.[223] Concerns have been expressed that gene patents might result in restricted access to research and health care. The exponential growth of patents claiming human DNA sequences might result in patent thickets, royalty stacking and, ultimately, a 'tragedy of the anticommons' in genetics.[224]

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[220] Crook, S. (1998). Biotechnology, risk and sociocultural (dis) order. Altered genes - Reconstucting nature: the debate. R. Hindmarsh, G. Lawrence and J. Norton, Allen & Unwin**:** 132-144.

[221] Sullivan, N. F. (1995). Technology Transfer: Making the most of your intellectual property, Cambridge University Press.

[222] Mills, O. (2005). Biotechnological Inventions: Moral Restraints and Patent Law, Ashgate Publishing Limited, England.

[223] Ibid.

[224] Overwalle, G. V. (2009). Gene Patents and Collaborative Licensing Models : Patent Pools, Clearinghouses, Open Source Models and Liability Regimes, Cambridge University Press.

2.5 Patenting in agriculture, medicine and of life forms or living organisms & ethical and sustainable development issues

Apart from moral, ethical and biosafety issues, there are many technical issues that have plagued the development of IP protection for plants or other living organisms. Standards of novelty and non-obviousness are difficult to set for living organisms, including the relationship between the patented process and the claim over the living organism. Under PVP a lower standard is used: protectable plants must be distinct, i.e. they must possess a combination of characteristics that distinguishes them from earlier plant varieties and they must not have been commercialised before. Thus, 'discoveries' of wild plants are protectable, provided other criteria are met. It may be difficult to replicate biotechnological inventions technically as chemical or mechanical inventions can be. Fulfilment of the disclosure requirements of patent law is difficult in the case of biological materials.[225]

In 1980, the US Supreme Court authorised the first gene patent. Work done since on unravelling the genome has led to many patents being filed and the question of IP has become a major economic issue, affecting food and farming as well as the medical and pharmaceutical industries. The patentability of genes made genetic resources, which until then had been considered part of a common and freely accessible human heritage especially with respect to plant breeding, into a major trade issue.[226] Initially, patents offices granted patents for micro-organisms, such as yeasts, moulds, fungi, bacteria, algae, cell lines, viruses and protozoa. Then, IPRs were incrementally extended to plants. The prohibition against patenting methods of human treatment has been lifted in a number of Western jurisdictions. Patents have thus been sought in respect of medical devices, diagnostic tests, pharmaceutical drugs as well as human

[225] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

[226] Niangado, O. and D. Kebe (2003). The Implications of Intellectual Property for Agrucultural Research and Seed Production in West and Central Africa. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 127-134.

tissues, genes, stem cells and somatic nuclear cell transfer, so-called 'therapeutic cloning.' Perhaps only human cloning and animal-human hybrids remain outside the scope of patentable subject matter.[227]

The biological explosion may bring about problems with respect to: the ownership of ideas and techniques; the patentability of new life forms; and the issue of whether or not ideas and techniques that are of such major public importance and of such potential benefit and danger can, or ought to be, privately owned at all; or whether they must begin and remain in the public domain.[228] There are also ethical, philosophical, religious and political considerations that have added to the debate on the advisability of protecting biotechnological inventions through IPRs. Some question the morality of transferring genes from one species to another and manipulating what nature has created. Another concern is that the agricultural industry is concentrated in a few firms or transnational corporations, and that all inputs needed for agriculture are within those same companies, creating potential obstacles for poor and subsistence farmers to access technologies and affordable agricultural inputs.[229]

Another debatable issue from the increased patenting of biotechnological inventions is the possibility of obtaining patents with very broad claims that cover a very broad group of plants; as well as the question of whether the by-products or the offspring of protected plants and animals fall under the scope of the protection provided by the patent. These uncertainties are yet to be resolved by the courts and much litigation relating to biotechnology patents is ongoing.[230] TRIPs does not require WTO

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[227] Rimmer, M. (2008). Intellectual Property and Biotechnology: Biological Inventions, Edward Elgar.

[228] Harris, J. (1998). Clones, Genes and Immortality; Ethics and the Genetic Revolution, Oxford University Press.

[229] Salazar, S. (2003). The World of Biotechnology Patents. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 117-126.

[230] Ibid.

members to go as far as the US, Japan and Europe on the subject of of patenting living organisms. Indeed, Article 27.3 (b) is being reviewed, and many developing countries are using this as an opportunity to voice their opposition to the patenting of life forms.[231]

In industrialised countries, the new life-science companies are dominating the application of biotechnology to agriculture. In 1998, GM crops, more accurately referred to as transgenic or genetically engineered crops, mostly marketed by these companies or their subsidiaries, were grown worldwide. In addition to generating new traits that give the plant improved growth (input traits), which is useful to poor farmers, GM technology can also generate plants with improved nutritional features (output traits), beneficial to poor consumers. Scientists and others have added genes to rice.[232] A number of governments and health and development NGOs have condemned pharmaceutical companies for taking advantage of their patent monopolies in two ways: firstly, by charging high prices for treatments for diseases, which greatly affect the poor, so that they are unable to afford them; and secondly, by putting pressure on the governments of developing country to prevent local manufacture or importation of cheaper versions of the drugs from countries where they cannot be patented or where the patents are not respected.[233]

IPRs may exclude farmers and restrict them to using local varieties. This may be beneficial for the conservation of GRs, but could raise an acute problem of food security in an environment with a rapidly growing demographic.[234]

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[231] Ibid.

[232] Conway, G. and G. Toenniessen. (1999). "Feeding the world in the twenty-first century." from http://www.biotech-info.net/conway2.html.

[233] Dutfield, G. (2003). Introduction. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 1-20.

[234] Niangado, O. and D. Kebe Ibid.The Implications of Intellectual Property for Agrucultural Research and Seed Production in West and Central Africa**:** 127-134.

2.6 Misappropriations/threats to traditional biodiversity knowledge and folklore of indigenous peoples/local communities

The crisis in the ownership and misappropriation of TK has arisen mainly because of the establishment of IPRs regimes, including the TRIPs Agreement and national laws. In developing countries, such as those in Southeast Asia, much TK is not confined to indigenous minorities but held by traditional healers or in farming communities that can be termed 'local' but are not necessarily 'indigenous.'[235] Western scienctists have recently begun looking to explore IK as a source of new drugs, especially as the cost of putting new drugs on the market is very high. Despite the growing recognition of IK as a valuable source of knowledge, Western IP law continues to treat it as part of the public domain, freely available to be used by anyone. Hence, in some cases, diverse forms of IK have been appropriated by researchers and commercial enterprises under IPRs, without any compensation to the original creators or possessors of the knowledge.[236]

There are concerns that the knowledge has been misappropriated and that the role and contribution of TK holders has not been recognized and respected. TK holders stress that their TK should not be used by others inappropriately, without their consent and arrangements for fair sharing of the benefits.[237] Modern technologies of culture provide the potential for unlimited copying of cultural works, and this potential has been regulated with specific regimes of rights of copying. While these regimes are codified in law, it is suggested that their operation is not solely juridicially

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[235] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[236] Sahai, S. (2003). Indigenous Knowledge and its Protection in India. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 166-174.

[237] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

determined, but is rather the outcome of economic, political and cultural struggles between participants in cycles of cultural reproduction.[238]

Typically, folklore is handed down from generation to generation as part of an oral tradition. It can be part of the national cultural heritage or be the intangible cultural property of indigenous or local communities, or it may include sacred and secret tribal knowledge. Some forms of folklore, like artisan arts and crafts, have become an important source of income in developing countries and for local and indigenous communities. With the commercialisation of folklore, the risk of misappropriation has increased, and developing countries as well as local and indigenous communities, are seeking the means to protect their intangible cultural property.[239] Of all folk material, folklore has been most frequently infringed upon, followed by folk art. There have been several cases of misuse, exploitation, mutilation, or dilution of these materials, threatening the concept of 'originality of expression'. Forms of exploitation range from copying songs or mixing songs with other popular music, to displaying and collecting sacred items. Typically, remixed songs attain commercial popularity. Folk art is also an object of infringement. This is also a violation of the sacredness of their art and community, since the number of people trained in folk art may be limited, again reflecting its sacred nature. Whether any protection of TK should take the sacredness of art and other factors into consideration is another issue to be decided. Other similar forms of misuse include instances of indigenous people being made a commodity for commercial profit.[240] The requirements for the development of a misappropriation regime could include documentation on TK, proof of origin of materials and consent.[241]

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[238] Lury, C. (1993). Cultural Rights: Technology, legality and personality, Routledge, London and New York.

[239] Wuger, D. (2004). Prevention of Misappropriation of Intangible Cultural Heritage Through Intellectual Property Laws. Poor People's Knowledge: Promoting Intellectual Property in Developing Countries, The World Bank and Oxford University Press**:** 184-185.

[240] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[241] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

2.7 International organisations, intergovernmental/governmental institutions, and multilateral agreements/treaties/conventions: roles, responsibilities and operations

2.7.1 The United Nations (UN)

The UN is an international organisation founded in 1945 after the Second World War by 51 countries committed to maintaining international peace and security, developing friendly relations among nations and promoting social progress, better living standards and human rights. The organisation deals with a wide range of issues, and provides a forum for its 192 member states to express their views, through the General Assembly, the Security Council, the Economic and Social Council and other bodies and committees. Its work focuses on peacekeeping, peacebuilding, conflict prevention and humanitarian assistance, as well as a broad range of fundamental issues, from sustainable development, the environment and the protection of refugees, governance, economic and social development and international health.[242]

2.7.1.1 The Convention on Biological Diversity (CBD)

In the wake of the advances in biotechnology and the extension of patent protection to living organisms, both developed and developing countries realised the importance of access to GRs. This was the basis of the conclusion of the CBD in 1992 at Rio de Janeiro.[243] The relationship between IPRs and the CBD tends to be treated as most relevant to the regulation of access to GRs, and the development of measures to ensure mutually agreed terms and fair and equitable benefit-sharing with commercial

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[242] See United Nations webpage, at http://www.un.org/en/aboutun/index.shtml.

[243] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

users, states, and holders of TK.[244] Previously, owners of modern biotechnology were not required to share the benefits derived from the GRs they used with countries of origin or with indigenous communities. At present this issue is being discussed, especially in developing countries, which are in the process of developing national laws to implement the CBD.[245]

The CBD makes access to GRs and knowledge contingent upon prior informed consent (PIC) and mutually agreed terms of benefit-sharing, by providing the preliminary foundations for the negotiation and creation of legal solutions to benefit-sharing with indigenous peoples at the national level. In reality, due to the ready availability of much of the material and knowledge in the public domain, including through digital databases, there is little scope for such agreements to precede access.[246]

- *Access to genetic resources and benefit-sharing*

IP questions related to access to GRs and benefit sharing (ABS) arise in four main contexts, which are concerned with the role of IPRs in:[247]

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[244] Dutfield, G. (2003). Introduction. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 1-20.

[245] Aguilar, G. Ibid.Access to Genetic Resources and Protection of Traditional Knowledge in Indigenous Territories. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA**:** 175-183.

[246] Utkarsh, G. (2003). Documentation of Traditional Knowledge: People's Biodiversity Registers. Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 190-195.

[247] Bhatti, S. (2000). Intellectual Property and Traditional Knowledge: The Work and Role of the World Intellectual Property Organization. UNCTAD Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices. Geneva, Switzerland, The United Nations Conference on Trade and Development (UNCTAD).

- *Contractual agreements for access to GRs.* Access agreements for GRs, such as material transfer agreements (MTAs), raise questions on the role of IPRs with respect to: ensuring control over *ex-situ* use of GRs; technology transfer (TOT) and joint research and development; the exploration of the possibility of joint ownership of IPRs; ensuring continued customary use of GRs, etc. Member states may wish to consider the development of 'best contractual practice', guidelines and model IP clauses for MTAs and other access agreements.
- *Legislative, administrative and policy measures to regulate access to GRs and benefit-sharing.* Issues arising from the development of national and regional access legislation include the role of IPRs with respect to: PIC procedures; ensuring the recording of ownership interests in inventions that arise from access to or use of GRs; transfer of and access to technology in the context of benefit-sharing; and joint research and development as a form of non-monetary benefit-sharing.
- *Multilateral systems for facilitated access to GRs and benefit-sharing.* Multilateral systems, such as the system currently being developed for PGRFA for food and agriculture, raise numerous IP issues, including: possible IP-based benefit-sharing mechanisms; acquisition of IPRs over GRs placed in the multilateral system; access under the multilateral system to GRs covered by IPRs; transfer of and access to technology under the multilateral system; and the rights of holders of TK associated with GRs placed in the multilateral system.
- *The protection of biotechnological inventions, including certain related administrative and procedural issues.* IP issues in the field of biotechnology include: licensing and other issues related to the use of rights in biotechnological inventions; administrative and procedural issues related to the examination of patent applications for biotechnological inventions; the relationship between patents and other forms of IP protection for biotechnological inventions; and certain factors related to ethical and environmental issues, and animal and human health.

The ABS system is essentially justified by two arguments: utilitarian justifications suggesting that apportioning benefits to state authorities and custodian communities

will assist them in the conservation and sustainable use of biodiversity; and the argument that such custodian communities have a right to benefits due to their contribution generation after generation, which would otherwise go unrecognised.[248]

- *Prior informed consent (PIC)*

PIC is a concept detailed in the CBD to ensure that the consent of indigenous people is given before resources are shared. It is unclear whether indigenous people should be informed about the possibility of someone taking a monopoly IPR over their resource before the resources are accessed. Indigenous people may not give consent so readily if they are made aware of the monetary benefits involved in taking their resources. PIC has not been defined under the CBD, maybe because the degree of knowledge may vary depending on the people concerned and the resource, and there may be problems due to the degree of understanding of the people.[249]

The CBD aims to deal with the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of GRs: Article 8g - Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking in to account the risks to human health; Article 8h - Prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species.[250]

The CBD covers all biological diversity including PGRFA, but makes no distinction between domestic and non-domestic plants. As access to domestic PGRFA is vital,

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[248] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

[249] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[250] Dutfield, G. (2003). Introduction. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 1-20.

general regulation of access may cause problems if considering the specific requirements for PGRFA management.[251] Also, the problem lies in the ambiguous and contradictory wording and lack of credible enforcement mechanisms for the provisions in CBD. These problems reflect the difficulties encountered in the negotiations: the need to reconcile the demand of developing countries for fair access to technologies involving the use of their GRs and the position of developed countries on IPRs.[252] 'Farmers' rights', or compensation to local farming communities for collective improvements to plant varieties, is not specifically addressed, but countries are free to frame their own legislation on this subject.[253]

Three approaches are currently being raised at the TRIPs Council regarding compatibility between CBD and TRIPs. Firstly, it has been argued by some developing countries that there is an inherent conflict between the two treaties and there is a need to reconcile CBD and TRIPs. Secondly, some developed countries, including the US, Japan and the EU, argue that CBD and TRIPs do not conflict and that the two treaties can be implemented in a mutually supportive way. The third approach is that, while CBD and TRIPs are not conflicting from a legal perspective, there may be a problem with the implementation of both agreements. Therefore, there is a demand for some modifications within the TRIPs provisions, particularly Articles 27.3(b) and 29, to incorporate some elements of CBD.[254]

The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity is a supplementary agreement to the CBD. This Protocol was

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[251] Andersen, R. (2008). Governing Agrobiodiversity: Plant Genetics and Developing Countries, Ashgate Plublishing.

[252] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

[253] Ibid.

[254] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

adopted in 2010 in Nagoya, Japan and will be enforced 90 days after the fiftieth instrument of ratification. Its objective is the fair and equitable sharing of benefits arising from the utilisation of GRs, thereby contributing to the conservation and sustainable use of biodiversity.[255]

2.7.1.2 The UN Declaration on the Rights of Indigenous Peoples 2007 (UNDRIP)

The Declaration, adopted by the General Assembly in 2007, is a culmination of over 20 years of work and represents the most comprehensive statement of the rights of indigenous peoples. It gives prominence to collective rights to a degree unprecedented in international human rights law, clearly indicating that the international community was committing itself to the protection of the individual and collective rights of indigenous peoples. More than 100 indigenous organisations participate in the Working Group of the Commission annually.[256]

Some of the rights stated in this Declaration may already form part of customary international law, others may become the *fons et origo* of later-emerging customary international law. Scholarly analyses have concluded that indigenous peoples are entitled to maintain and develop their distinct cultural identity, their spirituality, their language, and their traditional ways of life; that they hold the right to political, economic and social self-determination, including a wide range of autonomy; and that they have a right to the lands they have traditionally owned or otherwise occupied and used.[257] Article 31(1) of the Declaration deals with indigenous people's rights to the maintenance, control, protection and development of cultural heritage, TK and TCEs,

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[255] Secretariat of the Convention on Biological Diversity, Montreal, Canada. "About the Nagoya Protocol." 2013, from http://www.cbd.int/abs/about/.

[256] UNPF II (2012). United Nations Declaration on the Rights of Indigenous Peoples, Adopted by the General Assembly 13 September 2007.

[257] Wiessner, S. (2008). United Nations Declaration on the Rights of Indigenous Peoples, New York, 13 September 2007, The Codification Division, Office of Legal Affairs, United Nations.

including the manifestations of their science, technology and culture. Article 31(2) requires states to take effective measures to ensure the ongoing recognition and protection for the rights contained in art 31(1).[258]

2.7.1.3 The International Covenant on Economic, Social and Cultural Rights 1966 (ICESCR)

The ICESCR recognises that 'in accordance with the Universal Declaration of Human Rights, the ideal of free human beings enjoying civil and political freedom and freedom from fear and want can be achieved only if conditions are created whereby everyone may enjoy his civil and political rights, as well as his economic, social and cultural rights'.[259] Article 15(1) of this Covenant constitutes an apt basis on which to avoid bio-misappropriation and for introducing positive protection for TK holders, which is not based on the IPRs model. Member states of the ICESCR could take the initiative of formally recognising, in the context of a General Comment on Article 15(1), that in the context of their commitment to protect the most disadvantaged sectors of society, they recognise that TK is to be considered to fall under the scope of Article 15(1)(c); and states could ascertain that all negotiations on TK are not undertaken mostly from the perspective of their economy. The increasingly visible impact of certain types of IPRs on human rights needs to be addressed by ensuring that measures are taken to protect everyone who is likely to be negatively affected by strengthened IPRs standards.[260] However, this Article represents the most neglected set of provisions within an international human rights instrument whose norms are not well developed. Economic globalisation, together with increasing privatisation and

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[258] Mackay, E. (2010). "Regulating Rights: the Case of Indigenous Traditional Knowledge." Indigenous Law Bulletin **7**(21): 12-16.

[259] Preamble to the International Covenant on Economic, Social and Cultural Rights 1966. Summary of ICCPR and ICESCR. Manual on Human Rights Education with Young People - Council of Europe, Compass.

[260] Cullet, P. (2007). "Human Rights and Intellectual Property Protection in the TRIPS Era." Human Rights Quarterly, The Johns Hopkins University Press **29**: 403-430.

commercialisation of science have made it even more difficult to achieve the balances.[261]

The Committee on Economic, Social and Cultural Rights (CESCR) is the body of independent experts that monitors implementation of the ICESCR by its member states. All state parties are obliged to submit regular reports on how the rights are being implemented to the Committee. The Committee examines each report and addresses its concerns and recommendations to the state party in the form of 'concluding observations'. The Committee also publishes its interpretation of the provisions of the Covenant, known as general comments.[262]

2.7.1.4 The International Covenant on Civil and Political Rights 1966 (ICCPR)

This Covenant elaborates on the civil and political rights and freedoms listed in the Universal Declaration of Human Rights. It recognises the rights to self-determination, and the rights of peoples to freely own, trade and dispose of their natural wealth and resources.[263]

In the context of TK and indigenous resources, Article 27 states: In those 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. This article mentions the rights of minorities who live in states. Minorities could mean indigenous peoples and local communities, who deserve these fundamental rights. It is strongly believed that this article reflects the rights and

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[261] Chapman, A. "A Human Rights Perspective on Intellectual Property, Scientific Progress, and Access to the Benefits of Science." 2013, from http://www.wipo.int/tk/en/hr/paneldiscussion/papers/chapman-summary.html.

[262] The Office of the United Nations High Commissioner for Human Rights (OHCHR). "Committee on Economic, Social and Cultural Rights." 2013, from http://www2.ohchr.org/english/bodies/cescr/.

[263] Summary of ICCPR and ICESCR. Manual on Human Rights Education with Young People - Council of Europe, Compass.

protection of TK. According to Article 1(2): All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence. And Article 47 states: Nothing in the present Covenant shall be interpreted as impairing the inherent right of all peoples to enjoy and utilise fully and freely their natural wealth and resources. Those Articles mention the rights to the natural resources of all peoples, there is no reason that indigenous peoples are not covered under them.[264]

2.7.2 The UN Educational, Scientific and Cultural Organization (UNESCO)

UNESCO is a specialist UN agency and the only one with responsibility for culture. Its purpose is to contribute to the building of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication and information. The organisation focuses on Africa, gender equality, attaining quality education for all and lifelong learning, mobilising scientific knowledge and policies for sustainable development, addressing emerging social and ethical challenges, fostering cultural diversity, encouraging intercultural dialogue and a culture of peace and building societies with inclusive knowledge through information and communication.[265] It has regularly launched projects to promote awareness of, collect information on, and safeguard, diffuse and preserve intangible popular traditional heritage.[266] UNESCO means to develop a set of protocols to encourage the exclusive use of traditional techniques at the 800 world heritage sites.

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[264] Kudngaongarm, P. (2010). "Human Rights Standards for the Protection of Intellectual Property: Traditional Knowledge and Indigenous Resources (Part II)." Thailand Journal of Law and Policy **13**(1).

[265] Please see United Nations Educational, Scientific and Cultural Organization webpage, at http://www.unesco.org/new/en/unesco/

[266] Prasad, N. (1999). UNESCO Presentation: UNESCO's approach to the preservation and promotion of traditional and folk performing arts in Asia and the Pacific 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific: Preservation and Promotion of Traditional/Folk Performing Arts Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

This will be a further step towards more global action, and a veritable convention on TK.[267]

UNESCO has produced several binding international legal instruments in the four core areas of creative diversity, namely; cultural and natural heritage, movable cultural property, intangible cultural heritage and contemporary creativity. Some conventions have been drawn up:

2.7.2.1 The Convention for the Protection of Cultural Property in the Event of Armed Conflict (first protocol in 1954, second protocol in 1999)

This 'Hague Convention', was adopted in 1954 in the wake of the massive destruction of cultural property during the Second World War. It provides a system of protection of cultural property during both international and internal armed conflict. Cultural property includes monuments, architecture, archaeological sites, works of art, manuscripts, books and other objects of artistic, historical or archaeological significance, which are movable and immovable properties of great importance to the cultural heritage of every people. The First Protocol specifically prohibits the appropriation of cultural property as war reparation, while the second specifies the sanctions to be imposed for serious violations of the Convention and defines the conditions on which individual criminal responsibility shall apply as well as establishing an Intergovernmental Committee.[268]

2.7.2.2 The Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970

This Convention is aimed at protecting and safeguarding the world's cultural property and to combat the theft, illicit exportation and trafficking of cultural property, as well

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[267] IPOGEA Research Centre on Local and Traditional Knowledge. "Traditional Knowledge World Bank." 2012, from http://www.tkwb.org/web/?page_id=4&language=it.

[268] United Kingdom National Commission for UNESCO. "Convention for the Protection of Cultural Property in the Event of Armed Conflict (1954)." 2013, from http://www.unesco.org.uk/convention_for_the_protection_of_cultural_property_in_the_event_of_armed_conflict_(1954).

as promoting the restriction of cultural objects to their countries of origin. It established legal measures to prevent the illicit export of cultural goods: national legislation; combat illegal excavation and illicit export and transfer of ownership of cultural property; establishing a national inventory and keeping it up to date; stimulating and developing respect for cultural heritage through education, etc.). The State Parties are obligated to undertake special measures to establish services for protection, to prohibit the export, import and transfer of stolen goods, to impose penalties or administrative sanctions on any person responsible for infringing the prohibitions referred to in this Convention.[269]

2.7.2.3 The Convention concerning the Protection of the World's Cultural and Natural Heritage 1972

This Convention was adopted by UNESCO in 1972**.** According to Article 5, the state members shall endeavour to do the following to ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory: adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and integrate the protection of that heritage into comprehensive planning programmes; set up within its territories, where such services do not exist, one or more services for the protection, conservation and presentation of the cultural and natural heritage with an appropriate staff possessing the means to discharge their functions; develop scientific, technical and research studies and work out operating methods to make the state capable of counteracting the dangers that threaten its cultural or natural heritage; take appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage; and foster the establishment or development of national

[269] Culturalrights.net. "Cultural rights, culture and development." 2012, from http://www.culturalrights.net/en/documentos.php?c=18&p=182.

or regional centres for training in the protection, conservation and presentation of the cultural and natural heritage and encourage scientific research in this field.[270]

2.7.2.4 The Convention on the Protection of the Underwater Cultural Heritage 2001

This Convention sets a common standard for the protection of the underwater cultural heritage, with a view to preventing its looting or destruction by ensuring its universal protection, the facilitation of State Party co-operation and the setting of professional standards. However, this convention does not change the sovereignty rights of states or regulate the ownership of cultural property. The underwater cultural heritage encompasses all traces of human existence, such as shipwrecks and underwater ruins, which lie or were lying underwater and have a cultural or historical character.[271]

2.7.2.5 The Convention for the Safeguarding of the Intangible Cultural Heritage 2003

This Convention highlights the need to distinguish between intangible heritage and natural and material heritage. Intangible cultural heritage is understood to be the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognise as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interactions with nature and their history. It provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity. Central themes of the Convention are the safeguarding, respect and increasing awareness of

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[270] Please see the Convention concerning the Protection of the World Cultural and Natural Heritage (1972), 'UNESCO World Heritage Conventions,' available at http://whc.unesco.org/en/conventiontext.

[271] United Kingdom National Commission for UNESCO. "Convention on the Protection of the Underwater Cultural Heritage (2001)." 2013, from http://www.unesco.org.uk/convention_on_the_protection_of_the_underwater_cultural_heritage_(2001).

intangible cultural heritage. This heritage is manifested in oral traditions and expressions, and includes language as a vehicle of intangible cultural heritage. It is also manifested in performing arts, social practices, rituals and festive events, knowledge and practices to do with nature and the universe and traditional craftsmanship. The Intergovernmental Committee for the Safeguarding of Intangible Cultural Heritage was established, and it also established the responsibilities and obligations of member states towards this document.[272]

The Committee evaluates nominations proposed by State Parties, deciding whether or not to inscribe those cultural practices and expressions of intangible heritage on the Convention's Lists. There is the *List of Intangible Cultural Heritage in Need of Urgent Safeguarding*, which is composed of intangible heritage elements that concerned communities and State Parties consider require urgent measures to keep them alive; the *Register of Best Safeguarding Practices* contains programmes, projects and activities that best reflect the principles and the objectives of the Convention; and the *Representative List of the Intangible Cultural Heritage of Humanity* is made up of intangible heritage elements that help to demonstrate the diversity of this heritage and raise awareness of its importance.[273]

2.7.2.6 The Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005

This Convention addresses the many forms of cultural expression that result from the creativity of individuals, groups and societies and that are conveyed by cultural activities, goods and services, particularly in developing countries. It acknowledges that each individual can have freer and more immediate access to a rich diversity of cultural expression from within or outside of their country. It also contains a series of Parties' rights and obligations, which are aimed at protecting and promoting the

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[272] Culturalrights.net. "Cultural rights, culture and development." 2012, from http://www.culturalrights.net/en/documentos.php?c=18&p=182.

[273] Further details on the nominations, the Committee decisions and evidence of community consent can be found on UNESCO's Intangible Heritage Lists, available at http://www.unesco.org/culture/ich/index.php?lg=en&pg=00011.

diversity of cultural expression in a spirit of mutual reinforcement that is complementarity with other international treaties, and guided by concerted international actions and co-operation.[274]

2.7.2.7 The Declaration of the Principles of International Cultural Co-operation 1966

UNESCO's General Conference adopted the Declaration of the Principles of International Cultural Co-operation, recognising the importance of co-operation between member states in order to prevent wars and conflicts and found peace upon the intellectual and moral solidarity of mankind. The Declaration recalls that the wide diffusion of cultures and the education of humanity, liberty and peace are indispensable to the dignity of man. Article I of the Declaration states that 'each culture has a dignity and value which must be respected and preserved' and that 'every people has the right and duty to develop its culture'.[275]

2.7.2.8 UNESCO's Recommendations on the Safeguarding of Traditional Culture and Folklore 1989

These recommendations concern the preservation of the intangible aspects of heritage: traditional culture and folklore. The fragility of intangible heritage, particularly with respect to oral traditions, is noted. The document defines the nature of folklore and its forms (language, literature, music, dance, games, mythology, rituals, customs, handicrafts, architecture and other arts) and recommends conservation strategies, including the documentation of traditions, the establishment of archives, the creation of folklore museums, and support for those who transmit traditions. It recommends development of educational programmes to encourage the study of folklore and calls for scientific research on the preservation of folklore. It notes the negative impact that

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[274] United Nations Educational, Scientific and Cultural Organization (2005). TEN KEYS to the Convention on the Protection and Promotion of the Diversity of Cultural Expressions adopted by the General Conference of UNESCO at its 33rd session, 2005. CLT/CEI/DCE/2007/PI/32.

[275] The Official text is available at http://portal.unesco.org/en/ev.php-URL_ID=13147&URL_DO=DO_TOPIC&URL_SECTION=201.html.

industrial cultures and the mass media have on traditional culture and calls for support for folk traditions to counter these effects.[276] These recommendations were a significant step forward and the first attempt to safeguard intangible cultural heritage, and traditional culture and folklore, using an international instrument. It brought to the attention of states the importance of this neglected area of their heritage and the considerable debate over its international protection.[277]

2.7.3 The World Intellectual Property Organization (WIPO)

WIPO is a specialist UN agency, dedicated to developing a balanced and accessible international IP system, which rewards creativity, stimulates innovation and contributes to economic development while safeguarding public interest. WIPO was established by the WIPO Convention in 1967 with a mandate from its member states to promote the protection of IP globally by co-operation between states and in collaboration with other international organisations.[278]

One of the most significant present-day tasks of WIPO is to demystify IP, so that it is recognised as a part of everyday life.[279] The fundamental objectives of WIPO include to 'promote the protection of intellectual property throughout the world … where appropriate, in collaboration with any other international organization' (Article 3(i), Convention Establishing the World Intellectual Property Organization, 1967). Pursuant to this objective, WIPO continues to liaise closely with the secretariat of the Convention on Biological Diversity (SCBD) on the protection of IP in relation to TK,

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[276] J. Paul Getty Trust. "Cultural Heritage Policy Documents: Recommendation on the Safeguarding of Traditional Culture and Folklore (1989)." 2013, from http://www.getty.edu/conservation/publications_resources/research_resources/charters/charter41.html.

[277] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[278] Please see the World Intellectual Property Organization webpage, at http://www.wipo.int/about-wipo/en/what_is_wipo.html.

[279] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

and innovations and practices relevant to *in situ* conservation and sustainable use of biodiversity. Furthermore, WIPO continues its ongoing collaboration with the World Health Organization (WHO) on the protection of IP related to traditional medical knowledge, and with the Food and Agriculture Organization (FAO) on the protection of IP related to TK relevant to the preservation and utilisation of genetic resources for food and agriculture.[280]

The WIPO has carried out a series of studies and consultations among member states on global and emerging IP issues, notably on genetic resources, TK and folklore.[281] It administers two of the oldest IPR treaties, the Paris Convention for the Protection of Industrial Property 1883 as revised up to 1976, and the Berne Convention for the Protection of Literary and Artistic Works 1886 as revised up to 1971, including a wide range of IPR treaties and agreements. It has a mandate to strengthen IPR protection and can thus begin discussions on IP topics more easily than the WTO. It can also draw upon experts from both the government and private sector for more broad-based discussions. It also presents a neutral forum, without external influences, for the steady evolution of international IP law on specialised subjects.[282]

2.7.3.1 Paris Convention for the Protection of Industrial Property (1883, revised 1979)

The Paris Convention for the Protection of Industrial Property was the first major international treaty designed to help the people of one country to be treated and

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[280] Bhatti, S. (2000). Intellectual Property and Traditional Knowledge: The Work and Role of the World Intellectual Property Organization. UNCTAD Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices. Geneva, Switzerland, The United Nations Conference on Trade and Development (UNCTAD).

[281] Weeraworawit, W. (2003). International Legal Protection for Genetic Resources, Traditional Knowledge and Folklore: challenges for the intellectual property system. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 157-165.

[282] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

protected equally in other countries for their intellectual creations, in the form of industrial property rights, known as inventions (patents), trademarks and industrial designs,[283] under the important principles of national treatment, right of priority, independence of patents, parallel importation, and protection against false indications and unfair competition. The Convention also established a union for the protection of industrial property. As of 2013, there are 175 contracting member countries. The member countries of the TRIPs Agreement must comply with Articles 1-12 and 19 of the Paris Convention.

2.7.3.2 Berne Convention for the Protection of Literary and Artistic Works (1886, revised 1979)

Its basic principles include works originating in one of the contracting states (that is, works the author of which is a national of such a state or works which were first published in such a state) must be given the same protection in each of the other contracting states as the latter grants to the works of its own nationals (principle of 'national treatment'); such protection must not be conditional upon compliance with any formality (principle of 'automatic' protection); such protection is independent of the existence of protection in the country of origin of the work (principle of the 'independence' of protection). If a contracting state provides for a longer term than the minimum prescribed by the Convention and the work ceases to be protected in the country of origin, protection may be denied once protection in the country of origin ceases. As to works, the protection must include 'every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression'. It also provides for 'moral rights, the right to claim authorship of the work and the right to object to any mutilation or deformation or other modification of, or other derogatory action in relation to the work which would be prejudicial to the author's honour or reputation'.[284]

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[283] World Intellectual Property Organization WIPO Treaties - General Information.

[284] World Intellectual Property Organization. "Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886)." 2013, from http://www.wipo.int/treaties/en/ip/berne/summary_berne.html.

2.7.3.3 The Universal Copyright Convention (1952, revised 1971) (UCC)

The UCC, jointly administered by UNESCO and WIPO, provides protection of literary and artistic works through the application of copyright rules. The UCC can be invoked for the protection of intellectual expressions of folklore through the application of national treatment by Article II (3), but the value of copyright rules for the safeguarding of intangible heritage is limited.[285]

2.7.3.4 Patent Co-operation Treaty 1970 (PCT)

This treaty makes it possible to seek patent protection for an invention simultaneously in each of a large number of countries by filing an international patent application. Such an application may be filed by anyone who is a national or resident of a contracting state. It may generally be filed with the national patent office of the contracting state of which the applicant is a national or resident or, at the applicant's discretion, with the International Bureau of WIPO in Geneva.[286]

2.7.3.5 Draft Articles on the Protection of Traditional Cultural Expressions, Draft Articles on the Protection of Traditional Knowledge, and Consolidated Document Relating to Intellectual Property and Genetic Resources

The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) is undertaking text-based negotiations with the objective of reaching agreement on texts of international legal instruments, which will ensure the effective protection of TK, TCEs and GRs. The most recent drafts are the Protection of Traditional Cultural Expressions: Draft Articles (13 July 2012), the Protection of Traditional Knowledge: Draft Articles (Rev.

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[285] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[286] World Intellectual Property Organization. "Patent Cooperation Treaty ("PCT") (1970)." 2013, from http://www.wipo.int/pct/en/treaty/about.html.

2) (14 May 2013), and Consolidated Document Relating to Intellectual Property and Genetic Resources (8 February 2013).[287]

Important matters to be discussed in its Draft Articles include defining the subject matter for protection, identifying the beneficiaries of the protection, providing the scope of protection, disclosure requirements, applications of collective rights, administration of rights/interests, exceptions and limitations, terms of protection, formalities, sanctions, remedies and the exercising of rights/interests, transitional measures, consistency with the general legal framework, national treatment and other means of recognising foreign rights and interests, and trans-boundary co-operation. Some questions and debates with respect to proper legal protection, the relevance of IP to TK and, the role of customary laws and *sui generis* systems, as well as the legal concept of ownership and the public domain are also raised.

2.7.4 The World Trade Organization (WTO)

WTO is the global international organisation that deals with trading rules between nations. As the majority of WTO members are developing countries, it ensures that these countries are able to benefit from WTO agreements that are negotiated and signed by the world's trading nations and ratified in their parliaments as well as from the multilateral trading system. The goal is to help producers of goods and services, exporters, and importers conduct their business. In some circumstances its rules support the maintainance of trade barriers; for example to protect consumers, prevent the spread of disease or protect the environment.[288]

The WTO's 1994 Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPs)[289] sets down guidelines and principles of existing well-known

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[287] See World Intellectual Property Organization. "Intergovernmental Committee." 2013, from http://www.wipo.int/tk/en/igc/.

[288] Please see World Trade Organization webpage, at http://www.wto.org/index.htm.

[289] World Trade Organization, Agreement on Trade-Related Aspects of Intellectual Property Rights, the TRIPS Agreement is Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, signed in Marrakesh, Morocco on 15 April 1994.

international agreements relating to IPRs protection as minimum standards for WTO members' national laws.

2.7.4.1 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs)[290]

The TRIPs Agreement was introduced as part of the Uruguay Round of Multilateral Trade Negotiations. WIPO's Development Agenda was proposed by Argentina and Brazil in 2004, and was supported by a number of developing countries. The provisions of the TRIPs Agreement provide a basis for the harmonisation of IPR laws around the world by providing minimum standards for such laws with respect to the availability, scope and use of IPRs.[291]

TRIPs has been defended by its strongest proponents—the US, the EC, Japan, and their respective IP industries—on both normative and instrumental grounds. Normatively, TRIPs proponents argue that a uniform set of relatively high standards of protection fuels creativity and innovation, attracts foreign investment, and encourages the transfer of technology to be more rapid. Strong domestic IP rules, from this viewpoint, are essential to economic growth and development. Instrumentally, proponents defend TRIPs as part of a WTO package deal in which developing countries receive freer access to the markets of industrialised nations in exchange for an agreement to protect the IPRs of foreign nationals.[292]

The TRIPs Agreement is the major instrument providing IP-based protection of modern knowledge through patents, trademarks, copyrights, industrial designs and

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[290] Agreement on Trade-Related Aspects of Intellectual Property Rights, Dec. 15, 1993, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, LEGAL INSTRUMENTS - RESULTS OF THE URUGUAY ROUND vol. 31, 33 I.L.M. 81 (1994) [hereinafter TRIPs].

[291] Van Overwalle, G. (2001). "Influence of Intellectual Property Law on Safety in Biotechnology." from http://ssrn.com/paper=1718621

[292] Helfer, L. R. (2004). "Regime shifting: the TRIPS agreement and new dynamics of international intellectual property lawmaking." THE YALE JOURNAL OF INTERNATIONAL LAW **29**(1): 1–83.

GIs. However, TRIPs does not protect TK and does not mention TK directly, because TK does not fit the legal criteria of 'knowledge and innovations' that form the basis of protection under modern IP law.[293] TRIPs did not establish the principle that plant material can and should be protected by an IPR. What it does do is to require member states, at the least, to provide protection for plant varieties, and, at the most, to provide patent protection for all forms of plant material without restriction.[294]

Article 27 (3) (b) mandates that member states must provide protection for plant varieties using three possible methods of compliance:[295]

1) Member states can provide patent protection and/or *sui generis* protection, which accords with UPOV. This approach is taken by the US and Europe. or
2) Member states can exclude plant varieties from patent protection in favour of protection via a *sui generis* system that conforms to neither patent law nor UPOV. This approach includes the Thai and Indian Plant Variety Protection Acts. or
3) Member states can provide both patent protection and a non-UPOV *sui generis* right. No country appears to have taken this approach.

2.7.4.2 TRIPs-Plus Agreement

In principle, TRIPs-plus refers to commitments that go beyond what is already included or consolidated in the TRIPs Agreement. TRIPs-plus agreements or commitments can imply: the inclusion of a new area of IPRs e.g. protection of nonoriginal databases; the implementation of a more extensive standard e.g. extending the protection period from 10 to 15 years for trademarks or in copyright law the calculation of protection terms based on the life of the author plus 95 years; the

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[293] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

[294] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

[295] Ibid.

elimination of an option for members under the TRIPs Agreement e.g. an obligation to protect plant varieties 'only' by the UPOV system 1978/91.[296] It refers to the adoption of multilateral, plurilateral, regional and/or national IP rules and practices, which reduce the ability of developing countries to protect public interest.[297] TRIPs-plus provisions, designed to allow for the patentability of all categories of life-forms, including plants, animals, biological processes, genes, and gene sequences, would, when imposed through an FTA, have a considerable ethical, social, economic and environmental impact on developing countries.[298]

2.7.5 The World Health Organization (WHO)

WHO is the directing and co-ordinating authority for health within the UN. It deals with global health matters, health research agenda, setting norms and standards, providing technical support to countries and monitoring and assessing health trends.[299]

In terms of TM/CAM: WHO facilitates the integration of TM/CAM into national health care systems by helping member states to develop their own national policies on TM/CAM; it produces guidelines for TM/CAM by developing and providing international standards, technical guidelines and methodologies for research into TM/CAM therapies and products, and for use during the manufacture of TM/CAM products; it stimulates strategic research into TM/CAM by providing support for clinical research projects on the safety and efficacy of TM/CAM, particularly with for treating diseases such as malaria and HIV/AIDS; it advocates the rational use of

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[296] Vivas-Eugui, D. (2003). Regional and bilateral agreements and a TRIPS-plus world: the Free Trade Area of the Americas (FTAA). TRIPS Issues Papers 1. G. Tansey, Quaker United Nations Office (QUNO), Geneva; Quaker International Affairs Programme (QIAP), Ottawa; International Centre for Trade and Sustainable Development (ICTSD), Geneva.

[297] Musungu, S. F. and G. Dutfield Multilateral agreements and a TRIPS-plus world: The World Intellectual Property Organisation (WIPO), Quaker United Nations Office (QUNO), Geneva: Quaker International Affairs Programme (QIAP), Ottawa. TRIPS Issues Papers 3.

[298] Lianchamroon, W. (2006). TRIPs-plus provisions and its negative consequences on Agriculture in Thailand. Presentation given during the EFTA-Lobbying trip organised by the Berne Declaration.

[299] World Health Organization. "About WHO." 2013, from http://www.who.int/about/en/.

TM/CAM by promoting evidence-based use of TM/CAM; and it manages information on TM/CAM by acting as a clearing-house to facilitate the exchange of information on it.[300]

2.7.6 The Food and Agriculture Organization of the United Nations (FAO)

The FAO, as a source of knowledge and information, helps developing countries and countries in transition to modernise and improve their agricultural, forestry and fisheries practices and to ensure good nutrition. The FAO has focused attention on developing rural areas, home to 70 percent of the world's poor and hungry people, to make sure that people there have regular access to enough high-quality food to lead active, healthy lives. The FAO leads international efforts to defeat hunger by introducing simple, sustainable tools and techniques to increase crop yields, and also acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy. The FAO's mandate is to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy.[301]

2.7.6.1 The International Undertaking on Plant Genetic Resources for Food and Agriculture (IU) 1983

The IU, adopted by the FAO Conference in 1983, was the first comprehensive international agreement dealing with access to PGRFA. It was intended to achieve a balance between the products of biotechnology (commercial varieties and breeders' lines) and farmers' varieties and wild material, and between the interests of developed and developing countries, by balancing the rights of breeders as formal innovators and farmers as informal innovators.[302] However, it was not signed by any industrialised

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[300] World Health Organization (2002). WHO Traditional Medicine Strategy 2002–2005. Geneva, Switzerland, WHO.

[301] Please see Food and Agriculture Organization of the United Nations webpage, at http://www.fao.org/about/en/.

[302] Commission on Genetic Resources for Food and Africulture. "International Undertaking on Plant Genetic Resources for Food and Agriculture." 2013, from http://www.fao.org/ag//CGRFA/iu.htm.

countries important to the international management of PGRFA, and was not legally binding, which severely limited its prospects for realisation.[303]

2.7.6.2 The International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) or the International Seed Treaty 2001

The ITPGRFA, administered by the Commission on Genetic Resources for Food and Agriculture of the FAO, came into force in 2003, and seeks both to highlight conservation and to ensure easy and fair access to PGRs. In particular, it will permit all researchers using plant materials, whether in the public or private sector, to have equal access to the 35 food and 29 forage crops covered by the treaty by using standard terms of access.[304]

The ITPGRFA has a number of notable features, which include the creation of a multilateral system of ABS over a range of listed PGRs for food and agricultural purposes. Parties which ratify the international treaty effectively open up their agricultural PGRs to access via a Standard Material Transfer Agreement (MTA). The multilateral system also covers *ex situ* collections in gene banks of International Agricultural Research Centres (IARCs) of the Consultative Group on International Agricultural Research (CGIAR).[305] As no country is self-sufficient in PGRFA, they all depend on the genetic diversity of crops from other countries and regions. International co-operation and the open exchange of GRs are therefore essential for food security and the protection of plant material.[306]

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[303] Andersen, R. (2008). Governing Agrobiodiversity: Plant Genetics and Developing Countries, Ashgate Plublishing.

[304] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

[305] Robinson, D. (2007). Exploring Components and Elements of *Sui Generis* Systems for Plant Variety Protection and Traditional Knowledge in Asia, International Centre for Trade and Sustainable Development (ICTSD) Programme on IPRs and Sustainable Development, Intellectual Property Rights & Sustainable Development.

[306] Bhatti, S. "The Importance of the International Treaty." from http://www.planttreaty.org/.

The ITPGRFA calls on parties to collaborate to develop a Global Information System on PGRFA. It also recognises farmers' rights, and encourages parties to take measures that protect and promote them. These include: protection of TK relevant to PGRFA; the right to equitably participate in sharing benefits arising from the utilisation of PGRs; the right to participate in decision-making at the national level; and the right to save, use, exchange and sell farm-saved seed/propagating material, subject to national laws and as appropriate. Because the ITPGRFA still has limited membership, its full impact remains uncertain.[307] Some of the challenges to the management of PGRFA include: the rapid erosion of plant varieties from farmers' fields all over the world with varieties that have been developed for several years now extinct; the often poor domestic systems for gene bank conservation of plant varieties, resulting in great losses from these facilities and the loss of critical information; the emerging barriers to access to and use of GRs through legislative measures in developing countries; and the lack of attention paid to the farmers who still safeguard these resources for present and future generations.[308]

2.7.7 The International Union for the Protection of Plant Varieties (UPOV)

In view of the uncertainties surrounding the protection of plant varieties, a number of European countries decided to set up a *sui generis* protection system for plant varieties and UPOV was founded. The UPOV Convention was adopted in 1961, and revised in 1972, 1978 and 1991. PVP, considered to be a European-invented protection granting an IPR to plant breeders, is also known as plant breeders' rights, as stipulated in the UPOV Convention.[309] In addition, compulsory licensing is

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[307] Robinson, D. (2007). Exploring Components and Elements of *Sui Generis* Systems for Plant Variety Protection and Traditional Knowledge in Asia, International Centre for Trade and Sustainable Development (ICTSD) Programme on IPRs and Sustainable Development, Intellectual Property Rights & Sustainable Development.

[308] Andersen, R. (2008). Governing Agrobiodiversity: Plant Genetics and Developing Countries, Ashgate Plublishing.

[309] Heath, C. (2003). Plant Varieties, Biodiverisity and Access Rights. Industrial Property in the Bio-Medical Age: Challenges for Asia. C. Health, and A.K. Sanders. Great Britain, Kluwer Law International**:** 3-33.

allowed for the reason of public interest, and it discourages a PVR holder from monopolising production. It does this by encouraging the proprietor to licence voluntarily for remuneration, which is below the typical royalty.[310]

The UPOV (1991) extends the scope of breeders' rights by limiting 'farmers' privilege': The UPOV (1978) refers to the right of farmers to use seed harvested from protected varieties for private and non-commercial purposes. The UPOV (1991) specifies that the breeder's right in relation to a variety may be restricted 'in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting … the protected variety'. In addition, the duration of a PVP is lengthened (to 20 years, and 25 years for trees and vines) and all plant species must be covered. Also, patents on plant production processes, plants, seeds or genes relating to a PVP-protected variety are allowed, so 'double protection' of the same variety, by PVP and patent, is permitted.[311]

Although the *UPOV Report on the Impact of Plant Variety Protection,* published in 2005, concluded that the PVP offered under the UPOV system is effective as an incentive for the development of new, improved varieties of benefit to farmers, growers and consumers. Also the number of varieties developed after the introduction of the PVP had increased;[312] however, the UPOV system has been criticised for being unsuited to the agricultural characteristics of developing countries. It is said to be suited to and promoting of industrial-style, monoculture-based farming systems and to favour the commercial seed industry over small farmers, diversity and TK. There are also concerns about long-term food security, a massive loss of biological

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[310] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

[311] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

[312] World Intellectual Property Organization. (2006). "UPOV: The Impact of Plant Variety Protection." from http://www.wipo.int/wipo_magazine/en/2006/04/article_0004.html.

diversity, farmers' rights, and that the UPOV system does not provide sufficient flexibility to fashion optimal PVP regimes.[313]

2.7.8 The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) 1973

CITES, with 175 member countries**,** is an international agreement between governments, aimed at ensuring that international trade in specimens of wild animals and plants does not threaten their survival. All imports, exports, re-exports and introductions of species covered by the convention have to be authorised by a licence. Each party to the convention must designate one or more management authorities to take charge of administering the licensing system and one or more scientific authorities to advise them on the effects of trade on the status of the species.[314]

CITES does not specifically address the issue of access to GRs and ABS, but it has been suggested that the permit system, established by CITES, to regulate the trade of endangered species could provide useful experience to draw from when examining the possibility of developing an international certificate of origin/source/legal provenance and the implications of using such a certificate.[315]

2.7.9 The Convention of Farmers and Breeders (CoFaB)

The Gene Campaign along with the Centre for the Environment and Agriculture Development has developed an alternative treaty to UPOV to provide a forum for

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[313] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

[314] The Executive Secretary (2009). AD HOC OPEN-ENDED INTER-SESSIONAL WORKING GROUP ON ARTICLE 8(j) AND RELATED PROVISIONS OF THE CONVENTION ON BIOLOGICAL DIVERSITY, Sixth meeting. Item 4 of the provisional agenda, (UNEP/CBD/WG8J/6/1). COMPILATION OF SUBMISSIONS ON DEVELOPMENT OF ELEMENTS OF *SUI GENERIS* SYSTEMS FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES Montreal, Canada.

[315] UNEP/CBD/WG-ABS/3/5 cited in Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

developing countries to implement their farmers' and breeders' rights, i.e., the Convention of Farmers and Breeders or CoFaB. CoFaB has an agenda that is appropriate to developing countries. It seeks to meet the following objectives: to provide reliable, good quality seeds to the small and large farmer; to maintain genetic diversity in the field; to provide breeders of new varieties with protection for their varieties in the market, without public interest being prejudiced; to acknowledge the enormous contribution farmers make to the identification, maintenance and refinement of germplasm; to acknowledge the role of farmers as the creators of land races and traditional varieties, which form the foundations of agriculture and modern plant breeding; to emphasise that tropical countries are germplasm owning countries and the primary sources of agricultural varieties; to develop a system whereby farmers and breeders have recognition and rights accrued from their respective contributions to the creation of new varieties.[316]

2.7.10 The International Intellectual Property Institute (IIPI)

Based in Washington DC, US, the IIPI is a not-for-profit corporation, which aims to support the use of IP as a tool for economic growth, particularly in developing countries.[317] The IIPI has advocated that developing countries should explore various methods of protecting their TK resources, including revising their visa policies and establishing national clearinghouses to secure TK rights.[318]

2.7.11 The International Trademark Association (INTA)

Founded in 1878, INTA is a not-for-profit association with a membership of several trademark owners and academic institutions from more than 190 countries. It plays an important role in the support and advancement of trademarks and related IP as elements of fair and effective national and international commerce. INTA members

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[316] Sahai, S. (2008). CoFaB, A Developing Country Alternative to UPOV. Articles on Farmer's Rights & Plant Variety Protection, Gene Campaign

[317] More information on its activities can be found on http://iipi.org/.

[318] Gillespie-White, L. and E. Garduño (2002). Treading an Independent Course for Protecting Traditional Knowledge, International Intellectual Property Institute.

share a common interest in the protection of trademarks and in the development of trademark law, and make appropriate representations to national governments and international organisations.[319]

2.7.12 The International Council of Monuments and Sites (ICOMOS)

ICOMOS is an international non-governmental organisation, which works towards the conservation of monuments, buildings and sites of cultural heritage. It promotes the theory, methodology and technology applied to the conservation, protection and enhancement of monuments and sites. Its work is based on the principles enshrined in the International Bill of 1964 on the Conservation and Restoration of Monuments and Sites (the Venice Charter). ICOMOS is a network of experts and it benefits from interdisciplinary exchanges between its members, among whom are architects, historians, archaeologists, art historians, geographers, anthropologists, engineers and planners. ICOMOS members contribute to the preservation of heritage and progress in restoration techniques and to the development of standards for all cultural heritage properties and land: buildings, historic towns, historic gardens, cultural landscapes and archaeological sites.[320]

2.7.13 The International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)

ICCROM, established in Rome in 1959, is an intergovernmental organisation dedicated to the conservation of cultural heritage. ICCROM pays particular attention to interdisciplinary collaboration in conservation, involving scientists, conservators, restorers, archaeologists, art historians, curators, architects, engineers and city planners. Exploring conservation issues in research meetings and seminars has led to publications, guidelines and international training programmes. It collaborates closely with organisations such as UNESCO and its World Heritage Committee and with

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[319] Letter from the International Trademark Association to the Director General of the Department of Intellectual Property, Thailand (2012). Revision of Thailand Trademark Law

[320] ICOMOS International Council on Monuments and Sites (2011). Introducing ICOMOS.

non-governmental organisations, such as ICOMOS, ICOM, ICA and the IIC, as well as numerous scientific institutes and universities within member states.[321]

2.7.14 Traditional Knowledge World Bank (TKWB) — International Centre for Traditional Knowledge against desertification and for a sustainable future in the Euro-Mediterranean

The TKWB protects the rights of local communities who hold knowledge, fosters the recognition of communities' property rights and protects them juridically at an international level. It also acts as an economic actor; companies that reintroduce traditional techniques in innovative ways or who look for appropriate solutions will be selected. The TKWB connects the demand for particular techniques for intervention on valuable sites, urban ecosystems and protected areas with the companies who work in the appropriate sectors. Valuable sites gain international recognition by adopting the protocols for use of appropriate techniques.[322]

2.7.15 The International Rice Research Institute (IRRI)

Until recently, Asian rice cultures were securely under the control of local peoples. However, since 1960, the IRRI, based in the Philippines, has virtually taken over. The IRRI is an international agency funded by the Consultative Group on International Agricultural Research (CGIAR), which operates from the World Bank. IRRI's collection contains almost all the genes that the world's rice breeders have available to develop new rices. While it was intended to serve research work on rice for poor countries, industrialised countries benefit enormously from the IRRI. The IRRI has its own policy on IP, stating that the seeds from the genebank should not be patented, but

[321] The International Centre for the Study of the Preservation and Restoration of Cultural Property. "What is ICCROM." 2012, from http://www.iccrom.org/eng/00about_en/00_00whats_en.shtml.

[322] IPOGEA Research Centre on Local and Traditional Knowledge. "Traditional Knowledge World Bank." 2012, from http://www.tkwb.org/web/?page_id=4&language=it.

once a scientist has done breeding work, the material can be patented.[323]

Its goals are to reduce poverty by improving and diversifying rice-based systems; to ensure that rice production is sustainable and stable, has minimal negative environmental impact, and can cope with climate change; to improve the nutrition and health of poor rice consumers and rice farmers; to provide equitable access to information and knowledge of rice and to help develop the next generation of rice scientists; and to provide rice scientists and producers with the genetic information and material they need to develop improved technologies and enhance rice production.[324]

2.7.16 The International Cooperative of Biodiversity Groups (ICBG)

The ICBG Program, funded by the US National Institute of Health (NIH), the National Science Foundation (NSF), the US Department of Agriculture (USDA), the US Department of Energy (DOE), and the National Oceanic and Atmospheric Administration (NOAA), deals with the interdependent issues of drug discovery, examining the medicinal potential of the earth's plants, animals and microorganisms, biodiversity conservation, and sustainable economic growth. Benefit-sharing may give clear incentives for the preservation and sustainable use of biodiversity. The ICBGs are currently working in nine countries in Latin America, Africa, Southeast and Central Asia, and the Pacific Islands. Under this programme it is believed that the discovery and development of pharmaceutical and other useful agents from natural products can, under appropriate circumstances, promote the development of scientific

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[323] Assisi Foundation, Biothai, CEC, GRAIN, Greens Philippines, Hayuma, MAPISAN, MASIPAG, PAN Indonesia, PDG, SIBAT, TREE, Dr Romy Quijano (University of the Philippines) and Dr Oscar Zamora (University of the Philippines). (1998). "Biopiracy, TRIPs and the Patenting of Asia's Rice Bowl: A collective NGO situationer on IPRs on rice." from http://www.grain.org/briefings/?id=29.

[324] The International Rice Research Institute. "About IRRI." from http://irri.org/about-irri.

capacity and economic incentives to conserve the biological resources from which these products are derived.[325]

Some of its projects involve the acquisition and analysis of natural products derived from biological diversity as potential therapeutic agents for serious diseases, for example; AIDS, malaria, tuberculosis and other infectious diseases, cancers, heart disease, drug addiction and central nervous system disorders such as Alzheimer's disease. Its projects also include the discovery of safe new agents for crop protection and as veterinary medicines, the carrying out of biodiversity inventories and surveys, and the examination and preservation of traditional medicine practices.[326]

2.7.17 The Public Intellectual Property Resource for Agriculture (PIPRA)

Established in 2004, PIPRA is a not-for-profit initiative that helps public sector technologies to have an impact on the poor worldwide by reducing IP barriers, improving commercialisation strategies, and increasing technology transfer.[327] To improve access to patented technologies its primary strategies are: to provide a one-stop IP information clearinghouse for access to public sector patented technologies; to provide a resource for the analysis of patented technologies for implementation in specific projects; to develop gene transfer and gene-based trait technologies that have maximum legal 'freedom to operate'; to manage pools of public sector technologies to promote availability and reduce transaction costs associated with the transfer of rights to patented technologies; and to support the development of best practice in IP management and capacity enhancement in developing countries.[328]

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[325] ICBG. (2010). "The International Cooperative Biodiversity Groups (ICBG) : Introduction." from http://www.icbg.org/.

[326] Ibid.

[327] PIPRA. "The Public Intellectual Property Resource for Agriculture." 2012, from http://www.pipra.org/.

[328] Bennett, A. B. and S. Boettiger (2009). Case 5. The Public Intellectual Property Resource for Agriculture (PIPRA) : A standard license public sector clearinghouse for agricultural IP. Gene Patents and Collaborative Licensing Models : Patent Pools, Clearinghouses, Open Source Models and Liability Regimes. G. V. Overwalle, Cambridge University Press**:** 135-142.

2.7.18 GRAIN

GRAIN is a small international not-for-profit organisation that supports small farmers and social movements in their struggle for community-controlled and biodiversity-based food systems. This support takes the form of independent research and analysis, networking at local, regional and international levels, and fostering new forms of co-operation and alliance-building, mostly in Africa, Asia and Latin America.[329]

It can be seen that NGOs have been the single most important factor in raising the issue of the impact of international IP standards on developing countries. To remain effective on IP issues in the long run, NGOs will have to become more engaged in the IP policy process itself. It is vital that NGOs seek membership of IP policy committees, both nationally and internationally, as part of a long-term engagement with the international standard-setting process.[330]

Conclusion

There are several worldwide issues and concerns about IPR protection. While the implementation of a variety of IP protection systems worldwide is gradually developing and moving forward, some obstacles still arise. Much of the IPRs debate remains conceptual and technical rather than descriptive of specific strategies.[331] Defining technical terms is one of the main problems, as there is often no single universally accepted definition, with different ways of defining or interpreting many ambiguous terms, which are too broad or too generic; for example, 'traditional knowledge', 'cultural rights', 'intangible heritage'. Some vocabulary is not well defined in international instruments, such as 'peoples', 'minorities', 'Free, prior, informed and consent' etc. Therefore, ambiguity still exists.

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[329] GRAIN. "Organisation." 2013, from http://www.grain.org/pages/organisation.

[330] Drahos, P. (2002). "Developing Countries and International Intellectual Property Standard-Setting." The Journal of World Intellectual Property **5**(5): 765-789.

[331] Meilleur, B. A. (1996). Selling Hawaiian Crop Cultivars. Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 244-256.

TK is very diverse, holistic and difficult to define as it tends to be collectively owned and orally passed on from generation to generation. It is unlikely to know the real owner of TK, to keep records and get protected under the current IP regime. Developing countries want IP that not only deals with economic issues, but also in social and welfare context. Due to economic and technological gaps between industrialised and developing countries, IPR concept is incompatible with traditional cultural concept; it always favours commercialisation and does not naturally fit in the ideas of developing countries. The current IP system still could not effectively stop TK misappropriation by far.

From this Chapter, many important concepts/ideas can be learned from international instruments. The Paris Convention for the Protection of Industrial Property 1883 does not have any provisions for granting patents to TK *per se*. The CBD 1992 recognises national sovereignty (autonomy) over GRs, including the principle of fair and equitable sharing of benefits through appropriate access and PIC. The Bonn Guidelines and Nagoya Protocol also emphasise the importance of PIC. Although the UPOV Convention aims to protect and encourage the development of new varieties of plants by award of an IPR, its system has been commented on flavouring breeders. Under the 1978 Convention, farmers are still free to save and re-sow propagating material as breeder's permission. The 1991 Convention enhances rights for plant breeders and the farmer's privilege in the 1978 Convention is more limited here. It does not allow farmers to use saved seed or that of protected varieties. Thailand has its own *sui generis* plant protection system under the Plant Variety Protection Act. Although Thailand is not a party to UPOV, this Act is a combination of concepts from UPOV and CBD, protecting new plant varities and extant varieties, recognising farmers' rights as well as having exemption to the breeders'rights. So it can be used under limited subject matters/strict situations to protect TK. The TRIPs Agreement has no specific provision on TK and does not define the term "effective *sui generis*" as stated in Article 27.3 (b). It allows WTO members to patent life-forms and living processes while developing countries think this is unethical and often involves misappropriation of plants and animals. However, it provides the exceptions and exclusions from patentability (ordre public, morality, life or health, environment) or so-called TRIPs flexibilities. It can be said that TRIPs creates flexibility for establishing alternative IP protection measures. TRIPs-plus provisions often apply to

FTAs, which may broaden patentability, enhance IP enforcement, etc. and limit the use of these flexibilities. The ITPGRFA adopts some concepts from the CBD, i.e. conservation of and access to GRs, disclosure of origin, PIC and ABS. It also recognises farmers' rights to save, use, exchange, sell farm-saved seed and propagating material subject to national law. The ICESCR and the ICCPR provide justifications and concepts to embody economic, welfare, culture and human rights within an IP regime, allowing us to protect TK and TCEs under IP law. The Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 gives us justification to protect both tangible and intangible cultural property, as part of TK, within an IP system. So we can ban the theft, illicit exportation or any unusual activities of our cultural property. Furthermore, for governments who have indigenous peoples in their territories should consider the advantages and disadvantages of being a party to the UN Declaration on the Rights of Indigenous Peoples, the UNESCO Cultural Property Treaties, and the International Labour Organization (ILO) Convention 169, which are specifically intended to protect indigenous and tribal peoples by supporting community ownership and local control of lands and resources.

Although range of international legal conventions and instruments concerned with TK, TCEs and GRs, already exist, these are sometimes unlikely to fulfil the needs of individual states. No comprehensive international regime recognising and protecting rights over TK exists, as those available do not fully protect every aspect of TK and TCEs, or provide adequate IP protection for TK holders. There are no special measures to assist TK holders. Different countries can adopt or adapt any provisions as they see fit in accordance with national needs. It is vital to have an international legal framework and binding international legal instruments that state: clear and precise key definitions of TK, TCEs and any controversial legal terms, who the rights holders and beneficiaries would be, how to resolve TK claims raised by communities and enforce their rights, as well as ensuring equitable benefit-sharing in return for the use of TK and GRs, which would be very helpful particularly for small nations with low bargaining power or economic strength to negotiate like Thailand.

Several international organisations dealing with IP and TK have, over the years, attempted to develop an effective system and harmonised frameworks for the

protection of TK. The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore is undertaking text-based negotiations and working on Draft Articles, Universal international legal instruments for effective protection in three areas: TK, TCEs and GRs, and to address the IP aspects of ABS, whose tasks can have important development in these fields. It would be ideal to have regional and international co-operation/collaboration in the global recognition of protected TK and GRs. This could be done using various approaches to prevent the misappropriation and distortion of TK and the recording of oral cultural traditions. This may also help to reduce the possibilities for circumvention of rules between different countries.

A comprehensive global system responding to national legal systems or a '*sui generis*' international legal instrument would be more supportive to disadvantaged and less technologically developed countries, along with co-operation from recipient countries. Domestically, depending upon the international agreements to which states are party, it is at each country's discretion to implement their national legislation to protect TK in compliance with international obligations and standards, at the same time respecting their peoples' fundmental rights over TK and interests, and providing equitable benefit-sharing.

There are numerous global and regional organisations and non-profit agencies as well as some other very useful sources from which to seek free legal aid and advisory services. For example: WIPO provides legal and technical assistance as well as IT support to developing countries; WHO acts as a clearing-house for the exchange of TM information and assists developing countries to develop their own national policies on TM; UNESCO is ready to harness developing countries' cultural heritage sites and help with management, etc. Importantly, to achieve their developmental goals, developing countries should consider their existing resources, evaluate the situation, clearly address the issues, state the problems and identify in what ways developed countries or international institutions can be of assistance.

To sum up, we learn that there is no single legal instrument that is able to deal effectively with TK. We have a patchwork but each one cannot be used. We learn

because we would like to see what we can take from each one. There are some useful concepts to pull out to create a more current coherent system.

Chapter 3
Intellectual Property Legislations and Organisations in Thailand

3.1 Overview of the history and development of IP-related legal instruments and organisations in Thailand

Thailand, which became a member of the WTO, has a commitment, under the TRIPs agreement and other international conventions, to effectively and appropriately enforce IPRs. The government has been taking systematic measures to deal with IPRs issues that arise by all means; hence, a number of IP-related laws have been enacted.[332] However, most Thai IP laws have been introduced to Thai society on a 'top down' basis. This is when society *per se* does not really need them as the majority of the Thai people are only users of such rights, rather than owners.[333]

Originally, Thailand had an agricultural-based economy, as trademarks were mainly related to the manufacturing industry they did not play a major role within the country. As Thailand's commercial relationships with other countries were greatly expanded, the trademark registration unit was established in 1910 under the Ministry of Agriculture. This was followed by the enactment of the Law on Trademarks and Trade Names in 1914. After that, the Department of Commercial Registration was established for handling trademark registration and the weighing and measuring of commodities, followed by the Patent Administration Division and Patent Investigation Division (under the Department of Commercial Registration) in 1963, with the Patent Act enacted in 1979. The Copyright Act, overseen by the Fine Arts Department under the Ministry of Education, had been enacted in 1978.[334] With the exception of

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[332] Leelawath, W. Brief Notes on Copyright Protection in Thailand, International Institute for Trade and Development (ITD), Bangkok, Thailand.

[333] Oranonsiri, C. (2001). Provisional Measures: a Study of the Impact of TRIPs on Remedial Measures in Thai Law. Law, University of Liverpool. **Doctor of Philosophy:** 340.

[334] The Department of Intelletual Property of Thailand. (2010). "History of the Department of Intellectual Property." from http://www.ipthailand.go.th/ipthailand/index.php.

copyright with a hundred-year history, the legal protection of IP is a relatively new concept in Thailand. The Trade Secrets Act and the Act on Protection of Geographical Indication were established in 2002 and 2003, respectively. Prior to this, with respect to knowledge systems, laws and customs relating to the ownership and sharing of knowledge were considerably different as it was regarded as common and so shared by society, not owned individually. Therefore, the adaptation of a western system has required a great deal of cultural compromise and the implications of the IPRs regime, relating to TK and GRs, are relatively recent and typically treated with scepticism and concern.[335]

IP is of increasing importance within the Thai economy and the global trading system. IP is increasingly used to gain a competitive edge, restrict trade, and as a bargaining tool in trade negotiations, especially by developed countries, so the Ministry of Commerce has deemed it necessary to integrate all IP-related activities under one umbrella organisation; patent- and trademark-related operations are now integrated within the Department of Intellectual Property (DIP), under the Ministry of Commerce.[336]

Traditional medicine (TM) is the only TK or Thai local intelligence that has been protected by *sui generis* law, i.e., the Act on Protection and Promotion of Thai Traditional Medicine Intelligence B.E. 2542 (1999). Thai GRs are protected under a range of existing laws, such as the Forestry Act B.E. 2484 (1941, revised 1989), the Fishery Act B.E. 2490 (1947), the Wild Animal Reservation and Protection Act B.E. 2503 (1960, revised 1992), the National Park Act B.E. 2504 (1961), the Reserved Forest Act B.E. 2503 (1960), the Plant Variety Act B.E. 2518 (1975, revised 1992), the Patent Act B.E. 2522 (1979, revised 1992), and the Plant Variety Protection Act

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[335] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

[336] The Department of Intelletual Property of Thailand. (2010). "History of the Department of Intellectual Property." from http://www.ipthailand.go.th/ipthailand/index.php.

B.E. 2542 (1999).[337] Thailand's biodiversity is also protected by the National Park Act B.E. 2504 (1961), the National Conserved Forest B.E. 2507 (1964), the Wildlife Conservation and Protection Act B.E. 2535 (1992), the Plant Storage Act B.E. 2507 (1964), the Second Plant Storage Act B.E. 2551 (2008), the Animal Species Maintenance Act B.E. 2509 (1966), the Export and Import to the Kingdom Act B.E. 2522 (1979), and the National Environment Enhancement and Conservation Act B.E. 2535 (1992).[338]

3.2 Responsible bodies in charge of IP administration, management and enforcement

It is important to mention the Constitution of the Kingdom of Thailand B.E. 2540 (1997), which has reformed the whole structure of the country including the Court and the Ministry of Justice. The Court of Justice has been separated from the Ministry of Justice and has its own budget and administrative office. The justice affairs agencies, which were formerly scattered under several Ministries causing problems with co-operation and co-ordination, are currently administered by the Ministry of Justice, by departments such as: the Office of the Attorney General, the Office of Anti-Money Laundering, the Office of Narcotics Control and the Correction Department. Some new agencies have been set up under the Ministry of Justice, such as the Central Forensic Science Office, the Office of Justice Affairs, the Department of Rights and Liberty Protection, and the Department of Special Investigation (DSI) – a new law-enforcement agency with detective and investigative powers.[339]

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[337] Ratanasatien, C. and T. Saenudom (2006). Status of Plant Genetic Resources in Thailand. Paper presented to the 2006 APEC-ATCWG Workshop on Interaction of CBD and TRIPS Related Issues on the Plant Genetic Resources.

[338] Office of Natural Resources and Environmental Policy and Planning (2009). Thailand: National Report on the Implementation of the Convention on Biological Diversity, Ministry of Natural Resources and Environment, Bangkok, Thailand**:** 76 p.

[339] Sookying, S. (2005). The Department of Special Investigation (DSI): Countermeasures in regard to the Investigation of Economic Crimes and Special Crimes in Thailand. Work Product of the 126th International Senior Seminar on "Economic Crime in a Globalizing Society - Its Impact on the Sound Development of the State", United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (UNAFEI), Tokyo, Japan

3.2.1 Royal Thai Police

In 1987, the Royal Thai Police set up a special task force to fight economic crimes, and then established the Economic Crime Investigation Division (ECID) in 1991, which specialises in offences concerning IP. The violation of IPRs is a form of economic crime, which comes under the authority of ECID. When someone infringes the rights of the right owner, the injured party may notify the ECID. After thorough investigation, the police will forward the case to the public prosecutor if it finds sufficient grounds to prosecute the accused.[340]

The Department of Special Investigation (DSI), Ministry of Justice, was established in 2002 as the result of legal reform. This is a law-enforcement agency set up with the aims of preventing, suppressing, and controlling serious cases affecting the nation's economy, society, security and safety. It monitors crime and investigates and prosecutes criminals to protect and preserve the nation's income, suppress processes of corruption, and dismantle transnational organised-crime. Special serious and complex criminal cases, which are within the scope of the DSI's authority, include any illegal action under IP-related laws.[341]

The Customs Department, Ministry of Finance, has the task of providing IPR protection and enforcement at borders under the Customs Act and other related Acts.[342]

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[340] Vannasaeng, P. and R. Tankarnjananurak. (year unspecified). Issues of the IP Enforcement in Thailand.
Vannasaeng, P. and R. Tankarnjananurak ISSUES OF THE IP ENFORCEMENT IN THAILAND.

[341] See Department of Special Investigation, Ministry of Justice (2011). Annual Report 2011. Bangkok, Thailand.

[342] More details can be found on their official website. The Customs Department, Thailand. "IPR Infringing Goods." 2013, from http://www.customs.go.th/wps/wcm/connect/custen/traders+and+business/prohibited+and+restricted+items/ipr+infringing+goods/iprinfringinggoods.

3.2.2 The Office of the Attorney General

In 1997, the Office of the Attorney General set up a special unit called the Intellectual Property and International Trade Division. A public prosecutor in this division has a duty to scrutinise the files on investigations conducted by the police. He or she may instruct the police to obtain more evidence to strengthen the case. The public prosecutor will decide, according to the evidence, whether the accused should be prosecuted or not.[343] The public prosecutor will then bring criminal IP cases to the IPITC.

3.2.3 Courts of Justice, the Office of the Judiciary

The Central Intellectual Property and International Trade Court (IPITC) and the Intellectual Property and International Trade Division in the Supreme Court

Since most Thai people may view an activity like inventing a product or creating a work of art as being in the public domain, they do not consider that the fruits of their labour warrant special legal protections benefiting the individual over the community. The establishment of a specialised IP court in 1997 called 'The Central Intellectual Property and International Trade Court of Thailand' (IPITC) to comply with the TRIPs Agreement is arguably a positive development because it reduces the conflict of interests between Western nations' ideas as net producers of IP, and Thailand's as a net consumer, as well as offering different standards of IP protection.[344]

A specialised IP court has several benefits, for instance: the creation of subject experts/expertise to deal with complex IPRs laws and technology; effectiveness and speed of decisions, as specialist judges recognise patterns in cases and legal issues; the ability to create special court procedures uniquely suited to IPRs cases to enhance

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[343] Vannasaeng, P. and R. Tankarnjananurak. (year unspecified). Issues of the IP Enforcement in Thailand.
Vannasaeng, P. and R. Tankarnjananurak ISSUES OF THE IP ENFORCEMENT IN THAILAND.

[344] Morgan, A. (1999). "Trips to Thailand: The Act for the Establishment of and Procedure for Intellectual Property and International Trade Court." Fordham International Law Journal **23**(3): 795-847.

their efficiency and accuracy; consistency and predictability of case outcomes by reducing the likelihood of conflicting precedents from multiple jurisdictions; progressive development or dynamism, leading to general public awareness of IPR; and government investment in specialist IP courts signals to the public that IPRs will be enforced, brings confidence to rights holders, business communities, foreign investment and contributing to economic growth.[345]

The IPITC was established as part of the Court of First Instance in the Thai judiciary system, on the grounds that an IP and international trade case has a different character to other general criminal and civil cases. Also if cases are tried by judges who, having participated with competent outsiders, possess competent knowledge in matters relating to IP and international trade, the proceedings will be more expeditious and appropriate. It is deemed expedient to establish the IPITC and to have particular procedures in order to make the proceedings more convenient, expeditious and fair.[346]

Like in Korea, Turkey, the UK and Japan, this specialised Court in Thailand has its own rules, staff, and courtrooms, which are separate to the courts of general jurisdiction. All IP cases are directly appealed to the Supreme Court, which has the Intellectual Property and International Trade Division. All justices in the Division in the Supreme Court and Judges in the IPITC possess knowledge and full understanding of IP or international trade, and have good experience and training in them.[347] However, judges in the IPITC have to be rotated occasionally, as required by the

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[345] Zuallcobley, R. W., J. A. Castañeda, et al. (2012). Study on Specialized Intellectual Property Courts, The International Intellectual Property Institute (IIPI) and The United States Patent and Trademark Office (USPTO).

[346] Remark of the Act for the Establishment of and Procedure for Intellectual Property and International Trade Court B.E. 2539 (1996). Published in the Royal Gazette, volume 113, section 55 kor, page 1 dated 25th October, B.E. 2539 (1996).

[347] Vannasaeng, P. and R. Tankarnjananurak. (year unspecified). Issues of the IP Enforcement in Thailand.

judicial system, so the process of familiarising new judges with IPR law and the IPITC then has to start again.[348]

3.2.4 Ministry of Commerce

- **Department of Intellectual Property (DIP)**

The DIP was formally established in 1992, with the mission to encourage creation of IP, to promote management and commercial exploitation of IP, to develop IP services and protection systems effectively, to make fair use of IPRs, to suppress IP infringement, and to develop IP networks both domestically and internationally.[349]

Although Thai patent law requires applications to be substantively examined, due to limited resources and facilities the DIP hardly conducts a patent search and examination, but simply grants patents pursuant to the examination results of foreign offices, particularly those of developed countries considered more capable of thoroughly examining applications.[350]

- **Department of Foreign Trade**

The Department of Foreign Trade deals with the administration of the country's international trade by enhancing efficiency in trade facilitation to meet the expectations of importers and exporters. Their major projects include the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT), the Greater Mekong Subregion

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[348] Poonsombudlert, K. (2012). Case Study of Thailand's IPR Court Regime. Study on Specialized Intellectual Property Courts, The International Intellectual Property Institute (IIPI) and The United States Patent and Trademark Office (USPTO)**:** 114-120.

[349] The Department of Intelletual Property of Thailand. (2010). "History of the Department of Intellectual Property." from http://www.ipthailand.go.th/ipthailand/index.php.

[350] Kuanpoth, J. (2006). "Patents and Access to Medicines in Thailand –The ddl case and beyond." Intellectual Property Quarterly **No.2**: 149-159.

(GMS), the Economic Co-operation Program and Ayeyawadee-Chao Phraya-Mekong Economic Co-operation (ACMECS).[351]

3.2.5 Ministry of Culture

- **Fine Arts Department**

General Directions of Cultural Policy: The Thai National Cultural Policy was formulated and proclaimed in 1981 in accordance with the spirit of Article LXIV of the Constitution of the Royal Thai Kingdom B.E. 2521 (1978), which reads, 'the State shall promote and preserve the national culture'. The substance of the policy can be summarised as follows:[352]

1. Support the preservation of Thai culture in all aspects through education, research, animation and development, in order that culture may serve as an important tool for solving problems encountered in the conduct of individual life, for the development of social, economic and political progress, and for the strengthening of national sovereignty.
2. Disseminate Thai culture to the Thai people, enabling them to understand and realise the value of their own culture and to translate the value into action. This knowledge and appreciation of Thai culture should lead to national unity, security, and mutual understanding among the nation's people and among people of the world.
3. Promote traditional local and ethnic culture in order to inculcate the appreciation of traditional and regional culture and, at the same time, stimulate adoption and harmonisation of this diversity into a peaceful unity.
4. Support and promote cultural exchange at the regional and international level with the aim of creating international understanding and facilitating selective

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[351] Department of Foreign Trade, Ministry of Commerce. "Regional Cooperation and Regional Agreements." 2012, from http://www.dft.go.th/en/InformationServices/RegionalCooperationandRegionalAgreements.aspx.

[352] Culturelink. "Cultural Policy in Thailand." from http://www.wwcd.org/policy/clink/Thailand.html.

modification and absorption of exogenous cultures into main stream Thai culture and cultural solidarity.

5. Support and promote co-ordination and co-operation among government agencies and private sectors engaged in cultural activities. All measures and devices shall be undertaken to mobilise national resources for the preservation, promotion and development of culture.

Its main mandate is to protect, sustain, enhance, disseminate, and promote the religious, artistic and cultural affairs of the nation. This will contribute to maintaining the ultimate symbols of Thai social values i.e. nation, religion and monarchy, as well as encouraging all Thai citizens to be aware of and take pride in their own cultural roots through the development of learning resources locally and nationally.[353] Local authorities are encouraged to practise and implement the system in all operational aspects, including statutory mechanisms, design regulations and guidelines, and financial incentives, for the protection and management of the cultural heritage in their administrative territory.[354]

- **Department of Culture Promotion and Office of the National Culture Commission (ONCC)**

The Department of Culture Promotion and the ONCC play a key role, nationally and internationally, in promoting: Thai cultural activities; preserving Thai folk cultures; cultural education; research and development; and public relations. Other activities include determining the correct cultural procedure, as prescribed by Royal Decree, concerning dress etiquette, manners, home care, behaviour, capability and

[353] Ministry of Culture, Thailand. "About us." 2013, from http://en.m-culture.go.th/index.php?option=com_content&view=article&id=1&Itemid=2.

[354] Ruktae-Ngan, K. (2003). Monument Grading System as a Means for Local Management of Cultural Heritage in Thailand. Faculty of Architecture, Civil Engineering and Urban Planning. Cottbus, Germany, Brandenburg University of Technology. Master of Arts in World Heritage Studies: 152.

professional discipline, as well as to propose modification by Decree whenever necessary.[355]

3.2.6 Ministry of Agriculture and Co-operatives

The agricultural sector has long been the country's important production sector. The principal goal of agricultural development emphasises improving the quality of life of farmers who comprise the majority of the Thai population. The Ministry of Agriculture and Co-operatives has powers and duties with respect to agriculture, development of water sourcing and irrigation, promotion and development of agriculturists, promotion and development of co-operative systems including production processes and agricultural commodities, and other governmental tasks legally designated to the control of the Ministry of Agriculture and Co-operatives or government sections under it.[356]

- **Department of Agricultural Extension**

Established in 1967, this Department is one of the core agencies in the Ministry of Agriculture and Co-operatives, and is directly responsible for undertaking agricultural extension, working closely with farmers. Its duties are: to increase the farmer's potential in terms of agricultural production, processing, and added value; to identify measures and guidelines for agricultural extension; to control product quality; and to transfer agricultural technology to farmers, so that they generate income and are secure in their occupation.[357]

- **Department of Rice**

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[355] Vajrabul, S. "Office of the National Culture Commission (ONCC) Samnakngarn Khana Kamakarn Wathanatham Haeng Chat." 2013, from http://www.accu.or.jp/ich/en/links/O_THA4-more.html.

[356] Ministry of Agriculture and Cooperatives, Thailand. "Vision/Mission." from http://eng.moac.go.th/ewt_news.php?nid=101.

[357] Department of Agricultural Extension, Ministry of Agriculture and Cooperatives. "Introduction to DOAE." from http://www.doae.go.th/englishversion/HTML/070520/01.pdf.

Issues to do with rice are specifically dealt with by this Department, as follows: studies, analyses and recommends on the production of a rice strategy for the nation; implements international co-operation on rice issues; conserves and protects rice genes and breeds; studies, researches, tries out and develops breeds, production technology, and protects methodology after harvesting, processing, and rice standards; implements the production, promotion and encouragement of rice seeds; promotes, encourages and transfers rice production and management technologies; conserves and promotes cultural and indigenous wisdom on rice; carries out rice inspections and rice standard accreditation; promotes and encourages the creation of added value, the development of goods management systems, and the processing of rice and products; supports rice markets.[358]

3.2.7 Ministry of Natural Resource and Environment (MONRE)

MONRE's main responsibilities are for all functions related to the preservation, development and sustainable utilisation of mineral resources and environments in Thailand. The Department of National Parks, Wildlife and Plant Conservation, the Royal Forest Department, the Department of Marine and Coastal Resources and the Botanical Garden Organisation are some of the important components of the Ministry.

3.2.8 Ministry of Public Health

The Ministry of Public Health is responsible for Thai healthcare, the healthcare industry, public health, and health-related NGOs as well as for the regulation of medical professionals, hospitals, and clinics. The Department of Development of Thai Traditional and Alternative Medicine and the Department of Medical Sciences deal specifically with, and play vital roles in, Thai traditional and alternative medicine.

3.2.9 Other institutions

- **National Centre for Genetic Engineering and Biotechnology (BIOTEC)**

[358] Ministry of Agriculture and Cooperatives, Thailand. "Tasks of Department of Rice." from http://eng.moac.go.th/ewt_news.php?nid=124.

BIOTEC conducts, with the commission of the Department of Intellectual Property, an important legal framework study on the protection of TK. The study aims to solve problems to do with the misappropriation and misuse of Thai TK. The results of this study lead to the drafting of laws on the promotion and protection of TK. BIOTEC invests vast effort into, not only the utilisation of bioresources, but also their legal management. The legal management of PGRenetic resources for biotechnology research is an ongoing research project aimed at developing practical guidelines for researchers utilising PGRenetic resources. Its roles include IP management by building human resources in knowledge of IP law and conducting several research projects on IP law and management. One vital project is developing IP management offices for universities and innovative organisations in Thailand. BIOTEC has been involved in several international legal negotiations and advancements, being one of the Thai delegations negotiating an international regime of access and benefit-sharing under the CBD.[359]

BIOTEC policy provides the resources for the country to develop a critical mass of researchers necessary to achieve Thailand's national R&D requirements in biotechnology. This is achieved with R&D projects, the facilitation of transfer of advanced technologies from overseas, human resource development at all levels, institutional building, information services, and the development of public understanding of the benefits of biotechnology.[360]

- **Rice Gene Discovery Unit (RGDU)**

The RGDU was established in 2001 from close collaboration between the BIOTEC and Kasetsart University. It aims to be a centre of excellence on structural genomics, functional genomics, rice gene discovery and the application of molecular breeding

[359] National Center for Genetic Engineering and Biotechnology (BIOTEC) (2010). Research & Development. Bangkok, Thailand.

[360] Tanticharoen, M. (1999). Thailand: Biotechnology for Farm Products and Agro-Industries. Agricultural Biotechnology and the Poor. G. J. Persley and M. M. Lantin. Washington, D.C., USA, An International Conference on Biotechnology convened by Consultative Group on International Agricultural Research and US National Academy of Sciences.

improvements. Its missions are: to develop research capabilities in both structural genomics and functional genomics with the aim of studying and discovering genes on a genome-wide scale; to identify chromosomal regions where genes/Quantitative Trait Loci (QTL) of specific economically useful traits are located; to build and curate freely-accessible databases connecting genomic and phenotypic data, facilitated with useful informatics tools and user-friendly interfaces, creating effective bioinformatics tools for rice breeders; to develop human resources in the field of the genome, ,i.e. bioinformatics and molecular breeding via degree and/or non-degree programmes such as workshops, conferences, e-learning and training. [361]

- **Thai Biodiversity - Information Centre for Organisms in Thailand**

The Biodiversity-Based Economy Development Office (Public Organisation) set up a central database and network system on biodiversity: to co-ordinate strategic projects between government agencies and the private sector; to be a centre for study and research on biodiversity that is accessible and usable by the general population, students and academics; and to be a data source for the development of value-added processes of relevant agencies that are interested in information on biodiversity.[362]

- **Biodiversity-Based Economy Development Office (BEDO)**

BEDO, founded in 2007, is a public organisation that aims: to promote, support and implement measures for the development of a biodiversity-based economy and for the conservation of biodiversity resources and TK of communities and local communities; to collate information, conduct studies, analyse data and assess what is needed for the development of a biodiversity-based economy, in order to make policy recommendations and propose measures to the cabinet; to compile information and develop an inventory of plants, animals and micro-organisms, which originate from or are found in the country and of local and community knowledge; such a database will

[361] Rice Science Center & Rice Gene Discovery Unit, Kasetsart University, Thailand (2012). The Rice Gene Discovery Unit.

[362] Biodiversity-Based Economy Development Office (PO). "Thai Biodiversity - Information Centre for Organisms in Thailand." 2012, from http://www.thaibiodiversity.org/AboutUs.aspx.

be used for monitoring the utilisation, for economic purposes, of biodiversity resources and TK of communities and local communities; to promote and support research that makes use of existing knowledge on the utilisation of biodiversity resources and TK of communities and local communities for commercial purposes; to take the initiative on registration of biodiversity resources and TK of communities and local communities in order to protect such resources under relevant legislation; to protect and address problems concerned with violation of those rights; and to operate as a centre for monitoring and co-ordinating with government offices and private agencies, both in Thailand and abroad, to ensure that they are linked and consistent with prevailing cabinet policies.[363]

3.3 Overview of Thai IP-related laws and procedures

3.3.1 The Constitution of the Kingdom of Thailand B.E. 2550 (2007)[364]

The Kingdom of Thailand is a constitutional monarchy, and the Constitution is the supreme law of the country. From time to time, Thailand has amended its constitution and work on a new constitution is currently underway. The latest Constitution of 2007 contains general provisions concerning IPRs in Part 9 'Directive Principles of State Policies in relation to Science, Intellectual Property and Energy', and Chapter V 'Directive Principles of Fundamental State Policies'. The Constitution does not contain any provisions that specifically refer to copyrights and industrial property rights. However, the Constitution guarantees *sui generis* rights for respect and full protection of GRs, biodiversity, TK and TCEs. The Constitution protects: the right to preserve and develop local knowledge and Thai wisdom (Section 86 (2), Part 9, Chapter III); the right to conserve or restore their customs, local knowledge, the good art and culture of their communities (Section 66, Part 12 'Community Rights', Chapter III); the right to preserve and exploit natural resources, the environment and biological diversity (Section 66 & 67, Part 12 'Community Rights', Chapter III). The

[363] BEDO. "Biodiversity-Based Economy Development Office (Public Organisation)." 2012, from http://www.bedo.or.th/default.aspx.

[364] Please see the online English version of the Constitution of the Kingdom of Thailand, available at http://www.asianlii.org/th/legis/const/2007/1.html#C03P12.

Constitution also contains provisions that define the protection and promotion of all forms of property rights in Part 5 ‘Rights in Property’, Chapter III ‘Rights and Liberties of the Thai People’.[365]

3.3.2 Thai court and legal system

Under the Constitution of Thailand 2007, there are four types of courts, i.e., the Constitutional Court, the Courts of Justice, the Administrative Court, and the Military Court. The primary laws are acts of parliament, along with administrative laws and regulations. The Thai legal system may be classified as belonging to the tradition of civil law, with the German Bürgerliches Gesetzbuch (BGB), the French Code Napoleon and the Japanese Civil Code playing a dominant role in the formation of its Civil and Commercial Code. English common law had a significant influence on Thai Commercial law in particular on Book III of the Civil and Commercial Code entitling Specific Contracts. Procedurally, influenced by the English Inns of Court and legal educational institutions, which Thai judges of earlier times were exposed to, Thai law can be described as adversary.[366] Therefore, Thailand is a country with civil law with common law influences. There are currently four main codified basic codes, which are the Civil and Commercial Code, the Penal Code, the Civil Procedure Code and the Criminal Procedure Code.

Court procedures at the IPITC

The IPITC is unique, with the IP court system having some new and prominent features, including: the rules of the IPITC have significantly facilitated the efficiency of the forum and court procedure; exclusive jurisdiction both in civil and criminal matters on the enforcement of IPRs as well as arbitral awards in IP and international trade matters throughout the country; and a panel of three judges to constitute a

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[365] World Intellectual Property Organization Resources. "Thailand: The Permanent Constitution of the Kingdom of Thailand of August 24, 2007." 2013, from http://www.wipo.int/wipolex/en/details.jsp?id=6694.

[366] Central Intellectual Property and International Trade Court, Thailand. (2002). Alternative Dispute Resolution in Thailand. IDE Asian Law Series No. 19 Dispute Resolution Process in Asia (Thailand), Institute of Developing Economics (IDE-JETRO), Japan.

quorum. Two of these judges are selected from career judges with expertise in IP or international trade, and the other is an associate judge who is a lay person with expertise in IP or international trade. Other features include: the availability of the *Anton Piller Order*[367] type of procedure; the possibility of the appointment of expert witnesses as *amicus curiae*;[368] affidavit written statements;[369] a leap-frog procedure, where appeals on questions of facts and law or order of the Court fall directly to the IP and International Trade Division of the Supreme Court; and the possibility of extending jurisdiction to other matters by amending legislation further.[370]

Preliminary remedies are very important to the protection of IPRs as the period from the commencement of proceedings to the final determination of a case can allow for significant damage to sales and profits and to reputations, due to exploitation of material and/or information. The most useful and widely used preliminary remedy is the interlocutory or interim injunction, with the main purpose of preserving the *status quo*[371] until the main hearing. The courts of common law countries have formulated and developed the Mareva injunction, which operates to prevent defendants from removing assets from the jurisdiction or from disposing or dealing with them within

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[367] A court order which requires the defendant in proceedings to permit the plaintiff or his or her legal representatives to enter the defendant's premises in order to obtain evidence essential to the plaintiff's case. This was named after Anton Piller, German manufacturers of electric motors, who were involved in legal proceedings (1975) in which such an order was granted. Oxford Dictionaries (2013). Oxford University Press.

[368] A party that is not involved in a particular litigation but that is allowed by the court to advise it on a matter of law directly affecting the litigation. (Latin, literally: friend of the court). The American Heritage Dictionary of the English Language, Fourth Edition, (2009). Houghton Mifflin Company.

[369] A declaration in writing made upon oath before a person authorised to administer oaths, especially for use as evidence in court. Collins English Dictionary - Complete & Unabridged 10th Edition (2009). Harper Collins Publishers.

[370] Ariyanuntaka, V. (2010). Intellectual Property And International Trade Court : A New Dimension For IP Rights Enforcement In Thailand, WIPO.

[371] The existing state of affairs (literally: the state in which). Collins English Dictionary - Complete & Unabridged 10th Edition (2009). Harper Collins Publishers.

the jurisdiction in such a way as to frustrate any judgment that may be entered against them. [372]

Applying the appropriate provisional measure in the IPITC would be useful due to its deterrent effect. Lawyers however, may be reluctant to do so probably because of the lack of evidence, the doubt over provisional measures, alternative measures, a lack of confidence in the judicial attitude, the cost and time involved; and the court itself does not seem to have the intention of granting provisional measures.[373] The IPITC's rules stipulate that a provisional measure can be granted if the damages incurred cannot be reinstituted monetarily or by any other form of indemnity. In practice, unfortunately, it is difficult to obtain provisional measures as IPR infringement normally causes monetary damages. Provisional measures are hardly ever granted and as the IPITC's dismissal of a request for provisional measures is final, the Supreme Court is deprived of the chance to lay down criteria.[374]

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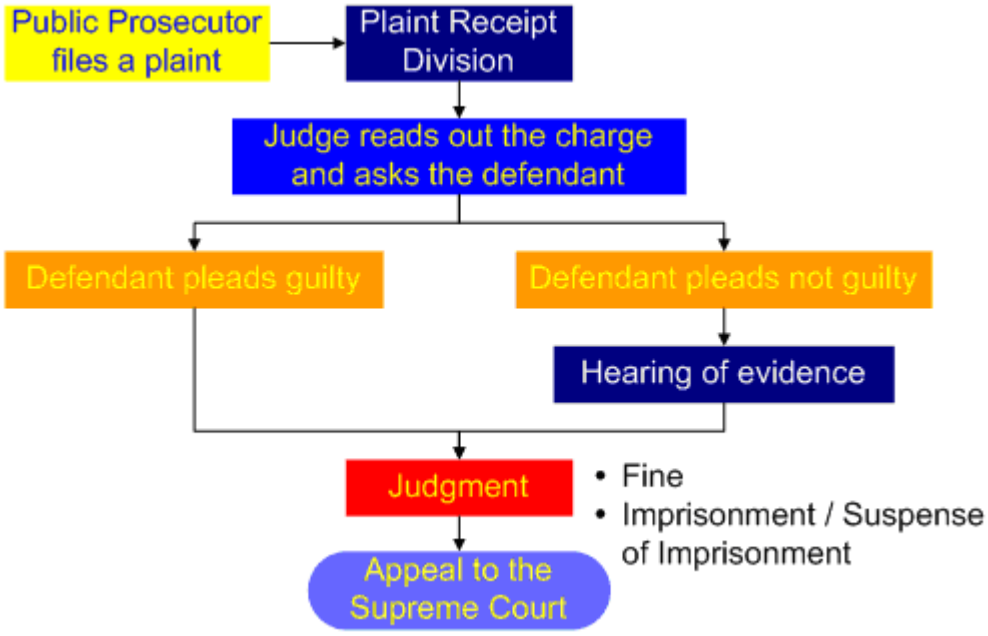
[372] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

[373] Oranonsiri, C. (2001). Provisional Measures: a Study of the Impact of TRIPs on Remedial Measures in Thai Law. Law, University of Liverpool. **Doctor of Philosophy:** 340.

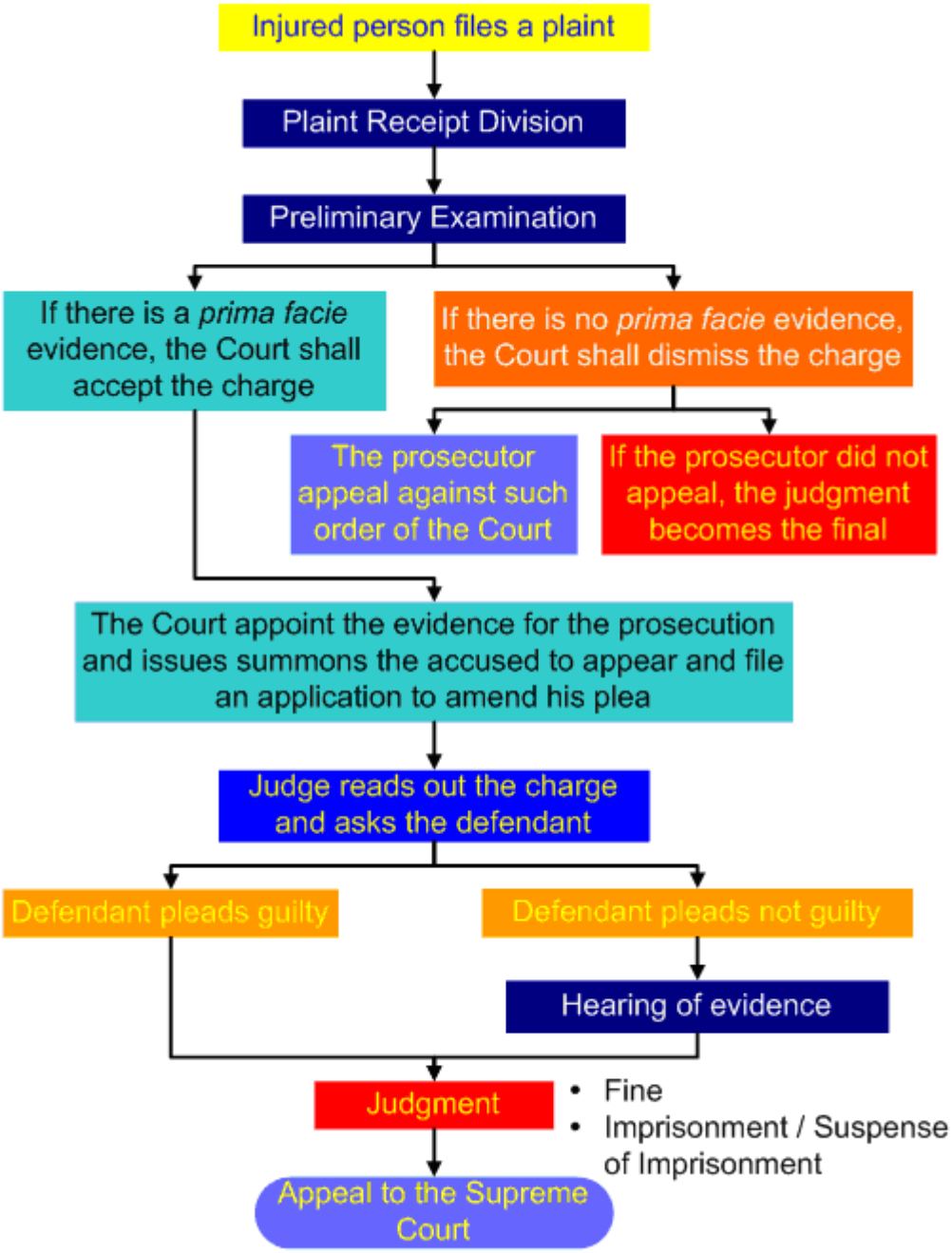
[374] Poonsombudlert, K. (2012). Case Study of Thailand's IPR Court Regime. Study on Specialized Intellectual Property Courts, The International Intellectual Property Institute (IIPI) and The United States Patent and Trademark Office (USPTO)**:** 114-120.

Table showing criminal procedure by a public prosecutor:[375]



[375] Table from *Intellectual Property Department, JETRO Bangkok, at* http://www.jetrobkk-ip.com/counterfeit/court-procedure.php

Table showing criminal procedure brought directly by the injured party:[376]



[376] Table from *Intellectual Property Department, JETRO Bangkok, at* http://www.jetrobkk-ip.com/counterfeit/court-procedure.php

In Thailand, IPR infringement is commonly treated as a criminal offence. The Economic and Cyber Crime Division (ECD) is the police unit that takes on IPR infringement cases, while larger cases are generally brought to the Department of Special Investigation (DSI).[377]

The conventional method of policing against infringers of IPRs in Thailand has been to conduct a police raid. The provisions of the TRIPs Agreement equip the authorities with the power to order prompt and effective provisional measures to:
(a) Prevent an infringement of any IP right from occurring and entering into the commercial channels. This preventive injunction has been implemented for the first time in Thailand by the Trademarks Act, the Patent Act and the Copyright Act.
(b) Preserve relevant evidence concerning the alleged infringement. (Anton Piller Order)

However, procedurally, the legislation fails to provide the petitioner and the court with a sufficient 'back up' mechanism for the effective application of the preliminary injunction. Some examples of this are no provisions as to: which court to apply to; the applicability of an ex-parte hearing; the speed at which the court is to conduct the case, e.g. in urgent cases; security for compensation for damages should the petitioner's claim fail; a review requested by the defendant; and lapses or revocations of orders after a certain period, which are detected and dealt with by implementation of the Rules of the Intellectual Property and International Trade Court. Most IP infringement cases in Thailand are brought by criminal prosecution. Attempts should also be made to improve police raids as an alternative to injunction.[378]

In court, the plaintiff needs to prove beyond reasonable doubt that the right has been infringed, and the accused has committed the infringement.[379] Penalties for IPR

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[377] U.S. Commercial Service in Thailand, United States of America Department of Commerce. (2012). Thailand Intellectual Property Rights Toolkit

[378] Ariyanuntaka, V. (2010). Intellectual Property And International Trade Court : A New Dimension For IP Rights Enforcement In Thailand, WIPO.

[379] The Thai Criminal Procedure Code, Sec 227, para 1.

infringement can range from fines, which are noticeably harsher than in ordinary cases, to imprisonment, with half of fines going to the right owner. The IPITC, in practice, rarely imposes imprisonment on retail or street sellers of infringed goods, but confiscation of these goods can cause serious financial damage to infringers.[380]

Civil Procedures in the IPITC:

IP owners may prefer to file a criminal case for IPR infringement, rather than a civil one, mainly because of the complications in civil cases, the difficulty of obtaining provisional measures, the high costs, the delays and the low damages awarded by the court.[381] Although civil enforcement can yield compensation, the burden of proof for the actual damage in civil actions can be considerably higher than in the US.[382]

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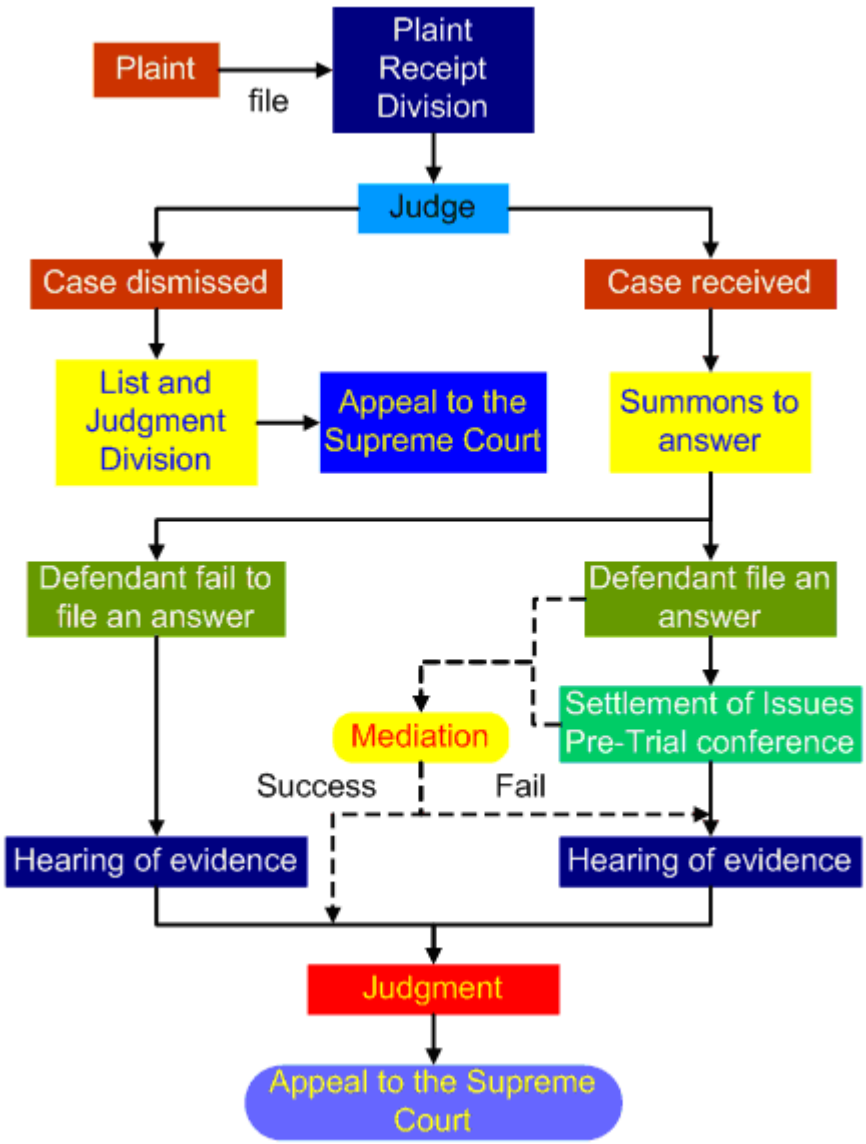
[380] Poonsombudlert, K. (2012). Case Study of Thailand's IPR Court Regime. Study on Specialized Intellectual Property Courts, The International Intellectual Property Institute (IIPI) and The United States Patent and Trademark Office (USPTO)**:** 114-120.

[381] Ibid.

[382] U.S. Commercial Service in Thailand, United States of America Department of Commerce. (2012). Thailand Intellectual Property Rights Toolkit

Table showing civil procedure in the IPITC:[383]



Administrative procedure

The Thai Administrative Court was first established according to the Thai Constitution of 1997, under the dual court system, in which the Court of Justice is responsible for trying and adjudicating civil and criminal cases, while the

[383] Table from *Intellectual Property Department, JETRO Bangkok, at* http://www.jetrobkk-ip.com/counterfeit/court-procedure.php

Administrative Court is responsible for trying and adjudicating administrative cases. It has a duty to try and adjudicate administrative cases involving a dispute between an administrative agency or state official and a private individual, or between administrative agencies or state officials. Most administrative cases are: (1) cases involving compensation for expropriation, liability for unlawful acts or other liabilities of officials; (2) cases involving personnel management; and (3) cases involving administrative contracts and procurement.[384]

3.4 Alternative Dispute Resolutions (ADRs)

ADR in its official form has been a recent development in Thailand. The longest and most successful arbitration centre is the Arbitration Office at the Ministry of Justice, established in 1990, which is now part of the Office of the Judiciary called the Thai Arbitration Institute – TAI. There have been several cases involving a variety of disputes filed at the TAI. The Ministry of Justice and the Court of Justice empower the existing relevant office by providing effective ADR before bringing the lawsuit to the court or even after the lawsuit has been initiated. Other public and private organisations initiate their own mechanisms for settling disputes for their clients before the lawsuit is started.[385]

Following the United Nations Commission on International Trade Law (UNCITRAL) as a model, arbitration in Thailand is governed by the Arbitration Act B.E. 2545 (the Arbitration Act). The Arbitration Act confers broad powers on the tribunal, resulting in limited scope for courts to intervene in the arbitration process. Apart from TAI, arbitration services are also provided by the Board of Trade of Thailand and the

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[384] Chularat, A. The summary on the view of the President of the Supreme Administrative Court on the existing important issues on the understanding of the role and mission of the Administrative Court during the past three years since the Establishment of the Administrative Court, Translated by Translation Group, International Cooperation Center in cooperation with Foreign Administrative Law Study Center.

[385] Central Intellectual Property and International Trade Court, Thailand. (2002). Alternative Dispute Resolution in Thailand. IDE Asian Law Series No. 19 Dispute Resolution Process in Asia (Thailand), Institute of Developing Economics (IDE-JETRO), Japan.

International Chamber of Commerce, Thailand (ICC Thailand).[386] The Thai arbitration system is becoming more accepted as it has been used to settle disputes in many areas such as insurance contracts, business and trading contracts and civil and commercial laws, where an agency to carry out arbitration work in the dispute settlement system has been established in each area.[387]

3.5 Main Thai IP-related Acts

3.5.1 The Copyright Act B.E. 2537 (1994)

Party to the Berne Convention for Protection of Literary and Artistic Works, Thailand has revised this Act, making it more appropriate to and enforceable in Thai society. Copyright is defined as the exclusive right to protect the expression of an idea in a certain limited time period. Laws on copyright cover literary works, computer programmes, dramatic works, artistic works, musical works, audiovisual works, cinematographic works, as well as sound recordings, video-broadcasting works, but exclude news and facts, constitution, legislations, regulations, notifications as well as judicial decisions and translations. Copyrighted works that have not been registered are also protected. Registration with the DIP is not necessary but is highly recommended. It is considered an infringement of copyright when a person, other than the author of the work created, reproduces, adapts, communicates the work to the public, or lets copies of it be sold, distributed or imported without the prior consent of the author. Exceptions are when reproduction is for personal benefit, not-for-profit research or study, comment, criticism, reporting, teaching purposes, the benefit of judicial and administrative proceedings, and when used question material in examinations.[388] If there is a copyright infringement, copyright owners can seek both civil and criminal sanctions.

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[386] Norton Rose Group (2010). Arbitration in Asia Pacific: Thailand.

[387] Department of Intellectual Property, Ministry of Commerce. "The Office of Intellectual Property Dispute Prevention and Resolution ", 2013, from http://www.ipthailand.go.th/new_template/index.php?option=com_content&task=view&id=341&Itemid=273&lang=en#.

[388] Siam Legal (2011). Thailand Copyright Law, Thailand Law.

However, the current Act does not cover technological advancements. The draft amendments to copyright law consist of three major changes: extending the protection of copyright to digital media and the internet, introducing the management and administration of collecting society, and making a distinction in penalties according to the seriousness of the crime committed.[389]

3.5.2 The Patent Act B.E. 2522 (1979, revised 1992 and 1999)

Thailand has experienced a relatively short period of legal development in the field of industrial property compared to many developed countries. Although establishing a patent system was first considered in 1913, there was no legal protection for inventions until 1979. The first Thai patent law, called the Patent Act B.E. 2522, came into effect in 1979. The reason for this enactment was to enhance industrial and economic development, and to facilitate the transfer of technology from overseas.[390] A patent is an important document issued by the government to protect an invention (innovation on composition, structure or mechanics of a product, production and maintenance processes, as well as quality improvement), a product design (innovation related to modification of exterior feature of a product for beautification and differentiation), or a utility model/petty patent (the level of technological innovation is not high or it is a result of minor innovation) as provided under the law.[391]

Under the present law, all substances extracted from animals or plants, such as plant or animal cell cultures, appear to be excluded from patentability. It is, however, unclear as to whether this provision refers to substances that are parts of animals or

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[389] Chiyasak, P. (2010). Copyright of Thailand. Bangkok, Thailand, Thai Entertainment Content Trade Association (TECA).

[390] Kuanpoth, J. (2003). The Political Economy of the TRIPS Agreement: lessons from Asian countries. Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Melendez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 45-56.

[391] Department of Intellectual Property, Ministry of Commerce, Thailand. "Patent/ Petty Patent." 2013, from http://www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=section&id=18&Itemid=195#.

plants *per se*, such as an animal gene, or if it also includes certain products obtained from animals and plants, such as steroids, enzymes, vaccines, etc.[392]

The revised Patent Act of 1999 introduced the petty patent system, providing substantial provisions for petty patents. The rationale for this new system is explained in the footnote of the Patent Act in which the reasons for the revision of the patent law are cited, namely, 'to promote research, development, and invention of new products, processes, and industrial designs, which are beneficial and constitute technical progress in agriculture, industry, and commerce in the country and to ensure that the inventors or designers of industrial designs have protection for their inventions or industrial designs by prohibiting others to copy or imitate such inventions or industrial designs without paying compensation.' The utility model still has a useful role to play in encouraging the use of IK and invention as a first step in paving the way to the creation of invention patents.[393]

Unlike design laws in many countries where the functional aspect of an article is clearly excluded from protection, Thai law does not contain any limitation in this respect and nonfunctionality also is not explicitly required. A design patent could be found invalid on the grounds that the design is solely dictated by the functional purpose. The grounds of functionality exception could be raised by the Court as the validity of a patent involves the public order.[394]

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[392] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

[393] Weeraworawit, W. (2003). Utility Models in Thailand. Industrial Property in the Bio-Medical Age: Challenges for Asia. C. Health, and A.K. Sanders. Great Britain, Kluwer Law International**:** 269-275.

[394] Indananda, N. and S. Taweepon (2010). "Functionality Exception in Thai Patent Law." IP Litigator **16**(5): 53-55.

3.5.3 The Trademark Act B.E. 2534 (1991, revised 2000)

Thailand is a member of the World Trademark Organization and the Paris Convention for the Protection of Industrial Property. Although not a member of the NICE Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks, it adopts the NICE system, which is specified by WIPO. The Act provides protection for: the *trademark* as a mark used in conjunction with goods to indicate that they are different to other goods that use other trademarks; the *service mark* as a mark used in conjunction with service to indicate that the service is different from other services provided under other marks; the *certification mark* as a mark that the owner of a product or service uses in conjunction with the product or the service to ensure the quality of the product or the service; and the *collective mark* as a trade mark or service mark used by a company or other associated ventures or members of an association or other organisations of public and private entities.[395] Well-known trademarks, if their reputation is proved, are also protected under this Act. Thailand is part of the Paris Convention Priority Right but domestic applications must be filed and registered at the DIP, Ministry of Commerce, as international applications under the Madrid Protocol cannot designate Thailand. The remedies available in an infringement action include preliminary and permanent injunctions, the delivery of the infringing goods and the machines used in making these goods, rendition of accounts of profit or damages.[396]

To strengthen trademark protection and to combat counterfeiting, a letter from the International Trademark Association to the Director General of the DIP of Thailand recommended changes to the draft bill in the following areas: [397]

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[395] Department of Intellectual Property, Ministry of Commerce, Thailand. "Trademark." 2013, from http://www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=section&id=20&Itemid=197#.

[396] Mirandah (2011). Trademark System In Thailand.

[397] Letter from the International Trademark Association to the Director General of the Department of Intellectual Property, Thailand (2012). Revision of Thailand Trademark Law

- Landlord Liability Measures - INTA recommends that landlords, who have knowledge of counterfeiting activities, should be held vicariously liable for the illegal activities of their tenants.
- Changes to the Definition of Infringement - INTA suggests that trademark law should be amended to include the unauthorised use of a genuine trademark with unauthorised products.
- Trademark Office Practice - INTA welcomes the adoption of multi-class applications, the inclusion of grace periods for renewal, and the abolishment of the association's requirement for identical/similar marks owned by the same company, as important improvements to trademark office practices.
- Protection of Non-traditional Marks - INTA strongly encourages that trademark law should embrace other non-traditional marks such as single colour marks (in addition to the current registerable combination of colour marks) and touch marks, and also proposes that the DIP should allow distinctive, non-functional packaging to be registered.
- Elimination of the Mandatory Licence Recordal System - INTA recommends the elimination of the mandatory license recordal system from trademark law revisions, in the interests of economic efficiency and fairness in IPRs.

3.5.4 The Trade Competition Act B.E. 2542 (1999)

As the main Thai law governing competitive interactions among business operators, the Trade Competition Act of 1999, which replaced the former Price Fixing and Anti-Monopoly Act of 1979, has been enforced by the Trade Competition Commission, which has the power and duty: to consider complaints; to prescribe rules for dominant positions; to consider an application for permission to merge businesses; or to initiate the joint reduction of competition; and to give orders for suspension, cessation, correction, or variation of activities by business operations. The provisions of this Act are similar to those of the US antitrust laws and of the European countries' competition laws. The objective of the Act is to promote fair and free trade within a competitive environment and to control anti-competitive trade practices such as the abuse of market dominance, and mergers or collusive practices causing monopolies or unfair competition. This is based on the view that competitive markets are the best way to promote economic efficiency, and thus maximise economic welfare. Finally,

consumers will benefit from more efficient pricing and an increased choice in the products and services on offer. Its scope includes all types of business operations except: central, provincial, or local administrations; state enterprises under the law on budgetary procedure; groups of farmers, co-operative or co-operative societies; and businesses prescribed under Ministerial Regulation.[398]

3.5.5 The Trade Secrets Act B.E. 2545 (2002)

The Thai Trade Secret Act was enacted and came into effect in 2002. It was complied with Article 39 of the TRIPs Agreement, and trade secrets and procedures for trade secrets infringements are governed under this Act. A trade secret is trade information that is not generally well-known or is not accessible by groups of people who not normally related to the information. The information can be used for the benefit of the trade, as the owner or the protector of the information has kept the information secret by reasonable measures/appropriate means. Trade secrets get protection without a requirement for registration, and are normally under protection as long as the information remains secret. The rights of the owner of the information are permanent as long as the information is not revealed to the public.[399] This Act however, contains a loophole that may undermine its central goal of preventing unfair competition in Thailand, as it does not explicitly vest ownership of a trade secret in a single owner when both an employer and an employee claim ownership of a trade secret.[400]

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[398] Poapongsakorn, N., Senior Consultant, Thailand Development Research Institute "Thailand Trade Competition Act", Asia-Pacific Economic Cooperation.

[399] Department of Intellectual Property, Ministry of Commerce, Thailand. "Trade Secret." 2013, from http://www.ipthailand.go.th/ipthailand/index.php?option=com_content&task=section&id=23&Itemid=200#.

[400] Indananda, N. and K. Kanchanapairoj (2011). Ownership of Trade Secrets in Thailand, Tilleke & Gibbins International Ltd.

3.5.6 The Protection of Geographical Indications Act B.E. 2546 (2003)[401]

Prior to this Act, there was no specific provision in Thailand designed to protect GIs. Yet, certain general legislations could be applied, namely the Penal Code, the Consumer Protection Act of 1979, protection under tort law, and protection under the Trademark Act, despite their inadequate protection with respect to recent problems.[402] GI is quite a new word for most Thai people from both the legal and the management point of view. The wake up call for Thailand to consider seriously the issue of GI protection came when the benefits from the export of Thai Jasmine rice were perceived to be threatened, with the recognition that the existing IPR regime did not provide adequate protection. It was then that the Thai Government realised that it should fully utilise the IP system provided by the TRIPs Agreement. As a consequence, Thailand has adopted a more proactive approach and considered the issue of GI protection under the TRIPs Agreement in a new light.[403]

This Act protects local Thai products; as Thai products, such as Jasmine rice, could be threatened by foreign imitations, the GI regime will ensure that its products benefit from international rules on reciprocal recognition. The function of a GI is to indicate that goods bearing a GI have a specific geographical origin that is well-known among consumers for producing goods of that type to a particularly high standard, or with special characteristics that distinguish them from the same type of goods with other geographical origins.[404] The owners of a registered GI are communities or

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[401] This Act was officially announced in Thailand on 20th October 2003.

[402] Jaovisidha, S. (2003). *Protection of Geographical Indications - "Thailand's Perspective,"* prepared for the EU-ASEAN Workshop on Geographical Indication: A way into the Market. Hanoi.

[403] Jaovisidha, S. (2003). "Protection of Geographical Indications - "Thailand's Perspective", prepared for the EU-ASEAN Workshop on Geographical Indication: A way into the Market, Hanoi." from http://www.ecap-project.org/fileadmin/ecapll/pdf/en/activities/regional/gi_2003/gi_thailand_suraphol.pdf.

[404] Ahviphan P., et al (2004). "Thailand's Interest in the Geographical Indication Protection." Journal of Law and Economics in International Trade **1**(2).

organisations located in the geographical area of the origin, which have the exclusive right to prevent all third parties from using their GI.[405]

Ministerial regulation and notification provide rules and procedures related to: the application for registration; the publication; the submission of an opposition; the registration, the appeal, and the correction or revocation of a GI registration; the price of fees; as well as designating the type of specific goods like rice, silk, wine or spirits. GI registration is not mandatory, and unregistered GIs are still protected against unlawful use with other approaches, such as passing-off action. A GI cannot be registered as a trademark in Thailand and neither the GI Act nor the Trademark Act provides specific provisions on how to resolve conflicts between trademarks and GIs.[406]

Thai law requires details about the quality of the GI at the time of registration only, and it prohibits the use of GIs in a manner causing confusion as to the geographical origin, quality, reputation or other characteristics of the goods. It is therefore questionable whether this provision could ensure the quality of the products for users, especially consumers or traders. It seems there is no mandate for the producers to ensure that quality is maintained.[407]

GI Protection under different laws

Criminal law states that it is illegal to make a false claim of GI that lures buyers into believing such an origin. If the seller does not deceive buyers, then the seller is not at fault; for example, if a seller specifies clearly '*Phetchaboon* Sweet Tamarind, grown in *Yala'*. Such an act may be detrimental to the goodwill of other sellers or producers. Thus, the law is not intended to protect those who have the actual rights to use the GI. Moreover, it may be problematic to define 'buyer' in law, as this should cover all

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[405] Ngokkuen, C. and U. Grote (2012). "Challenges and Opportunities for Protecting Geographical Indications in Thailand." Asia-Pacific Development Journal **19**(2): 93-123.

[406] Goemaere, C. and F. Mattei (2010). Champagne's GI journey in Asia, WWW.MANAGINGIP.COM.

[407] Ibid.

consumers, even though they may not be buying the product. Hence, criminal law is ineffective at providing protection for GIs.[408]

In terms of consumer protection law, using the same example the seller did not confuse consumers about the origin of the product by using GI along with the place of production. This may be detrimental to other producers but not to the general public, so the seller is not at fault. However, it is clear that this represents unfair competition. Protection should be aimed at those who have the rights to use the GI so as to retain goodwill. Thai trademark laws do not cover the protection of GIs in stating that GIs may not be registered in accordance with the Act.[409]

3.5.7 The Ancient Monuments, Antiques, Objects of Art and National Museums Act B.E. 2504 (1961, revised 1992)

This Act, among several laws, is the principal law for the conservation and protection of monuments, antiques, and object of art. The Director-General of the Department of Fine Arts is authorised: to specify and determine the objects and places to be protected; to order the termination and removal of any built object in cases where such an object is on the area of a monument without permission and the landowner has no claim on or ability to sue the remover of such object. This Act has been used to protect many historic cities/sites as it indicates clear definitions and punishments. Although the implementation of this act has great benefits to conservation because of its total authority and the severe punishments issued, some negative effects result also.[410] It only applies to objects of Thai origin; as a result, the Act does not govern the trafficking of foreign artefacts in the Country.

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[408] Tanasanti, P. (2007). Geographical Indication Protection and Promotion in Thailand. International Symposium on Geographical Indications. Beijing, China, WIPO/GEO/BEI/07/14.

[409] Ibid.

[410] Phengtako, P. (1998). Laws and Regulations to Support Conservation and Development of Ayutthaya Historic City 7th Seminar on the Conservation of Asian Cultural Heritage. The World Cultural Heritage in Asian Countries: Sustainable Development and Conservation, Tokyo National Research Institute of Cultural Properties.

3.5.8 The Consumer Protection Act B.E. 2522 (1979, revised 1998)

Under the Thai Constitution 2007 Section 84, the state shall regulate business activities to achieve free and fair competition, consumer protection and in a manner that is anti-monopoly. This Consumer Protection Act is one of the earliest consumer laws in Asia, and also provides protection in the area where there is no specific law.[411] It guarantees four consumer rights: the right to receive sufficient, correct information and description as to the quality of goods and services; the right to enjoy freedom of choice; the right of safety in relation to goods and services; the right to receive a fair contract; and the right to be compensated for injury suffered, under the supervision of the Consumer Protection Board and with criminal sanctions.[412]

3.5.9 The Plant Varieties Protection Act B.E. 2542 (1999) (PVP Act)

The Thai academic community's awareness of protection for plant varieties started in early 1990 whith the preliminarily conclusion of the TRIPs Agreement in Brussels, which included a provision obliging members to confer effective protection on plant varieties. This idea did not take hold until the TRIPs Agreement was finalised in Marrakech in 1994. At this point, Thailand knew that it had to enact specific protection for plant varieties or incorporate such protection into the Patent Act. Then the PVP Act came into force in 1999,[413] providing legal protection not only to new plant varieties along the lines of UPOV but also to indigenous plant varieties. It clearly defined provisions on the rights of the local community concerned, authorisation, access and benefit-sharing[414] More specifically, this Act gives

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[411] Tanarak, K. Legislation Aspect of Consumer Protection. Bangkok, Thailand, Office of the Consumer Protection Board (OCPB).

[412] Ismail, R., S. S. A. Yusoff, et al. (2012). "A Comparative Study on the Consumer Protection Legislations of Malaysia and Thailand." The Social Sciences **7**(2): 177-188.

[413] Donavanik, J. (2003). Plant Varieties and Access Rights in Asia and the South Industrial Property in the Bio-Medical Age: Challenges for Asia. C. Health, and A.K. Sanders. Great Britain, Kluwer Law International**:** 49-72.

[414] Weeraworawit, W. (2003). International Legal Protection for Genetic Resources, Traditional Knowledge and Folklore: challenges for the intellectual property system. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe

recognition to various aspects of farmers' rights with respect to TK: the rights as an individual or group to cultivate and germinate newly registered plant varieties; the rights of a community or farmers' co-operative to register area-specific plant varieties; and the right to be members of the committee for PVP.[415]

It also indicates its intention to ensure the sharing of benefits derived from the protected plants with the local group,[416] and exclude plant varieties from patent protection in favour of protection via a *sui generis* system, which conforms to neither patent law nor UPOV.[417] The Act has established a minimum rate of return to Thailand, equalling 5% of net sales. It specifies that these returns are to be shared as follows: 40% to the state, 40% to the local community from where the resource originated, and 20% to the individual farmer or breeder. The latter only gets this share provided he/she can prove to be the one who developed the traditional plant. In the case that no individual can prove this, benefits will be shared 50-50 between the local community and the Ssate. The Act also enables the establishment of a PVP Fund to assist and subsidise activities related to the conservation of plant varieties, and research and development, and it would tap off some of the royalties paid by those who use PGR for commercial purposes.[418]

Thailand is on the verge of advancing the implementation of *sui generis* laws, which has been a considerable challenge. Thai PVP law, favouring liability rather than

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Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 157-165.

[415] Kesmanee, C. and P. Trakansuphakorn (2008). An Assessment of the Implementation of the Thai Government's International Commitments on Traditional Forest-Related Knowledge from the Perspective of Indigenous Peoples, The Akha Heritage Foundation, Oregon, USA.

[416] Ibid.

[417] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

[418] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

exclusive property protection, is a model with fewer substantial administrative burdens that would be suitable for most developing countries in Asia.[419]

3.5.10 The Act on the Protection and Promotion of Traditional Thai Medicinal Intelligence B.E. 2542 (1999)

This Act is a national *sui generis* law, which deals specifically with the protection of traditional medicinal knowledge and distinguishes between different categories of 'traditional formulations': 'national formulae' are formulations that are crucial to human health and are held by the state; 'private formulae' can be freely used by the owner (third parties must obtain permission from the owner to use the formula); and 'general formulae', which may be used freely by anybody and comprise traditional formulae that have been widely used or with expired IP protection.[420]

The Act stipulates that the Minister of Public Health has the authority to decree a certain formula of Thai TM as a 'national formula'. To be eligible, the traditional formula must be of significant benefit or have special medical or public health value. After the announcement, the rights of such a formula belong to the state. The use of a national formula for the research and development of drugs for commercial benefit is subject to permission from the authorities and the payment of fees; criminal sanctions are issued in cases of infringement.[421]

One of the main objectives of the *sui generis* protection is that the exclusive monopoly granted by the state should enable the owners of TM knowledge to be adequately compensated for their contribution. It is not always easy to determine the appropriate duration of protection. A long term of protection would provide the

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[419] Robinson, D. (2007). Exploring Components and Elements of *Sui Generis* Systems for Plant Variety Protection and Traditional Knowledge in Asia, International Centre for Trade and Sustainable Development (ICTSD) Programme on IPRs and Sustainable Development, Intellectual Property Rights & Sustainable Development.

[420] www.piipa.org "IP resources the right size, at the right time, in the right place". Public Interest Intellectual Property Advisors 2011 – shared under a Creative Commons Attribution-NonCommercial-NoDerivs licence.

[421] Ibid.

owners the freedom to exclude others from benefiting from the protected information. A very short term of protection may not allow the owner time to earn benefits from the protection.[422] The Act's term of protection is for 50 years after the death of the inventor, which is a long time, possibly allowing owners of TK the possibility of earning exaggerated profits, thereby creating an unnecessary burden on society. This Act only provides for the registration of a formula by an individual, such as a healer, and a community cannot register medicinal knowledge known within that community but not beyond. It does not recognise or establish communities' (collective) rights. Registration is granted on a first-to-file basis, as under patent law. One could question whether it is appropriate to apply a first-to-file system in the case of TM.[423]

3.5.11 Draft laws on the protection of Thai TK, and on intangible cultural heritage

Currently Thailand has no specific law to protect Thai TK. The DIP, as the responsible government agency, endeavours to draft the law on TK. It was first intended to cover all of Thai local intelligence, which includes TK, expression of folklore and genetic resources, but later has been on only TK. The DIP together with the Focus Group has organised several official conferences to discuss all the varied aspects. The name of this Act could probably be 'The Protection of Local Wisdom' or 'The Protection of Traditional Knowledge of Local Community, Biological resources and the Expression of Folklore'. As the law has not been finalised it is known as the Act on the Protection and Promotion of TK. The drafting process would struggle due to the fact that the areas to be protected in this law involve several government agencies such as such as the Ministry of Health, the Ministry of Commerce, the Ministry of Agriculture and Co-operatives, the Ministry of Culture, the Ministry of Science and Technology, the Ministry of Social Development and Human Security,

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[422] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

[423] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

the Ministry of Natural Resources and Environment, the Ministry of Industry and the Ministry of Justice.[424]

The drafting process for the Act on the Protection and Promotion of Traditional Knowledge B.E… can be separated into three phrases:[425]

1) Research and information gathering on both domestic and international law relevant to TK protection;

2) The proposal was then passed on to the field-research team to conduct interviews and group discussions with local communities from four main regions of Thailand (North, South, North East and Central);

3) The results of the field research were then passed back to the team drafting the final Act.

According to Dr Tanit Changthavorn, the leader of the team:[426]

> *'The protection covers two aspects: preventing the unauthorised use of TK and the misuse of TK (use in an inappropriate fashion). My draft is different from WIPO's TK model law. Since I don't believe in community right, there is no TK community right in my draft. However, the community can participate in the promotion and protection of TK in other aspects…'*

The rationale of this law tends to be: Thai people have used TK as part of their life. However, along with global economic development, such TK has been commercialised during recent decades. Evidence for this is the boom in trades and services using different types of TK. This creates income and profit for traders or trade organisations. However, such profits have not been appropriated to the holders of the TK. As a result, the legal concept of the utilisation of TK has been under

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[424] Kudngaongarm, P. (2011). "Thai Traditional Medicine Protection (Part I)." Thailand Journal of Law and Policy **14**(2).

[425] Thathong, S. (2008). Rethinking Strategies in Legal Protection of Traditional Knowledge - a case study of Thailand. Law. Durham, Durham University. **LLB:** 32.

[426] Ibid.

development. The concept includes the system of benefit-sharing, which is in line with the international principle of ABS under the CBD. Thailand has not established any legal system that authorises the utilisation and benefit-sharing of Thai TK. The draft of Thai Traditional Knowledge Act B comprises different provisions on the promotion of Thai TK including: the principle of legal enforcement; legal protection and promotion of TK; registration of TK; TK funds as well as penalty provisions. The drafted law encourages the development as well as the sustainable utilisation of Thai TK. The drafted law also introduces equitable benefit-sharing to communities that are sources of TK. The benefit can be used to conserve Thai TK.[427]

With reference to the draft Act, the definition of TK refers to IK as created by or belonging to each indigenous area and having been protected, restored, transmitted, developed, disseminated or used in daily life and with values widely recognised by indigenous people. The positive protection by way of *sui generis* laws is preferable for the protection of TK, as it will be more practical, easier to harmonise, and will provide the right holders with clear legal rights over TK and the ability to enter into contractual agreements to exploit their right commercially. It is proposed that the criteria for eligibility for protection is that TK was created in or belongs to each indigenous area and has been protected, restored, transmitted, developed, disseminated or used in daily life and have values widely recognised by indigenous people. For a collective right to commercialised usage, in order to gain products or services any third parties who wish to exploit or conduct any of the foregoing activities must seek permission from the authorities. Both criminal and civil sanctions should be imposed.[428]

In addition, the Ministry of Culture is preparing draft legislation on the protection of the intangible cultural heritage, which will become another Thai *sui generis* law in this field. In the meantime, it has been approved in principle by the Thai cabinet.

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[427] Please see the National Center for Genetic Engineering and Biotechnology (BIOTEC-Thailand) website, available at http://www.biotec.or.th/biolaw/images/stories/document/Abstract%20TK.pdf

[428] Uttasart, C. (2012). The relevance of traditional knowledge to intellectual property law, The International Association for the Protection of Intellectual Property (AIPPI).

3.6 Biosafety issues in Thailand

Research and development on GMOs is widely conducted in a number of government institutions and universities for use in the agricultural industry and medicine. Plants including the ringspot virus-PRSV resistant papaya, retardant ripened papaya, vein-banding mottle virus resistant chilli, and colour-changed orchid are ready for biosafety testing. Thailand became a party to the Cartagena Protocol on Biosafety to the CBD in 2006 but there is still no specific law on biosafety applicable in the country. The Office of Natural Resources and Environmental Policy and Planning (ONEP), under the Ministry of Natural Resources and Environment (MONRE), is finalising the National Biosafety Act, which is concerned with modern biotechnology, with a framework of regulating and promoting the use of GM technology. Biosafety Guidelines for Research and Development, Food Biosafety Guidelines, and Biosafety Guidelines for the Industrial Application of GM Microorganisms have also been developed.[429]

The Draft Act on the Biosafety of modern biotechnology comprises provisions on the regulation and control of GMOs and the safe use of GMOs at every stage including: their export, import, transit, lab research and field testing; handling; packaging; and identification of GMOs. It also has provisions for contingency plans in a case of unintentional release of GMOs, liability and redress, and sanctions, in order to reduce the risks to the environment and human health from the use of GMOs, in accordance with the precautionary principle.[430]

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[429] Technical Biosafety Committee (TBC) (2010). White Paper: Updated Status and Perspective of Thailand on Research and Development of Modern Biotechnology and Biosafety Regulation, National Center for Genetic Engineering and Biotechnology (BIOTEC), Thailand.

[430] Office of Natural Resources and Environmental Policy and Planning (2009). Thailand: National Report on the Implementation of the Convention on Biological Diversity, Ministry of Natural Resources and Environment, Bangkok, Thailand**:** 76 p.

3.7 Compulsory licensing of drugs

The decision of the Thai Ministry of Public Health to announce the government's use of patents on three patented drugs, i.e., Efavirenz (Stocrin®, Merck Sharp and Dohme), Lopinavir+Ritonavir (Kaletra®, Abbott Laboratory) and Clopidogrel (Plavix®, of SanofiAventis), based on proposals from the National Health Security Office, raised several questions among the public, the partners concerned and the pharmaceutical industry, both at home and internationally. The main rationale behind the Thai Government's use of patents on these drugs lies in its mandate to achieve universal access to essential medicine for all Thais, under the National Health Security Act 2002. Every Thai citizen is entitled to full access to all medicines in the essential drugs list, which includes almost 900 drugs, many which are patented. The Thai government is also committed to a policy of universal access to antiretroviral drugs (ARVs) for AIDS patients. The government's use of patents to get lower prices for patients with generic drugs is an important means by which to meet its commitment to universal access to medicines in the essential drugs list, and is clear evidence of the government putting the right to life above trade interests.[431]

3.8 Concerns about IP policy & management, legislation and enforcement entities in Thailand

Internationally, there has been controversy and concern over IPRs. Many developing countries, including Thailand, feel that the TRIPs' provisions favour developed countries. They are concerned about the granting of private monopoly rights over the knowledge and products of developing countries, with no mechanism for developing countries to effectively control access and ensure they gain appropriate benefits. The most important factor in the recent spread of IP protection policies has been coercion;

[431] The Ministry of Public Health and The National Health Security Office, Thailand (2007). Facts and Evidences on the 10 Burning Issues Related to the Government Use of Patents on Three Patented Essential Drugs in Thailand (Document to Support Strengthening of Social Wisdom on the Issue of Drug Patent), Editor: Chokevivat, Vichai.

with some developing countries having applied significant pressure on other developing countries to offer strong IP protection.[432]

Along with technological development, more disputes on legal issues and challenges to do with biotechnology have been witnessed. Biotechnology law issues cover growing areas of IP: environmental law; human rights; and most importantly biodiversity law. In Thailand knowledge of legal aspects and management is critically lagging behind.[433] Furthermore, Thailand lacks expertise, specialised organisations, hi-technology and effective legal protection and there are some limitations with respect to legal obstacles to cope with these increasing problems. Although the *sui generis* protection of TK and intangible cultural property laws are progressing, there have been problems with the proposals and as yet no resolution. In addition, Thai national legislation does not conform to international standards in some aspects.

Thailand realises that the protection of IPRs, including TK, is crucial to the development of the country and to strengthen the economy, industry, commerce and culture. In Thailand mechanisms of control including constitutional provisions, various legislative acts, organic laws, as well as continuing customary practices have sought to balance the competing desires for economic development with the maintenance of more holistic local practices, which integrate custom, ritual and subsistence in local environments.[434]

Internationally, Thailand is currently a party to various international agreements on IP, i.e., Patent Cooperation Treaty, Paris Convention for the Protection of Industrial Property, Conventions Establishing the World Intellectual Property Organization, Berne Convention for the Protection of Literary and Artistic Works, International

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[432] Sell, S. K. (1995). "Intellectual property protection and antitrust in the developing world: crisis, coercion, and choice." **49**(02): 315-349.

[433] National Center for Genetic Engineering and Biotechnology (BIOTEC) (2010). Research & Development. Bangkok, Thailand.

[434] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

Treaty on Plant Genetic Resources for Food and Agriculture, International Plant Protection Convention, Convention on Biological Diversity, International Covenant on Economic, Social and Cultural Rights, Agreement establishing the World Trade Organization, World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights, Convention concerning the Protection of the World Cultural and Natural Heritage, Convention for the Protection of Cultural Property in the Event of Armed Conflict, and the Protocol to the Convention for the Protection of Cultural Property in the Event of Armed Conflict. ASEAN remains the main co-operative unit in Southeast Asia, and its official integration into the ASEAN Economic Community (AEC) will take place in 2015, affecting Thailand in many ways, especially in the agricultural sector. Thailand has sought regional co-operation and is ready to open its market to neighbouring countries by becoming a member of various regional or regional IP economic integration treaties and IP-relevant bilateral treaties, but has to be prepared for many challenges to come.

Due to its commitment to international agreements, the current cultural property and IP-related laws of Thailand are: the Penal Code, the Civil and Commercial Code, the Act on Ancient Monuments, Antiques, Objects of Art and National Museums, B.E. 2504 (1961), the Patent Act B.E. 2522 (1979), the Trademark Act B.E. 2534 (1991), the Copyright Act B.E. 2537 (1994), the Trade Secret Act B.E. 2545 (2002), the Geographical Indications Act B.E. 2546 (2003), the Plant Varieties Protection Act B.E. 2542 (1999), and the Act on Promotion and Protection of Traditional Thai Medicinal Intelligence B.E. 2542 (1999). Throughout the country different entities such as the Department of Intellectual Property (DIP), the Ministry of Commerce, the Ministry of Culture, and the Court of Justice deal with different kinds of IP-related issues in their own ways.

However, concerns have been raised about the inability of existing IP laws and responsible organisations to adequately protect TK/TCEs, its holders (local communities), users and the general public. Interesting examples of conflicts and concerns can be seen from several cases mentioned in Chapter 1, therefore Thai Jamine Rice is focused here as the landmark case. Other examples of TK and cultural heritage threatened by inappropriate exploitation have also been pointed out in order to seek suitable legal system, i.e. *sui generis* protection for TK and TCEs in Thailand.

That is what the author is studying to answer the hypothesis. Moreover, it has been found that the typical Thai bureaucratic system is hierarchically organised, with patronage prioritised over merit, and to be working with unproductive habits, including corruption within administration systems. Bureaucratic reform and development is clearly needed in order to make processes more transparent and to tackle corruption. Generally, the effectiveness of current IPR protection and the enforcement situation in the country are considered to be being low. There is a lack of strong political will to improve the situation substantially, a lack of understanding among the general public as to the severity and dangers of the problem, and a lack of co-ordination between the administration and rights holders, as well as among the IPR authorities themselves. The 'disorganised character' of dealings to do with IPR matters has been highlighted. The inconsistency of administrative decisions and unclear procedures has been complained about. Also, government awareness campaigns have been seen to be short, not sufficiently focussed and ineffective.[435]

Other obstacles include excessive government intervention, burdensome legal procedures such as lengthy and inefficient IP registration. This is due to many factors, including overly generous IP protection; for example, reverse engineering may be prohibited, 'patentable subject matter' may be too broad, market protection, credit constraints, uncertain government policies, and lack of capabilities-skills and education-all of which hamper domestic innovation and growth.[436]

With respect to IPR examination and registration, some existing problems exist relating to patent examination, enforcement of patent rights as well as preventive measures, as Thailand's patent office (the DIP) lacks the ability to search the non-

[435] European Commission. (2010). "European Commission – DG Trade – IPR survey 2010." from http://trade.ec.europa.eu/doclib/docs/2013/march/tradoc_150793.pdf.

[436] Nikomborirak, D. (2012). The role of IP in economic development: The case of Thailand ARTNeT / WTO Research Workshop on Emerging Trade Issues in Asia and the Pacific: Meeting contemporary policy challenges. Nakorn Pathom, Thailand, Thailand Development Research Institute.

patent literature, including that on medicinal herbal plants.[437] It also lacks the resources to keep up with the volume of applications, resulting in a worrying patent application backlog. Trained IP officials are in short supply, in terms of the protection and enforcement of IPRs. Moreover, companies have raised concerns about the granting of compulsory licenses for medicines in Thailand and whether such licences will be granted in accordance with Thailand's TRIPs commitments, including those under Article 31 of the TRIPs Agreement.[438] Considering obstacles and concerns on Thai IP, TK and TCEs issues, in the next Chapters, the thesis will be looking into experiences and lessons regarding IP, TK and TCEs from other countries' perspectives and then make recommendations on both legal and alternative methods and instruments that would be useful for Thailand in deciding whether *sui generis* system should be adopted or not.

Conclusion

IP protection in Thailand, particularly for literary works, was introduced more than a century ago, and has been developed and amended periodically in order to offer protection for different types of IP. Thailand has several IP laws and IP-related institutions in place. Some existing *sui generis* laws include the Act on the Protection and Promotion of Traditional Thai Medicinal Intelligence, the Act on Plant Varieties Protection, and the Act on Ancient Monuments, Antiques, Objects of Art and National Museums. The current legal system, however, only covers some aspects of copyright, trademark, GI, patent, PVP and TM, but does not provide adequate level of TK protection. The country is therefore, continuing to draft and finalise a series of *sui generis* acts – the Draft Act on the Protection and Promotion of TK and the Draft Act on Intangible Cultural Heritage – to protect its local knowledge and cultural properties more specifically and effectively.

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[437] Tanasugarn, L. (1999). "When patent rights may not be enforceable: The case of Kwao Krua patent." Intellectual Property and International Trade Law Forum (Special Issue 1999), Central Intellectual Property and International Trade Court. Bangkok, Thailand.

[438] European Commission (2013). Commission Staff Working Document: Report on the protection and enforcement of intellectual property rights in third countries. Brussels, Belgium.

There are many government bodies dealing with different aspects of IP administration and enforcement. For the role of policing and enforcement: Royal Thai Police has a special department tackling economic crimes; the DSI, as a law enforcement agency, deals with serious and complex criminal cases; Customs Department provides IPR protection and enforcement at borders; Attorney-General Office has special IP Division and experts in IP cases, the IPITC and the IP Division in the Supreme Court have particular court procedures, competent judges and associcate judges; and the DIP plays an active role in IP matters as well as developing IP services. Furthermore, for the role of awareness: the Ministry of Culture protects, promotes and manages artistic and cultural affairs and heritage; the Ministry of Agriculture and Co-operatives improves and develops agricultural system and commodities for farmers' welfare; the Ministry of Public Health is responsible for Thai healthcare and promotes TTM; and the Ministry of Education educates school children and disseminates IP knowledge to the general public. However, there are gaps and overlapping responsibilities within organisations. Patent backlog and conflicting trademark registration decisions still are problems, among several other issues. To solve these problems, all main IP authorities should work accordingly as well as seeking co-operation with relevant stakeholders and IPR holders. Thailand may need a focal organisation for integrated management of IP and undergo its structural organisation for more effective and coherent system.

Even though, compared to other fields of law in Thailand, Thai IP laws are TRIPs-compliant with harsh penalties for infringement of IPR, many IPR violations and TK misappropriations still occur, affecting the country's economic loss, etc. IPRs are still violated due to obstacles such as the internal administration system and uneven IPR enforcement efforts, the existing IP-associated laws appear inadequate, inconsistent and insufficient to protect all IP, including TK, TCEs, GRs, and cultural properties. Moreover, like many other developing countries, Thailand does not have the necessary financial, human and technological resources, the personnel and expertise in IP, trained IP officials who know about the protection and enforcement of IPRs, or a consistent practice of IPR examination and registration. A large overhaul of the Thai IP legislation and administration systems would be costly. The country also lacks funding for the management and preservation of its cultural heritage, which has been commercially encroached upon and poorly managed. Access to patented medicines is denied or limited due to the significantly elevated prices of necessary drugs, and the

country is still not able to achieve self-reliant pharmaceutical production. Thailand does not have enough full time research personnel or research and development in technological inventions, and its development of the IP profession and specialised training programmes is slow. It lacks domestic innovation and empirical guidance on tailoring its IP system to national capacities and needs. Moreover, agriculture is the backbone of the Thai economy, but most Thai farmers, whose ancestors have been practising traditional farming methods for millennia, are poor and lack knowledge; they do not recognise their legal rights and do not understand the AEC and the benefits they will receive from it, and how greatly patents and PVP would impact on their rights. Only small degrees of recourse or remedies have returned to local communities. Concerns on Thai Jasmine rice case, misappropriation of Thai cultural properties, as well as other cases mentioned have shown how *sui generis* law would assist the Country in coping with these situations better in the future.

From an international perspective, the Thai government has been paying certain attention to IP protection, making IPR protection stronger and enforcement a national priority. Several IP-related laws and IPR enforcement systems are being thoroughly and actively revised and improved to ascertain that all of the legislation and required legal mechanisms will be well suited to the Thai culture and people. At the same time, they will be designed to be in line with international standards and technological developments. Thailand, therefore, needs more comprehensive legislation and *sui generis* law on TK, TCEs, and GRs, as well as effective IP authorities, easy-to-access IP databases, appropriate ABS system, together with closer regional and international IP collaboration, IP awareness raising and education. To protect and recognise the rights and knowledge of local communities, conserve biodiversity, retain its reputation and make equitable use of Thai TK and agricultural products under IP law, the government should consider the legal, commercial or diplomatic solutions possible, and play a more active role in meeting its international obligations, whilst enforcing its rights.

Chapter 4
International Legal Aspects and Selected Cases

Introduction

This chapter covers regional treaties, agreements, and organisations, as well as interesting IP issues and cases from selected countries on various continents. Lessons drawn from these countries' experiences may be used in formulating proper IP policies and laws for developing counties.

It is noted that there are contradictory concepts of IP law and conflicts of understanding between developing and developed countries. A legal gap exists between the kinds of protection afforded by existing IP law and TK, with serious potential consequences for trade relations and relations between developing and developed countries.[439] While western legal systems and most human rights instruments protect the rights of individuals, the assertion of indigenous cultural rights often has a strong community or collective basis.[440] The fundamental reason for the impasse in enforcement of IP in the non-industrial world lies in the huge economic and technological gap between it and the industrial nations. The major concern of countries that became party to IP treaties was not about providing the same level of protection among treaty-members but extending any available measures or forms of protection to non-nationals.[441] Also, in settler colonies like those of Australia, Canada, the US, New Zealand and Latin America, there is always debate between a non-indigenous majority and an indigenous minority about the right to self-

[439] Subbiah, S. (2004). "Reaping What They Sow: The Basmati Rice Controversy and Strategies for Protecting Traditional Knowledge." B.C. Int'l & Comp. L. Rev. **27**: 529.

[440] Evatt, E. (1998). Enforcing Indigenous Cultural Rights: Australia as a Case-Study. Cultural Rights and Wrongs (A Collection of Essays in Commemoration of the 50th Anniversary of the Universal Declaration of Human Rights), UNESCO Publishing**:** 57-80.

[441] Endeshaw, A. (2005). "Intellectual Property Enforcement in Asia: A Reality Check." International Journal of Law and Information Technology, Oxford University Press **13**(No.3): 378-412.

determination, facilitated by the fact that TK is often regarded as more or less exclusively held by the indigenous minority.[442]

Conflicting views persist on the impact of IPRs on the prospects for development. Some point out that the minimum standards laid down in international instruments will bring benefits to developing countries by creating the incentive structure necessary for knowledge generation and diffusion, TOT and flow of private investment. Others stress that IPRs, such as the patenting regime, will adversely affect the pursuit of strategies for sustainable development by: raising the prices of essential drugs to levels that are too high for the poor to afford; limiting the availability of educational materials to students in developing country; legitimising the misappropriation of TK; and undermining the self-reliance of resource poor farmers.[443] Furthermore, folklore, TK, and indigenous practices have been developed and passed on from generations to generations through oral tradition or by imitation; therefore, they might not fit well with the Western worldview, capitalist philosophy, and the prevailing concept of individual authorship.[444] Given the existing technological gap between developed and developing countries and the capital-intensive nature of product development, the best way forward for developing countries seems to be collaboration and not confrontation.[445]

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[442] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[443] Summary of Dutfield, G. (2003). Protecting Traditional Knowledge and Folklore: A review of progress in diplomacy and policy formulation. UNCTAD-ICTSD Project on IPRs and Sustainable Development Series: Issue Paper 1.

[444] See Yu, P. K. (2003). "Traditional Knowledge, Intellectual Property, and Indigenous Culture: An Introduction." from http://www.peteryu.com/tk.pdf.

[445] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

4.1 North America

4.1.1 North American Free Trade Agreement (NAFTA)

The implementation of NAFTA, the first international trade agreement to include obligations to protect IPRs, began in 1994. Under NAFTA, all non-tariff barriers to agricultural trade, and many tariffs and quantitative restrictions between the US, Canada and Mexico were eliminated.[446] NAFTA created the world's largest free trade area, which now links 450 million people producing $17 trillion worth of goods and services.[447]

NAFTA's Chapter 17[448] details specific conditions regarding the nature and scope of responsibility with respect to the IPRs of these three countries. IPR refers to copyright and related rights, trademark rights, patent rights, rights in layout designs of semiconductor integrated circuits, trade secret rights, plant breeders' rights, rights in GIs and industrial design rights.[449] NAFTA establishes minimum standards of IP protection, based on the principles set out in major international IP conventions, and requires these standards to be enforced. It requires effective enforcement of IPRs at the borders of NAFTA states to ensure that IPRs holders are protected from infringement by imported products. It establishes a dispute-settlement procedure with trade-related sanctions and, in some cases, damages payable to IP holders, who gain

[446] United States Department of Agriculture, Foreign Agricultural Service "North American Free Trade Agreement (NAFTA)." from http://www.fas.usda.gov/itp/policy/nafta/nafta.asp.

[447] Office of the United States Trade Representative. "North American Free Trade Agreement (NAFTA)." 2013, from http://www.ustr.gov/trade-agreements/free-trade-agreements/north-american-free-trade-agreement-nafta.

[448] SICE - the Organization of American State's Foreign Trade Information System. "North American Free Trade Agreement, PART SIX INTELLECTUAL PROPERTY, Chapter Seventeen: Intellectual Property." from http://www.sice.oas.org/trade/nafta/chap-171.asp.

[449] CBP, Department of Homeland Security, USA. "Intellectual Property Rights." 2013, from http://www.cbp.gov/xp/cgov/trade/trade_programs/international_agreements/free_trade/nafta/intellectual_prop_rights_lp.xml.

an additional route to enforce IPRs when domestic law does not adequately protect them.[450]

4.1.2 The United States

The US views GIs as a subset of trademarks and so it does not have legislation especially targeted at protecting GIs. It protects GIs through specific categories of the trademark, which serve the same functions: certification marks, collective marks and, in some cases, ordinary trademarks. GIs are protected through certification marks and collective marks in the US, as an exception to the general rule that individual trademarks must not be geographically descriptive without a showing of acquired distinctiveness.[451] According to the US Trademark Act, geographicl names or signs, which otherwise would be considered primarily geographically descriptive and therefore unregistrable as trademarks or collective marks without a showing of acquired distinctiveness in the US, can be registered as certification marks. An important feature of a certification mark is that its owner does not use it, and it does not indicate the commercial source or distinguish the goods or services of one person from those of another person. GIs can also be protected as trademarks or collective marks when a geographic sign is used in a way that identifies the source of the goods/services and, over time, consumers start to recognise it as identifying a particular manufacturer or group of producers. The geographic sign no longer only describes where the goods/services come from, it also describes the 'source' of the goods/services, meaning the sign has 'secondary meaning' or 'acquired distinctiveness'. The primary meaning to consumers is the geographic place and the secondary meaning to consumers is the producing or manufacturing source. If a descriptive sign has 'secondary meaning' to consumers, the sign has source-identifying capacity and is protectable as a trademark. GIs are also protected by the common-law trademark law without being registered by the USPTO, for example,

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[450] Terry, J., L. Ederer, et al. "NAFTA: the first trade treaty to protect IP rights." 2013, from http://www.buildingipvalue.com/05_XB/052_055.htm.

[451] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

‘COGNAC’ is protected as a common-law (unregistered) certification mark in the US. The USPTO processes applications for both trademarks and GIs, using the same system and resources.[452]

Native Americans, who are close to their traditional beliefs, and people of mainstream America have different understandings of history, especially when that history involves their relationship with each other. The linear mind primarily depends on archival documents to write history and the other relies on oral traditions to account for the past.[453] Their ecologically related knowledge is also in danger of being lost since indigenous languages are not being maintained fully and indigenous people also spend less time on traditional activities.[454]

Three US federal laws protect American Indian cultural property and the collection of artifacts: the American Indian Religious Freedom Act (42 U.S.C. S 1996), the Archaeological Resources Protection Act (16 U.S.C. S 407 cc (c), (g)) and the Native American Graves Protection and Repatriation Act (25 U.S.C. SS 3001-13).[455]

The American Indian Religious Freedom Act 1978 (AIRFA) protects and preserves the inherent rights of American Indian, Eskimo, Aleut, and Native Hawaiian people to ‘believe, express, and exercise their traditional religions’. In the past, government agencies and departments have on occasion denied Native Americans access to particular sites and interfered with religious practices and customs, where such use conflicted with federal regulations. In many instances, federal officials were unaware

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[452] United States Patent and Trademark Office. "Geographical Indication Protection in the United States ", 2013, from http://www.uspto.gov/web/offices/dcom/olia/globalip/pdf/gi_system.pdf.

[453] Fixico, D. L. (2003). The American Indian Mind in a Linear World: American Indian Studies and Traditional Knowledge, Routledge, New York and London.

[454] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[455] Fixico, D. L. (2003). The American Indian Mind in a Linear World: American Indian Studies and Traditional Knowledge, Routledge, New York and London.

of the nature of traditional native religious practices and of the degree to which their agencies interfered with such practices.[456]

The Archaeological Resources Protection Act 1979 (ARPA) provides a strong basis for archeological protection on public and Indian lands. Its anti-trafficking provision also makes it an effective tool for discouraging illegal excavation or removal of archeological resources from state, local, or private lands throughout the country. The reasons behind its enactment include a recognition that archaeological resources are an irreplaceable part of America's heritage and that they were increasingly endangered because of the escalating commercial value of a small portion of the contents of archeological sites.[457]

The Native American Graves Protection and Repatriation Act 1990 (NAGPRA) addresses the rights of lineal descendants, Indian tribes, and Native Hawaiian organisations to Native American cultural items, including human remains, funerary objects, sacred objects, and objects of cultural patrimony.[458] Although much of the focus of repatriation has been on remains and artefacts held in museum collections and in newly discovered remains on federal or tribal lands, the opportunity exists to extend NAGPRA's reach to private land under the right circumstances.[459]

The Indian Arts and Crafts Act of 1990 protects Native American artisans by assuring the authenticity of Indian artifacts under the authority of an Indian Arts and Crafts Board. The Act prevents the marketing of products as 'Indian made' when they are

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[456] Jimmy Carter:'American Indian Religious Freedom Statement on Signing S.J. Res. 102 Into Law.', 12 August 1978. Online by Gerhard Peters and John T. Woolley, *The American Presidency Project*, from http://www.presidency.ucsb.edu/ws/?pid=31173.

[457] National Park Service, U.S. Department of the Interior. (2013). "The Archaeological Resources Protection Act of 1979 (ARPA)." from http://www.nps.gov/archeology/tools/Laws/arpa.htm.

[458] National Park Service, U.S. Department of the Interior. "National NAGPRA." 2013, from http://www.nps.gov/nagpra/.

[459] Amato, C. A. (2004). Using the Courts to Enforce Repatriation Rights: A Case Study under NAGPRA. Legal Perspectives on Cultural Resources. J. R. Richman and M. P. Forsyth, AltaMira Press, a division of Rowman & Littlefield Publishers, Inc.**:** 232-251.

not made by Indians as defined by the Act.[460] Also, a Database of Official Insignia of Native American Tribes prevents others from registering these insignia as trademarks in the US.[461]

The US has only adopted some statutes to protect their Native Americans, but it does not provide general overall protection. Tensions remain over the interpretation and presentation of Native American Heritage, as well as conflicts between federal laws and policies and the restricted rights and interests of indigenous peoples. Hence, further work needs to be done in this area.

- **The case of Bikram Yoga**

Bikram Choudhury is the founder of a yoga technique known as Bikram Yoga. Instructors across the US must obtain a licence from him in order to teach the yoga sequences found within it and/or to state that a yoga studio practises Bikram Yoga. Choudhury has aggressively claimed copyright protection for Beginning Yoga Classes, yoga sequences, and various books, audiotapes and videotapes, while many yoga practitioners object to the idea that he can exclusively control a series of postures derived from Indian TK and practices. Although he recognises that asanas are generally in the public domain, he claims that his sequence constitutes a copyrightable compilation of material, as he has exerted specific skill and labour in the selection and assemblage of the asanas into a specific sequence. In 2005, the US District Court for the Northern District of California left the questions of trademark invalidity, whether the sequence is in the public domain, the copyrightability of the sequences and the proper publishing date, unresolved. Choudhury is still free to take legal action against other yoga practitioners and trainers in the US. There is lobbying from government representatives in India to mount an effective legal challenge to

[460] World intellectual Property Organization. "Intellectual Property and Traditional Cultural Expressions/ Folklore." Booklet nº 1, from http://www.wipo.int/export/sites/www/freepublications/en/tk/913/wipo_pub_913.pdf.

[461] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

Bikram Yoga, arguing that the copyright of yoga asana sequences constitutes a misappropriation of TK unique to India. In India there is a large-scale effort in progress to catalogue the estimated 1500 asanas in order to prevent cases like this in the future.[462]

According to the US Copyright Act, the work must be 'fixed in a tangible medium' and the requirement for fixation, by definition, excludes all oral literature of indigenous peoples from the paradigm of Western law. The 'fixation' condition of copyright places a burden on indigenous communities seeking to protect their IP. The definition of 'originality'in copyright is difficult; 'original' means only work which was independently created by the author. TK such as Yoga may be creative, but not original in the sense of being 'independently created'. Similarly, TK existed solely as part of an oral, or in some cases written and oral, tradition, so works have not been reduced to a 'tangible medium' and cannot be copyrighted under existing legal provisions.[463] US IP law is, therefore, still ineffective in stopping the misappropriation of and protecting traditional Yoga practices.

- **The case of Monsanto**

It has been claimed that Monsanto and other corporations use unfair patent laws to abuse the rights of farmers. In 1994, Monsanto obtained a patent covering a line of 'Roundup Ready' crops, which had been genetically modified to resist Monsanto's Roundup herbicide. This GM is hereditary, so future generations of seeds are also 'Roundup Ready'. The company did not want to be in the business of making a one-time sale, so when Monsanto sold 'Roundup Ready' soyabeans to farmers, it required them to sign a licensing agreement promising not to re-plant future generations of seeds, but farmers remained free to sell the soyabeans they grew in the commodity market. Vernon Bowman, an Indiana farmer, simply purchased cheaper commodity

[462] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[463] Pokhrel, L. R. (2012). "Copyrighting Yoga: A Critical Analysis of the Legal Regime of Intellectual Property Rights ", from http://www.icahdq.org/conf/2012/yoga_poster.pdf.

soyabeans without the contractual restriction on re-planting, and he then planted and re-planted commodity soyabeans instead of using Monsanto's seeds. Monsanto sued him for patent infringement. Bowman argued his use of the seeds is covered by patent law's exhaustion doctrine, holding that a patent holder's rights on a particular product are 'exhausted' when the product is sold to an end user. So when Monsanto sold seed to a farmer, it exhausted its rights not only to that specific seed but to all of the seed's descendants; the farmer is free to plant, save and re-plant each season's crop for future seasons. Monsanto countered that each new generation of seeds is a separate product and requires a separate patent license and that Bowman was illegally 'manufacturing' infringing soyabeans. In 2011, the US Court of Appeal for the Federal Circuit ruled that patent exhaustion did not cover second-generation seeds, which means that Monsanto's GM seed patents can be used to stop farmers from saving and replanting GM seeds. The Supreme Court asked the Obama administration to weigh in on the case, and they unanimously affirmed the Federal Circuit in 2013. In a world where 94 percent of soyabeans in circulation descend from Monsanto's GM seeds, it might be hard for farmers who did not want Monsanto's seeds to buy seeds that were not patent encumbered. Monsanto's position effectively places the burden on farmers to test the seeds they hope to plant in order to ensure they are not covered by any patents.[464] This case has impacted on the use of materials not only in the US itself, but more broadly by ruling that farmers, under the patent exhaustion doctrine, cannot make additional patented products without permission. Monsanto has pursued more than 800 patent cases against farmers, while its seed patenting model has been criticised as representing misappropriation.

4.1.3 Canada

The IP system and TK are receiving increasing attention within Aboriginal communities in Canada and from government policy-makers. Aboriginal peoples have a particular interest in these as they relate to their broad interest in preserving, protecting and using Aboriginal cultural heritage equitably.[465] Customary protocols

[464] Lee, T. B. (2012). Farm-fresh infringement: Can you violate a patent by planting some seeds? Ars Technica.

[465] Industry Canada. (2011). "Aboriginal Peoples and IP." from http://www.ic.gc.ca/eic/site/ippd-dppi.nsf/eng/h_ip00068.html.

with respect to intangible property are prevalent throughout Aboriginal communities in Canada, and these have been of social, economical and political importance.[466] TEK held by Aboriginal communities in Canada has proved of value to environmental planning and resource management.[467]

In Canada complementary/alternative and TMs are known as natural health products and are subject to food and drug regulations. Natural health products include herbal medicines; traditional Chinese, ayurvedic, and native North American medicines; homeopathic preparations; and vitamin and mineral supplements. The use of complementary/alternative medicine is increasing, along with the number of established associations of complementary/alternative medical practitioners. Canadian physicians choosing to provide alternative treatments must comply with guidelines set out by the relevant province's College of Physicians and Surgeons.[468]

Canada is bound by a number of multilateral treaties dealing with human rights, cultural property, and IP. These instruments are only binding in international law, and some are binding as incorporated into Canada's domestic law by federal acts. The major IP statutory regimes in Canada are copyright, industrial designs, patents, plant breeders' rights, trademarks, economic torts (passing off), misappropriation of personality, and confidentiality of trade secrets. Marie Battiste and James (Sa'ke'j) Youngblood Henderson reviewed the Canadian regime of intellectual and cultural property and found that it ignores the knowledge, heritage and constitutional rights of their Aboriginal peoples. The existing statutory and regulatory fines are insignificant and inadequate to prevent the misappropriation of properties and resources by

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[466] Thom, B. (2004). Aboriginal Intangible Property in Canada: An Ethnographic Review, Industry Canada.

[467] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[468] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

interested parties, so a comprehensive reform of the Canadian legislative regime is necessary.[469]

Some scholars see Canadian IP law as tending to focus on individual authorship or ownership as opposed to communal or collective ownership. IP rights such as copyright, patent, and industrial design have set limitation periods, while family crests, under certain Aboriginal laws or customs, would necessitate a perpetual copyright or trademark, at the risk of inducing severe offence and humiliation. Canadian IP law is based on an innovation-driven commercial bargain. Much TK and cultural property is inherently non-commercial and is not necessarily driven by innovation, or 'progressing science and useful arts', and so there is the potential for conflict over legal matters between the Canadian law and Aboriginal self-government, where laws on cultural property and TK are concerned.[470]

It seems that Canadian IP law does not work well for the protection and misappropriation of indigenous TK. Some existing laws, for example, the Copyright law, has been used to protect TK and creations of their Aboriginal peoples, while the Trademark law may not be enough to provide for TK registration. Government policy-makers may need to identify the interests and concerns of Aboriginal communities and to clarify IP legislation affecting Aboriginal TK and cultural heritage.

4.1.4 Mexico

For some communities TK provides a means to social and economic development and new, more culturally appropriate forms of tourism.[471] The Seri people of Mexico are

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[469] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[470] Khoo, C. (2013). Pride and Property: IP Law, Traditional Knowledge, and Cultural Heritage, IP Osgoode, Intellectual Property Law and Technology Program, York University, Canada

[471] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

among several indigenous communities in the country, and faced with competition from mass production they registered the 'Arte Seri' trademark to protect authentic ironwood products, which are produced by traditional methods from the Olneya tesota tree. Conservation of this unique species of tree was also a factor in creating the trademark. Also, the appellations of origin, olinalá and tequila, are used to protect lacquered wooden products and the traditional spirit derived from the blue agave plant. Both are products of TK that also derive their unique characteristics from the indigenous GRs of these localities.[472] Mexico does not have specific laws on TK, but uses trademark law and the appellations of origin, for example, to protect the knowledge of their local communities.

4.1.5 Jamaica

The Public Policy of the government of Jamaica is to preserve and protect Jamaican TK and TCEs and the indigenous, traditional and local communities in Jamaica. In 1999 Jamaica was one of the countries that participated in a fact-finding mission to the Caribbean by WIPO to ascertain the IP needs and expectations of TK holders in the region. The WIPO Caribbean Technical Working Group on TK, TCEs and GRs was formed in 2008 to devise a harmonised approach for the Caribbean to preserve and protect its TK, TCEs and GRs, which aimed to ensure that with respect to the TK and TCEs of the relevant communities: (1) the PIC of the relevant communities is obtained; (2) communities participate fully and effectively in projects or programmes utilising their TK and TCEs; and (3) any benefits derived from the utilisation of their TK and TCEs are shared with the relevant communities.[473]

However, in practice much TK exists in Jamaica for different uses by local GRs, but this knowledge is not being adequately preserved or access to it regulated. Access to

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[472] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

[473] Trade Marks Registry, Jamaica Intellectual Property Office. (2012). "Practice Notice Re: Traditional Knowledge and Traditional Cultural Expressions." from http://www.jipo.gov.jm/sites/default/files/PDF_Files/TM%20Practice%20Direction%20re%20TK%20TCEs%20final.pdf.

Jamaica's biodiversity is regulated with collection permits and MTAs, which are not readily accessible or centrally archived. Major factors affecting the state of biodiversity are: a lack of PVP; an associated lack of attention to variety; lack of knowledge of the importance of distinct varieties; and gaps in the policy framework. Although several legislations contain elements of conservation, the legislative framework does not comprehensively protect ecosystem diversity, species diversity or genetic diversity. A new framework is needed that recognises the components of biodiversity and ensures the sustainable use of biodiversity in Jamaica.[474]

Although NAFTA is successful in North America, and has many benefits in reducing trade restrictions, increasing trade and promoting industrial integration between the US, Canada and Mexico, there are still plenty of US government-imposed barriers to trade.[475] NAFTA, which contains important povisions related to IPRs among others, also made some changes to US Copyright and Trademark Law, as well as the patent, trademark and copyright fields in Canada. NAFTA, however, has led to negative consequences for Mexico. It has been argued that there are larger disparities in income levels in Mexico and NAFTA also allows government-subsidised US farm products into Mexico, where local farmers can not compete with the artificially low prices and so they have lost farms due to this.[476]

4.2 Central and South Americas

4.2.1 Latin American Integration Association (ALADI or LAIA)

The ALADI is the largest integrated Latin-American group with fourteen member countries: Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. It works as the

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[474] McGlashan, D., S. Mitchell, et al. (2008). Jamaica: Country Report on the State of Plant Genetic Resources for Food and Agriculture Kingston, Jamaica.

[475] Investopedia US. (2012). "Pros and Cons of NAFTA." from http://www.investopedia.com/financial-edge/1212/pros-and-cons-of-nafta.aspx.

[476] Amadeo, K. (2008). "NAFTA Pros and Cons." from http://useconomy.about.com/b/2008/04/24/nafta-pros-and-cons.htm.

institutional and normative 'umbrella' for regional integration that shelters agreements, including subregional agreements. The association is based on the principles of pluralism, convergence, flexibility, differential treatment and multiplicity. Aimed at creating a Latin-American common market, the ALADI promotes the creation of an area of economic preference in the region, the trade of services, IP and protection of traditional know-how.[477] FTA negotiations are also aimed at the protection of TK, although no major progress has been made to date.

4.2.2 The Andean Community

The Andean Community comprises the South American countries of Bolivia, Colombia, Ecuador and Peru, and aims to improve their peoples' standard of living through integration and economic and social co-operation. It acts acts in social and political areas, the environmental area, in external relations, economic and trade areas, and the institutional area. There is one common Trademark Law for IP: Decision 486 of the Commission of the Andean Community, in force from 2000.[478]

The Andean Community Common System of Access to GRs proclaims that member countries have sovereign rights over the use and exploitation of their GRs, their derivatives and related intangible components, and the right to determine conditions of access. It removes non-IPR-protected knowledge from the public domain, which may be in the long-term interests of the society.[479] Its Decision 391 for a Common Regimen on Access to GRs (1996) involves TK and biodiversity being recognised as critically important for indigenous people's livelihoods and ultimate survival. Indigenous peoples have the right to determine how and under what conditions TK is

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[477] INSouth: an Intellectual Network for the South. "Association for Latin American Integration (ALADI)." 2013, from http://www.insouth.org/index.php?option=com_sobi2&sobi2Task=sobi2Details&sobi2Id=33&Itemid=68.

[478] Comunidadandina. "Brief history." 2013, from http://www.comunidadandina.org/ingles/quienes/brief.htm.

[479] Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

accessed and used. Contracts are the main tool with which obligations and rights are established between indigenous peoples and interested users. Defensive protection is recognised, and there is a mandate to develop a specific sub-regional regime (Decision) on TK protection. Some lessons that can be learned from the processes of the Andean Community include: identifying the key forces that affect loss of TK and its erosion; biodiversity and access to GRs policies can be a trigger for TK protection policies/laws; the need for time and bottom-up approaches to ensure input from and effective participation of indigenous peoples; the need to involve IP authorities and a wide range of stakeholders, the need for strong capacity building for key actors, including indigenous peoples; and the importance of a clear scope for TK protection policies and laws.[480]

4.2.3 Mercosur or Mercosul

Mercosur or Mercosul (Southern Common Market) is a Regional Trade Agreement (RTA) between Argentina, Brazil, Paraguay and Uruguay, which are full members, while Bolivia, Chile, Colombia, Ecuador and Peru have associate member status. It only includes countries from the South of the continent. Its purpose is to promote free trade and the fluid movement of goods, people, and currency.[481] It lacks special provisions for the protection of TK, TCEs and access to GRs. Yet, the scope and principles of protection of trademarks and other trade identifiers are in the Harmonization Protocol of Norms on Intellectual Property in the Mercosur Regarding Trademarks, Indications of Source and Denominations of Origin,[482] which was signed in 1995 and became effective in 2000. Unlike other regional instruments, which go into much substantive and procedural detail, the Mercosur Protocol is formed by three dozen provisions merely setting guidelines to be implemented in

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[480] Muller, M. R. (2008). A Regional Approach to the Protection of Traditional Knowledge: the Case of the Andean Community. Peruvian Society for Environmental Law, Kingston, Jamaica.

[481] International Democracy Watch. "Mercosur." 2013, from http://www.internationaldemocracywatch.org/index.php/mercosur.

[482] Full text available at http://www.fox.com.uy/FoxSite/documentos/en/harmonization_protocol.pdf.

member states under their domestic statutes and legal traditions, a system not totally dissimilar to that of the Paris Convention.[483]

4.2.4 Bolivia

In Bolivia approximately 50% of the population is indigenous and indigenous languages are taught in classrooms. Bolivia's 2009 Constitution guarantees the culture and rights of indigenous peoples, containing the following principles: respect for the rights of indigenous peoples and peasants; harmony with nature; protection of biodiversity; prohibition of private appropriation of plants, animals, micro-organisms and any living matter for exclusive use and exploitation. It also recognises that cosmovision, myths, oral history, dances, cultural practices, TK and technologies of indigenous peoples and peasants is their heritage, and that this heritage is part of the expression and identity of the state. It states further that it is the competence and duty of the state to defend, recover and protect biological material from natural resources, ancestral knowledge and anything else that originates in the territory. The UN Declaration on the Rights of Indigenous Peoples has also been incorporated into Law 3760 of the nation's legislation, which requires all Bolivians to comply with the Declaration. The country has prevented the patenting of any life forms and the granting of private monopolistic IPRs on any traditional ancestral knowledge.[484]

- **The case of Quinoa**

The UN is observing 2013 as the International Year of Quinoa, which is known as the 'super food' of South America. Quinoa is a highly nutritious, cereal-like crop that is rich in protein and micronutrients.[485] Approximately half the world's supply is grown

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[483] Rangel-Ortiz, H. (2005). Regional Trade Agreements in Latin America and Intellectual Property, paper presented at the University of Montreal, during the Annual Meeting of the International Association of Teachers and Researchers in Intellectual Property (ATRIP), Montreal, Canada.

[484] Third World Network Info Service on Intellectual Property Issues (2010). Bolivia calls for in-depth review of TRIPS Article 27.3(b), Published in SUNS #6877 dated 5 March 2010.

[485] FAO (2012). Bolivia's Evo Morales named FAO Special Ambassador for International Year of Quinoa. Media Centre. Rome.

in Bolivia, Peru and Ecuador, where production remains family-based and organic. There are risks of loss of traditional technology and local knowledge due to the intensive use of external inputs and agricultural machinery, loss of biodiversity due to the use of a reduced number of varieties with higher market demand, and movement of unregistered germplasm due to the growing demand to produce seeds for expansion of planted areas. Therefore, there is a need to promote the role of indigenous people as the custodians of quinoa diversity, and documentation of TK in the sustainable management of quinoa.[486]

Patenting and controlling quinoa exclusively would enable Bolivians to profit and ensure a food supply at affordable prices, although determining who would own a quinoa patent is difficult. The Bolivian government needs urgently to document every available type of quinoa produced in the country to protect indigenous rights, and to pass and enforce laws that protect indigenous groups' TK of quinoa from being appropriated to their detriment.[487]

4.2.5 The Republic of Costa Rica

In Costa Rica, although the production of traditional medications is regulated, the practice of TM is ignored in official health laws. There is no registry of traditional health practitioners; TM practitioners are not licensed, neither are they sanctioned for practising medicine. There are no institutions with official responsibility for teaching TM or associations of TM practitioners.[488]

According to Costa Rica's Biodiversity Act 1998, under the common name of *sui generis*, the state expressly recognises and protects community intellectual rights; and the knowledge, innovations and practices of indigenous peoples and local

[486] Food and Agriculture Organization of the United Nations (2012). Celebrating the International Year of Quinoa: A Future Sown Thousands of Years Ago. Concept Note.

[487] Eisenstein, M. (2012). "Is Quinoa a Solution for Food Security and Economic Growth in Bolivia?" from http://www.law.buffalo.edu/content/dam/law/restricted-assets/pdf/environmental/papers/eisenstein12.pdf.

[488] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

communities related to the use of biodiversity and related knowledge.[489] The legislation is oriented towards the protection of knowledge using a registry system. The collective knowledge of indigenous peoples and their rights of access to GRs, among other things, need to be acknowledged. Thus, an inventory will be made of *sui generis* intellectual community innovations and practices for which communities request protection. However, these registry systems have been criticised for the difficulties that they can cause: the need to define 'access to information'; the control exercised over said information; the possibility that communities not involved in the access may grant prior consent to use knowledge, which is registered under the name of others; and the restrictions placed on the access to information. Nevertheless, this Act is considered to be one of the most comprehensive laws aimed at the full implementation of the CBD, by the provision of a balance between conservation, sustainable use and fair and equitable benefit-sharing. Equity, protection and the rights of indigenous peoples and local communities and their participation in the decision-making process are also features presented.[490]

4.2.6 Brazil

In Brazil Provisional Measure 2.186-16 regulates access to GRs, and protects related knowledge, among other things. It deals with access to the genetic heritage, the protection of access to related TK, the distribution of benefits, and access to technology and TOT for the preservation and use of biodiversity.[491]

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[489] Aguilar, G. (2003). Access to Genetic Resources and Protection of Traditional Knowledge in Indigenous Territories. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 175-183.

[490] Cabrera, J., F. Perron-Welch, et al. (2011). Crafting Visionary Biodiversity Laws: Costa Rica's Biodiversity Law 1998 - A Best Policy in Implementing the UN Convention on Biodiversity. A Paper Presented at the United Nations Decade on Biodiversity. Costa Rica, World Future Council (WFC) and Centre for International Sustainable Development Law (CISDL).

[491] SELA: Latin American and Caribbean Economic System (2009). Protection of traditional knowledge, traditional cultural expressions (folklore) and related genetic resources: SELA's approach Regional Meeting on Protection of Traditional Knowledge, Folklore Expressions

Regulations governing TM in Brazil include La Política de Atención Integral a la Salud Indígena de FUNASA, which promotes respect for the traditional health systems of indigenous communities. In 1980, the Brazilian Medical Association recognised homeopathy as a medical speciality, and in 1988 the government recognised it and included it in the National Health System. Since 1995, the Federal Council of Pharmacy has recognised and standardised the title of 'Specialist in Homeopathic Pharmacy'. There is also a chiropractic association in Brazil.[492]

'Vale dos Vinhedos' was the first GI, and this successful example of the industrial property instrument in Brazil encouraged other initiatives to add value to quality local products, such as wines, agricultural products, agroindustry products, crafts and precious stones. Brazilian law also makes it possible to recognise services as GIs.[493]

4.2.7 Ecuador

The Ecuadorian Amazon has around seven groups of an estimated 108,000 indigenous people and Ecuador is an important actor in international policy debates on TK and GRs under the CBD. Local indigenous organisations are persistent in challenging and articulating their concerns about the growing trend towards the commercialisation of IK and GRs.[494] The Ecuadorian Constitution of 2008 contemplates many provisions regarding the respect, protection, and conservation of nature, biodiversity, and TK. It recognises and grants rights to the communities, pueblos, and nationalities that are part of Ecuador. Yet, some concepts have been mishandled, and indigenous communities do not have a legal mechanism to protect these rights. The Intellectual Property Law (Consolidation No. 2006-13), enacted in 1998, covers all aspects of IP,

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and Genetic Resources in Latin America and the Caribbean. Caracas, Venezuela, World Intellectual Property Organization.

[492] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

[493] Tonietto, J. (2011). Vale dos Vinhedos and the Development of Geographical Indications in Brazil Worldwide Symposium on Geographical Indications Lima, Peru, WIPO Publication.

[494] Moeller, N. (2010). The Protection of Traditional Knowledge in the Ecuadorian Amazon: A Critical Ethnography of Capital Expansion, Lancaster University, ESRC Genomics Network.

but it is not sufficient to protect TK as the *sui generis* system created in Article 377 has not been developed. It also created the Ecuadorian Intellectual Property Institute (IEPI) to administer all IP registration processes and administrative enforcement measures. However, Ecuador currently does not have a law that facilitates proper implementation of the CBD. Important topics such as respect and protection for TK, conditions for accessing GRs and incentives to protect and conserve biodiversity services have not been developed using any legal instrument.[495]

Interestingly, the Inter-American Development Bank and several NGOs have launched a project entitled 'The Transformation of Traditional Knowledge into Trade Secrets'. The goal of the project is to catalogue TK and maintain a database at regional centres, access to which will be safeguarded. Each participating community will have its own file in the database and will not be able to access the files of any other community. The collected knowledge will be reviewed, and knowledge that is not common to multiple communities may be negotiated as trade secrets through Material Transfer Agreements (MTA). The benefits from any MTAs are to be split between the Government of Ecuador and the communities that deposited the knowledge in the database. Payments to communities will be used to finance public projects previously identified by each community.[496] Also, the IEPI is working with the national assembly to prepare legislation that would protect the traditional medicinal plant knowledge used by Amazonian tribes, such as the Tsachilas and Shuar. The institute is also training the tribespeople to be aware of the ownership rights to their traditions to help protect against misappropriation of indigenous knowledge by corporations, without prior permission.[497]

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[495] Coloma, S. E. (2010). Legal Protection of Ecuadorian Biodiversity and Traditional Knowledge: The Existing Intellectual Property Rights System VS. A Sui Generis System. School of Law. Saint Louis, Missouri, USA, Washington University. Doctoral Dissertation.

[496] Vogel, J. (1997). 'The Successful Use of Economic Instruments to Foster Sustainable Use of Biodiversity: Six Case Studies from Latin America and the Caribbean, Case Study 6: Bioprospecting,' Biopolicy Journal, Volume 2, Paper 5 (PY97005).

[497] Cuenca Digest, Ecuador News. (2013). "Ecuador seeks to protect legal rights of medicinal plant knowledge." from http://www.cuencahighlife.com/post/2013/04/30/ECUADOR-DIGEST3cbr3eEcuador-seeks-to-protect-legal-rights-of-traditional-medicine.aspx.

4.2.8 Peru

Peru, as one of the most diverse countries, was the first developing country to adopt a comprehensive legal system to protect its TK, i.e. *sui generis* Law 28216 on the Protection of Access to Peruvian Biological Diversity and Collective Knowledge of Indigenous Peoples, containing provisions relating to TK, and Law 27811 on the Regulation for the Protection of Collective Knowledge of Indigenous Peoples associated with biological resources. Peru also established the National Anti-Biopiracy Commission, which has effectively proved that products submitted for patents in many countries were developed using TK of Peruvian people. The National Institute for the Defence of Competition and Intellectual Property (INDECOPI) is a Peruvian government agency charged with the responsibility of market promotion and the protection of consumer rights, as well as ensuring honest competition, while protecting all forms of IP.[498]

The Potato Park in the Peruvian Andes is a *sui generis* system because it provides protection based on different models and elements to those of current IP systems, which protect individual rights and whose objectives are exclusively commercial. It provides protection for three key components of knowledge systems: intellectual and spiritual; material (i.e. biodiversity); and spatial (ecosystems and landscapes), at the local, national and international level. It is a positive mechanism for the protection of collective rights over biodiversity and TK, which seeks to maintain the agricultural character of the landscape, reduce poverty, sustain livelihoods, ensure the historical continuation of culture, knowledge and collective indigenous rights to natural resources.[499]

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[498] Public Interest Intellectual Property Advisors (PIIPA) (2011). Public Interest IP Case Study Series:Traditional Knowledge & Biopiracy: The Peruvian Maca Root: 1-3.

[499] IIED, Kechua-Aymara Association for Nature and Sustainable Development (ANDES, Peru), Fundacion Dobbo Yala (Panama), University of Panama, Ecoserve (India), Centre for Indigenous Farming Systems (India), Herbal and Folklore Research Centre (India), Centre for Chinese Agricultural Policy (CCAP, China), Southern Environmental and Agricultural Policy Research Institute (ICIPE, Kenya), Kenya Forestry Research Institute (2005). Sui Generis Systems for the Protection of Traditional Knowledge (Information for the Secretariat of the Convention on Biological Diversity): 1-21.

- **The case of Maca**

The Peruvian people have used maca for medicinal purposes, which include increasing libido, stamina, fertility, and alleviating insomnia. Maca root is a cultivated herbaceous perennial crop that is native to the Andes in Peru, which is exported around the world at a low price.[500] Some US companies have taken out patents on the active ingredients present in the roots of maca and examples of maca germplasm are held in trust by another CGIAR institute, the International Potato Centre (CIP), in Peru. The US patents have prevented Peruvian farmers from exporting maca extracts to the US and other countries.[501] Challenging the validity of the patents issued through appropriate legal mechanisms as well as negotiating licensing agreements wih the companies that own patents are possible solutions.

Latin America and the Caribbean are rich in biodiversity, and have varied TK, TCEs and folklore as a result of the intellectual and cultural contribution of over 600 recognised indigenous populations, and the relationship between these populations and new cultures, which arrived from Europe, Africa and Asia after the discovery of America. As in other regions, their TK is lost, being exploited and missapropriated by third parties without acknowledgment, the PIC or compensation to indigenous people and local innovators and creators. Some countries, such as Brazil, Costa Rica, Panama, Peru and Venezuela, have related relevant regulatory and institutional experiences on access to GRs and TK. Many strong integration groups as well as regional initiatives have also been launched. However, a large imbalance between national and subregional protection policies and international treatment is evident.[502]

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[500] Public Interest Intellectual Property Advisors (PIIPA) (2011). Public Interest IP Case Study Series:Traditional Knowledge & Biopiracy: The Peruvian Maca Root: 1-3.

[501] McGrath, P. "Biopiracy threat to traditional crops." New Agriculturist on-line, 2012, from http://www.new-ag.info/02-5/develop/dev03.html.

[502] The Permanent Secretariat of SELA (Latin American and Caribbean Economic System) (2009). Protection of traditional knowledge, traditional cultural expressions (folklore) and related genetic resources: SELA's approach Regional Meeting on Protection of Traditional Knowledge, Folklore Expressions and Genetic Resources in Latin America and the Caribbean. Caracas, Venezuela World Intellectual Property Organization.

4.3 Europe

GIs exist and are very important in Europe, which has a rich history of local, specialist agricultural production and many famous products closely linked to their place of origin.[503] Examples of GIs in Europe are: the sparkling wine, Champagne (France); a fortified wine, Port (Portugal); a cheese, Parmigiano Reggiano (Italy); confectionery, Jijona (Spain); a vegetable, Jersey Royal Potato (UK); plant products, Baux Valley olive oil, Camargue rice (France).[504] EU countries have protected GIs for a long time through a sophisticated system of *sui generis* GIs that incorporate stringent criteria.[505]

GIs relate to agricultural products and foodstuffs and they are protected under EU Council Regulation EC 510/2006.[506] The following EU schemes encourage diverse agricultural production, protect product names from misuse and imitation and help consumers by giving them information about the specific character of the products:[507]

PDO - covers agricultural products and foodstuffs that are produced, processed and prepared in a given geographical area using recognised know-how.

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[503] European Commission. "Intellectual property: Geographical indications." 2012, from http://ec.europa.eu/trade/creating-opportunities/trade-topics/intellectual-property/geographical-indications/.

[504] Passeri, S. (2007). Protection and Development of Geographical Indications (GIs) in the world markets. EC-ASEAN Intellectual Property Rights Co-operation Programme (ECAP II) Workshop on "Production of Thai silk under GI". Bangkok, Thailand.

[505] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

[506] Passeri, S. (2007). Protection and Development of Geographical Indications (GIs) in the world markets. EC-ASEAN Intellectual Property Rights Co-operation Programme (ECAP II) Workshop on "Production of Thai silk under GI". Bangkok, Thailand.

[507] European Commission. "Geographical indications and traditional specialities." 2013, from http://ec.europa.eu/agriculture/quality/schemes/index_en.htm.

PGI - covers agricultural products and foodstuffs closely linked to the geographical area. At least one of the stages of production, processing or preparation takes place in the area.

TSG - highlights a traditional character, in the composition or means of production.

Europe also has a great variety of regional cultural traditions. Traditional European rural societies have preserved their own knowledge systems, especially about natural resource management and agriculture. The IP aspects of this knowledge and practice fall within the mandate of WIPO's Intergovernmental Committee on Traditional Knowledge, Folklore and Genetic Resources (the IGC), which has undertaken a wide range of activities to protect legally TK in the IPRs system.[508] The range of local products now being identified and protected in European countries is growing. Ethnobiological inventories and assessments of local products based upon the concept of usage have been given a large role in this effort.[509]

There are four differing levels of PVR provision in operation in Europe. The first is the 1991 UPOV Act, which sets down minimum standards for protection. The second is the Community Plant Variety Right, which based on and compliant with the 1991 Act, is a result of the European Convention (Regulation 2100/94/EC). The third is the 1978 Act, to which a number of EU member states are still signatories, and the fourth is the 1961 Act.[510] The Community protection of plant varieties (CPVR) enables applicants, on the basis of one application, to be granted a single IPR, which is operative throughout all member countries of the EU. The CPVR exists alongside individual European countries' national plant protection legislation as an alternative form of protection; therefore, it is not possible to hold protection for the same plant

[508] Kiene, T. (2006). "Traditional Knowledge in the European Context " IDDRI N° 02/2006

[509] Berard, L. and P. Marchenay (1996). Tradition, Regulation, and Intellectual Property: Local Agricultural Products and Foodstuffs in France. Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press: 230-243.

[510] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

variety under the Community and a national system at the same time.[511] No effective harmonisation exists in the EU due to the different treatment of farmers and breeders throughout the EU, the duration of the protection period for certain crops, and overlap between Patents and PVRs[512] in which compulsory cross-licenses are unsatisfactory (although there are no particular issues arising from interactions between CPVR and trademarks or GIs). Many breeders would still like to see the duration of protection extended to 30 years for all plant varieties and enforcement is considered to be ineffective in many member states. National PVR systems can be flexible and differ from the CPVR system, but that is not a matter of general concern. Overall there is a discernable trend towards using the CPVR system over national PVRs. Also, a potential extension of the CPVR system to European Free Trade Association (EFTA) countries would be a positive development.[513]

4.3.1 The European Patent Convention (EPC) and the European Community Directive on the Legal Protection of Biotechnological Inventions

The EPC, known as the Munich Convention, came into force in 1973 under the auspices of the Council of Europe, and with it the European Patent Organisation came into being. The European Patent Office (EPO) oversees the administration of the system. The introduction of the EPC had two effects:[514] firstly to establish its own procedures for the granting of a European patent; and secondly to attempt to bring conformity to national patent practices. Hence, all European states amended their national patent laws, and a granted European patent will be protected under national law in each of the countries designated in the application. Nonetheless, there has been much debate amongst member states over the implementation of this directive. There

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[511] BiOS, Canberra, Australia. "Can IP rights protect plants?" 2013, from http://www.patentlens.net/daisy/bios/1234#upov.

[512] Ministry of Economic Affairs, Agriculture and Innovation, the Netherlands (2011). Evaluation of the CPVR: View from a Member States' perspective.

[513] Sanco, D. (2011). Evaluation of the Community Plant Variety Right Acquis - Final Report, A report submitted by GHK in association with ADAS UK London, UK.

[514] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

has been discord on the issues of gene patents and stem cell patents between the European Parliament, the EPO and specialist law reform advisory bodies.[515] The EPC has been commented on as being comprising multiple national patents collectively referred to as a European Patent, as patents share only a few substantive rules about the conditions of patentability that are fixed by the EPC. For substantive law, each individual contracting state's patent law governs that state's fractional share of the European patent. Some matters have been left to the laws of each individual European state.[516] There are proposals regarding amendments to the EPC and the regulations it implements, including the harmonisation of national laws in contracting states as these are linked together and interface at some points.

The European Parliament and Council Directive, 98/44/EC of 1998, on the legal protection of biotechnological inventions was intended to harmonise the laws on the patentability of biotechnological inventions, plant varieties and human genes of member states, by clariying what is patentable and what is not, but it remains controversial. There are ethical and economical debates about the patentability of human body elements and the existence of patents. The notions of 'ordre public' and morality, which may exclude certain inventions from patentability, are not convincing to the member states. The directive introduced confusion between discovery and invention among the summa divisio. Some provisions are quite contradictory, and when some exceptions to the patentability regime exist, exceptions to these exceptions often annihilate the effects of these exceptions.[517]

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[515] Rimmer, M. (2008). Intellectual Property and Biotechnology: Biological Inventions, Edward Elgar.

[516] Cataldo, V. D. (2002). "From the European Patent to a Community Patent." Columbia Journal of European Law **8**(19).

[517] Bochon, A. (2008). The Directive 98/44 EC for the Legal Protection of Biotechnological Inventions: a commentary of its articles, Droit & Technologies.

4.3.2 EU/US Dialogue[518]

The joint EU/US Biotechnology Consultative Forum was launched at the Quelez Summit in 2000 and delivered its report to the EU/US summit that followed. The report centred on suggestions for improvements to the regulation of the introduction of GM crops. It also addressed the issue of how better to accommodate the concerns of the consumer, while satisfying the need to increase yields. The report recognised the concerns in a number of quarters concerning the application of the patent system to the PVP, both directly in the US and indirectly in the EU, as embodiments of patentable biotechnological inventions. It also recognised the potential conflict that exists between offering sufficient reward to the inventor or researcher by granting IPRs and what is seen by some as the erosion of food security for the world's poor. Three recommendations of the report were: (1) the protection of the farmer and research privileges; (2) the rewarding of traditional or indigenous medical/agricultural knowledge used in inventions; and (3) the provision of incentives in developed countries for private companies to engage in research beneficial to developing countries. However, none of these three recommendations are currently in use, but would be useful in moving forward and if there are opportunities to put these into laws and practices.

4.3.3 The role of the European Court of Human Rights regarding cultural rights

Although the European Convention does not explicitly protect cultural rights, the court has gradually recognised substantive rights that may be termed 'cultural rights' in a broad sense. The provisions, mostly invoked in relation to cultural rights, are: Article 8 – the right to respect for private and family life; Article 9 - freedom of thought, conscience and religion; Article 10 - freedom of expression; and Article 2 of Protocol No.1- the right to education.[519]

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[518] Shillito, M. (2002). "Patenting genetically engineered plants." European Intellectual Property Review **24 (6)**: 333-336.

[519] Research Division (2011). Cultural rights in the case-law of the European Court of Human Rights, Council of Europe / European Court of Human Rights.

4.3.4 IPOGEA

IPOGEA, founded in Italy in 1993, is recognised by the EU for the protection and enhancement of European Cultural Heritage. It is an associate member of International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) and it executes projects for the World Monuments Fund. It engages in several activities involving master plans of parks and archaeological sites, UNESCO World Heritage List management plans, environmental restoration, sustainable development, and enhancement of world heritage and cultural identity.[520] IPOGEA is currently working with UNESCO and the International Traditional Knowledge Institute (ITKI) on the construction of a worldwide database, the Traditional Knowledge World Bank (TKWB), which will enable all sites on the World Heritage List to use IPOGEA's next-generation planning and management tools. UNESCO has assigned the execution TKWB to the IPOGEA Research Centre on Traditional and Local Knowledge. The TKWB protects the rights of local populations who are knowledge holders.[521]

4.3.5 The UK

The UK's cultural heritage is renowned around the world, with many governmental and private and semi-private organisations having played important roles in the protection and conservation of heritage. Even local areas have the power to give permission for planning and demolition. The English statutory conservation of heritage has been widely practised and resulted in the scheduling of archaeological monuments and ruin structures of national importance, the listing and grading of buildings of special architectural and historical interest, and conservation areas for any areas of special architectural or historical interest the character or appearance of which should be enhanced or preserved.[522] All buildings built before 1700, which

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[520] IPOGEA. "About us." 2012, from http://www.ipogea.org/site2/index.php/en/about-us.

[521] IPOGEA Traditional Knowledge Research Center. "TKWB - An expert system of historical and archeological values and traditional techniques." 2013, from http://www.ipogea.org/site2/index.php/it/tkwb.

[522] See Ruktae-Ngan, K. (2003). Monument Grading System as a Means for Local Management of Cultural Heritage in Thailand. Faculty of Architecture, Civil Engineering and

survive in anything like their original condition are listed, as are most of those built between 1700 and 1840. Post-1945 buildings have to be exceptionally important to be listed. A building has normally to be over 30 years old to be eligible for listing. Categories of listed buildings are as follows:[523]

> Grade I buildings are of exceptional interest, sometimes considered to be internationally important; only 2.5% of listed buildings are Grade I.
>
> Grade II* buildings are particularly important buildings of more than special interest; 5.5% of listed buildings are Grade II*.
>
> Grade II buildings are nationally important and of special interest; 92% of all listed buildings are in this class and it is the most likely grade of listing for a home owner.

Some of the UK's outstanding properties, included on the World Heritage List of UNESCO, are: Stonehenge, Durham Castle and Cathedral, the Giant's Causeway and the Causeway Coast, Ironbridge Gorge, the City of Bath, the Tower of London, Edinburgh Old and New Towns, Maritime Greenwich, etc. In 1895, the National Trust was founded with the aim of preserving the nation's heritage and open spaces, such as buildings, parks, coastline, wildlife, collections, sites and monuments.[524] In 1931, a conservation charity independent of government, the National Trust for Scotland, was established to protect and promote Scotland's natural and cultural heritage.[525]

The UK has the Dealing in Cultural Objects (Offences) Act of 2003, which first introduced a criminal offence to combat traffic in illegally removed cultural objects

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Urban Planning. Cottbus, Germany, Brandenburg University of Technology. Master of Arts in World Heritage Studies: 152.

[523] English Heritage. "Listed Buildings." 2013, from http://www.english-heritage.org.uk/caring/listing/listed-buildings/.

[524] The National Trust. (2012). "What we protect." 2012, from http://www.nationaltrust.org.uk/.

[525] The National Trust for Scotland. (2012). "About the Trust." 2012, from http://www.nts.org.uk/About/.

and to assist in maintaining the integrity of buildings, structures and monuments (including wrecks) worldwide by removing the commercial incentive to those involved in the looting of such sites. A person is guilty of the offence if he/she deals in a cultural object that is tainted, in the knowledge or belief that it is tainted.[526] However, this Act is perceived by dealers and regulators alike to be an ineffective control mechanism, there is: the problem of proof; the non-retroactivity of the operative provisions of the Act; the absence of provision for enforcement of breach of foreign export prohibition; and the difficulty of finding evidence in relation to the central 'knowing or believing' provision. Moreover, there are the problems of national self-interest and political will, of how the Act fits into the overall structure of antiquities dealing regulations, and import and export in the UK, and of the power of the Act.[527] The country is also working on the Draft Cultural Property (Armed Conflicts) Bill, which is related to the Hague Convention on the Protection of Cultural Property in the Event of Armed Conflict of 1954. There may be problems in defining 'cultural property', as the list could be so expansive that it would be unmanageable.[528]

So, the UK has very comprehensive laws governing its cultural property as well as several active organisations. It is interesting, although there are some concerns, to see how the country categorises, safeguards and copes with illegal trade/theft or any unlawful acts with respect to its valuable cultural property.

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[526] European University Institute Website. "Dealing in Cultural Objects (Offences) Act 2003: Explanatory Notes." from http://www.eui.eu/Projects/InternationalArtHeritageLaw/Documents/NationalLegislation/UnitedKingdom/dealingwithculturalobjectsact-explanatorymemo.pdf.

[527] Mackenzie, S. (2007). "Dealing in cultural objects: a new criminal law for the UK." Amicus Curiae **Autumn**(71): 8-13.

[528] See Professor Janet Ulph's comments in Regules, P. and R. Francis (2013). The Protection of Cultural Heritage in Conflict. Seminar Report, British Institute of International and Comparative Law.

4.3.6 Italy

- **The cases of Grana Padano cheese and Parma ham**

The ECJ holds that the maintenance of the quality and reputation of foodstuffs registered with a protected designation of origin justifies the rule that the product, when sold pre-packaged, must be grated or sliced in the region of production. The court noted that the 1992 regulation establishing Community PDOs and GIs for agricultural products and foodstuffs did not exclude the determination of special technical rules applicable to operations leading to different forms of the same product on the market. Consequently, grating, slicing and packaging of the product could be made conditional on these operations taking place in the region of production.[529]

- **The case of Chianti Classico Olive Oil**

DOP was given to Chianti Classico olive oil in 2000. The DOP is the body that certifies extra-virgin olive oil to be of guaranteed quality and origin, which will be known as Olive Oil from Chianti Classico. This oil is exclusively olive oil, produced from olives grown within the production area of Chianti and which correspond to special guidelines for standards of quality.[530]

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[529] Ravil SARL v Bellon Import SARL and Biraghi SpA; Consorzio del Prosciutto di Parma and Salumficio S Rita SpA v Asda Stores and Hygrade Foods Ltd, ECJ, Cases C-469/00 and C-108/01, 20 May 2003. ECJ, Press Release No.42/03, 20 May 2003, available at http://curia.eu.int; British Institute of International and Comparative Law (2003). Court of Justice of the European Communities: Agricultural products and foodstuffs - protected designation of origin. Bulletin of Legal Developments. No.11: 111-112.

[530] Fiorentini, S. (2009). The Chianti Classico Experience in the Process of Establishing a Geographical Indication for Olive Oil Worldwide Symposium on Geographical Indications, jointly organized by the World Intellectual Property Organization (WIPO) and the Patent Office of the Republic of Bulgaria Sofia, Bulgaria, WIPO/GEO/SOF/09/2

4.3.7 The Netherlands

Dutch national legislation distinguishes between the protection of intangible cultural heritage and the protection of tangible immovable and movable cultural heritage, with the exception of the protection of underwater cultural heritage, which relies on the same act that provides for the protection of immovable cultural heritage on the mainland and in the ground. The Cultural Heritage Preservation Act of 1984 protects objects that qualify as Dutch cultural heritage against destruction or removal from Dutch territory, while the protection of the intangible cultural heritage is not law-based. It is indirectly protected by the supporting of museums and research institutes studying and imparting intangible cultural heritage. The protection of cultural objects in times of war and in times of peace has also been differentiated.[531] In 2007, the Malta (Valletta) Convention was formally implemented in the Netherlands when parliament approved a new Archaeological Heritage Management Act. This stipulated that archaeological monument care and heritage preservation is an integral part of overall environmental planning practices, and that a disturber would be held accountable for the costs. Throughout the country, there are 60,000 listed national monuments, including 1,500 archaeological sites of national importance, and over 440 conservation areas (9 world heritage sites).[532]

4.3.8 Portugal

Portugal passed a law to protect the TK and plant varieties of Portuguese farmers, adding to a growing list of so called *sui generis* laws on TK in a range of countries around the world.[533] It was written primarily as a law on biodiversity protection with respect to: the conservation, legal safeguarding and secure interchange of certain

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[531] Lubina, K. (2009). "Protection and Preservation of Cultural Heritage in the Netherlands in the 21st Century." Electronic Journal of Comparative Law **13.2**: , available at http://www.ejcl.org/132/art132-4.pdf.

[532] Cultural Heritage Agency, Ministry of Education, Culture and Science, The Netherlands. "Archaeological monuments." 2013, from http://www.cultureelerfgoed.nl/en/archaeological-monuments.

[533] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

PGRs. Its aims are to: recognise, preserve and maintain the knowledge, innovations and practices of local farming communities, which embody traditional lifestyles relevant to the conservation and sustainable use of plant agrobiodiversity and; to promote their wider application with the involvement of holders. To be eligible for registration, the TK must be associated with the utilisation of (certain kinds of) plant material, been developed by local populations in a non-systematic manner and form part of the cultural and spiritual traditions of those populations. The owner of this registered knowledge has, amongst other rights, the right to object to the commercial use, reproduction or imitation of the knowledge and the right to transfer or licence his right to the knowledge. Apart from the publication of registered knowledge in the registration bulletin, the holders of TK may choose to keep their knowledge confidential in order to maximise the protection granted, so that the publication will only mention the existence of the knowledge and the plant varieties to which it relates.[534]

4.3.9 Greece

- **The case of 'feta' cheese**

This case is an example of defining the scope of GI protection. The following contents are summarised from Press Release No 92/05, 25 October 2005; Judgment of the Court of Justice in Joined Cases C-465/02 and C-466/02 *Federal Republic of Germany and Kingdom of Denmark* v *Commission of the European Communities*

The Court of Justice upholds the name 'feta'[535] as a protected designation of origin for Greece. In 2002, the Commission registered the name 'feta' as a protected designation of origin (PDO) for a white cheese soaked in brine, originating in Greece and the name is reserved exclusively for cheese originating in Greece. In order to be registered as a PDO, a traditional name such as 'feta', which is not the name of a region, place or country, must refer to an agricultural product or a foodstuff from a

[534] Kiene, T. (2006). "Traditional Knowledge in the European Context " IDDRI **N° 02/2006**

[535] 'feta' is derived from the Italian word 'fetta' meaning 'slice'.

defined geographical environment with specific natural and human ingredients conferring specific characteristics on that product or foodstuff. In the Commission's view, the name 'feta' has not become the common name for an agricultural product or foodstuff and, therefore, has not become generic. The geographical area defined by the Greek legislation covers only mainland Greece and the department of Lesbos. Extensive grazing and transhumance, central to the method of keeping the ewes and goats used to provide the raw material for making feta cheese, are the result of an ancestral tradition allowing adaptation to climate changes and their impact on the vegetation available. This has led to the development of small native breeds of sheep and goats, which are extremely tough and resilient and able to survive in an environment offering little food in quantitative terms but, in terms of quality, is endowed with an extremely diversified flora, giving the finished product its own specific aroma and flavour. The interplay between these natural factors and specific human factors, particularly traditional production methods, which involve straining without pressure, has given feta cheese its remarkable international reputation. Germany and Denmark, supported by France and the UK, applied for annulment of the registration of 'feta' as a PDO for Greece. The Court of Justice found that these countries had not shown that the assessment of 'feta' by the Commission is incorrect. With respect to the argument that 'feta' has become a generic name, the Court found that whilst white cheeses soaked in brine have been produced for a long time, not only in Greece but in various countries in the Balkans and the southeast of the Mediterranean basin, those cheeses are known under names other than 'feta'. Although production in the other countries has been relatively large and substantial in duration, the production of 'feta' has remained in Greece. Moreover, the majority of consumers in Greece consider that the name 'feta' carries a geographical and not a generic connotation. In other Member States, 'feta' is commonly marketed with labels referring to Greek cultural traditions and civilisation. Thus, consumers in those Member States perceive 'feta' as a cheese associated with Greece, even if it has been produced in another Member State. The Court noted that the relevant Danish legislation does not refer to 'feta' but to 'Danish feta', which would tend to suggest

that in Denmark the name ‘feta’, by itself, has retained a Greek connotation. Thus, the Commission lawfully decided that the term ‘feta’ had not become generic.[536]

Europe has high legal standards operating to protect its agricultural products, foodstuffs and plants, i.e., three GIs schemes and traditional specialities (PDO, PGI and TSG) as well as the two systems of patenting of plants and PVR comprising four differing levels (as mentioned before), which still broadly overlap. Therefore, there is a need to draw a clear demarcation line between these systems of protection. The debate in Europe concerns which form of IPR best achieves a desirable balance between the rights granted and benefit to society. Depending on the circumstances, protection can be exclusive, alternative or cumulative. [537]

4.4 Arctic indigenous peoples

Indigenous peoples,[538] about 10 percent of the total population in arctic areas, have inhabited the Arctic for thousands of years. There are over 40 different ethnic groups, including, for example: the Saami in the circumpolar areas of Finland, Sweden, Norway and Northwest Russia; the Nenets, Khanty, Evenk and Chukchi in Russia; the Aleut, Yupik and Inuit (Iñupiat) in Alaska; the Inuit (Inuvialuit) in Canada and; the Inuit (Kalaallit) in Greenland. Political organisation of indigenous peoples has led to their international recognition and clarification of their human and political rights

[536] Summarised from Europa Press releases RAPID (2005). Judgment of the Court of Justice in Joined Cases C-465/02 and C-466/02 Federal Republic of Germany and Kingdom of Denmark v Commission of the European Communities.

[537] Adcock, M. (2007). "Commentary: Intellectual property, genetically modified crops and bioethics." Biotechnology Journal **2**(9): 1088–1092.

[538] The term ‘indigenous’ has been used as a generic term for many years, but there may be a preference for other terms including tribes, first peoples/nations, aboriginals, ethnic groups, adivasi, or janajati. Occupational and geographical terms like hunter-gatherers, nomads, peasants, hill people, etc., also exist and for all practical purposes can be used interchangeably with ‘indigenous peoples’. In many cases, the term ‘indigenous’ has negative connotations and some people may choose not to reveal or define their origin. See United Nations Permanent Forum on Indigenous Issues. "Factsheet: Who are indigenous peoples? ." from http://www.un.org/esa/socdev/unpfii/documents/5session_factsheet1.pdf.

concerning indigenous populations. The rights to land and natural resources are an important part of the culture and survival of indigenous peoples in the Arctic.[539]

Arctic indigenous peoples have expressed their political views in several ways. The Arctic Council (members are Canada, Denmark (Greenland, Faeroe Islands), Finland, Iceland, Norway, Russia, Sweden, and the US) was created in 1991 to address the 'common threats to the Arctic environment and the impact of pollution on the fragile Arctic ecosystems'. Indigenous peoples have permanent representation on the Council. The Sáami people of Northern Europe, totalling around 100,000, are politically represented by three Sáami parliaments in Sweden, Norway and Finland. In Norway, the status of the Sáami as a people is officially recognised by a constitutional amendment. In contrast, Finland considers its approximate 7,000 Sáami to be a linguistic minority rather than an indigenous people. Although Russia officially recognises only 50,000 indigenous persons, a total of 44 indigenous peoples, or around 250,000 individuals, currently live in Russia. These peoples range from large to small groups. Approximately half of the 42,000 people living in Canada's Northwest Territories (NWT) are indigenous and, over the last 25 years, land claims and self-government negotiations have recognised their indigenous rights. In 1999, the territory of Nunavut was carved out of the NWT, following a land claim by the Inuit.[540]

These examples suggest that it is difficult for indigenous peoples to get recognition. They should have their legal status officially recognised and be able to enjoy the same rights as others without discrimination, as well as being protected by international and domestic human rights laws.

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[539] Arctic Centre, University of Lapland, Finland. "Arctic Indigenous Peoples." 2013, from http://www.arcticcentre.org/?DeptID=7768.

[540] United Nations (2009). Indigenous Peoples in the Arctic Region. United Nations Permanent Forum on Indigenous Issues.

4.5 Australasia

4.5.1 Australia

In Australia, customary law remains strong within Aboriginal communities in the northern part of the country and it has been recognised as part of the national legal system. Aboriginal communities are in a fairly strong bargaining position here due to the international attention paid to their issues and the necessity for the settler society to find ways to reconcile.[541] Aboriginal art, particularly paintings, is a major Australian attraction and is, therefore, a major area of infringement. The artistic customs of the Australian aboriginal people are also exploited and infringed in Australia.[542]

Australian decisions are notable as they show a steady increase in sensitivity towards various aboriginal communities and their art. In *Foster v. Montford*,[543] the Supreme Court of the Northern Territory of Australia banned a book called '*Nomads of the Desert*' published by an anthropologist. It consisted of materials relating to the aboriginal group's sacred knowledge revealed to him by tribal leaders and publishes before 35 years had passed. Although there was no confidentiality agreement, the court considered the need to protect the culture of the clan, and held that the publication amounted to a breach of confidence.[544]

In the late 1980s, Bulun Bulun and several other painters successfully sued firms that trafficked textiles featuring unauthorised images of the artists' works. Earlier in the

[541] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher: 57-72.

[542] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[543] 14 A.L.R. 71 (1976).

[544] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

twentieth century the art of Australian aboriginals and other native peoples was often regarded as uncopyrightable; as a 'folkloric' art from it automatically failed to demonstrate the originality that copyrighting requires.[545]

The most notable case in Australia is the famous *Mabo* judgment.[546] This case was filed in 1982 and related to the issue of land use and the rights of people dispossessed of their land. For the first time, an Australian court recognised 'native titles' (title over land granted based on customary laws) held by original inhabitants before European colonisation, provided that inhabitants can demonstrate traditional rights and occupation of the land according to customary law, and that they have not been displaced from the land. The court added that native title could be extinguished, without compensation, by express legislative or administrative government action or simply by making grants of land that were inconsistent with continuing to have native title.[547]

Another case that sought to integrate prevailing laws and customary laws was *Wik Peoples v Queensland*,[548] where the High Court decided that pastoral leases (similar to a license) and native land title could co-exist, but it did not give the details of such a co-existence. This case was severely criticised for not detailing the practical features of the co-existence. These judgments were sensitive to native rights, but also demonstrated the difficulties of integrating and/or recognising them within the prevailing legal system, and proved that integrating customary laws of indigenous people into the mainframe legal system is a problematic task.[549]

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[545] Brown, M. F. (2003). Who Owns Native Culture?, Harvard University Press (Cambridge, Massachusetts and London, England).

[546] 175 C.L.R. 1 (1992) (this case is an example for a effort to incorporate, though reluctantly, the customary laws of the indigenous people).

[547] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[548] 141 A.L.R. 129 (1996).

[549] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

In 1997, an Australian court determined that the Aboriginal flag, with its bright yellow sun-disk straddling bands of black and red, is a copyrighted work and that this copyright is held by the Aboriginal artist who designed it. This case is an unusually frank expression of broader indigenous efforts to use copyright law to control key symbols of native identity.[550]

Insignia are not governed by positive laws, but by social institutions and norms that are recognised within the common law. The appropriation of Aboriginal art relates to constitutional issues, the rule of law, and equal rights before the law, as well as issues concerning substantive justice within Australian society.[551]

Australia has a number of government programmes that support the recording, storage and transfer of traditional ecological and cultural knowledge including: Working on Country, the Indigenous Heritage Programme, the Indigenous Protected Areas Programme, the National Arts and Crafts Industry Support Programme, the Indigenous Broadcasting Programme, and the Return of Indigenous Cultural Property Programme. All of these have helped to ensure that TK is recorded in a culturally sensitive way and that this knowledge is shared with younger generations. Australia considers that these programmes provide useful guidance for the development of elements of *sui generis* systems for the respect, preservation and maintenance of TK, and its innovations and practices.[552]

While indigenous peoples seeking to protect their knowledge have recourse to rights or protection in existing Anglo-Australian law, and some forms of certain rights have been recognised, there is no overarching protection of the very wide range of tangible

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[550] Brown, M. F. (2003). Who Owns Native Culture?, Harvard University Press (Cambridge, Massachusetts and London, England).

[551] Coleman, E. B. (2005). Aboriginal Art, Identity and Appropriation, Ashgate.

[552] The Executive Secretary (2009). AD HOC OPEN-ENDED INTER-SESSIONAL WORKING GROUP ON ARTICLE 8(j) AND RELATED PROVISIONS OF THE CONVENTION ON BIOLOGICAL DIVERSITY, Sixth meeting. Item 4 of the provisional agenda, (UNEP/CBD/WG8J/6/1). COMPILATION OF SUBMISSIONS ON DEVELOPMENT OF ELEMENTS OF *SUI GENERIS* SYSTEMS FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE, INNOVATIONS AND PRACTICES Montreal, Canada.

and intangible things that Indigenous peoples have variously described as TK, TCEs, or Indigenous Cultural and IP (ICIP). The dominant legal system does not provide adequate protection of TK. Since indigenous peoples and laws to do with TK are not the same across the country; the federal *sui generis* legislation should not treat all indigenous peoples as one, and should be drafted in broad terms so that it contains the relevant standards.[553]

4.5.2 New Zealand

The Maori lived in a very community-based society, in which their traditions were passed down orally. Traditional Maori knowledge generally includes the art of moko (Maori tattooing), genealogy, Maori legends, songs, art, carvings in wood, bone, and greenstone, and medical and religious practises.[554]

New Zealand's Trade Marks Act of 2002 has been amended to exclude trademarks that cause offence, and this amendment especially applies to indigenous Maori symbols. It specifically designates the Maori, New Zealand's first inhabitants, as a significant section of the community, and sets up a statutory Maori Advisory Committee to assess applications that appear to contain Maori words and images. This is a limited but calculated step towards the recognition of Maori IP in New Zealand.[555]

- **The case of Lego and Maori names**

In 2001, Lego launched a new range of action figures called the Bionicle by using a mix of Polynesian words and several Maori words. On behalf of three Maori groups, a

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[553] Mackay, E. (2010). "Regulating Rights: the Case of Indigenous Traditional Knowledge." Indigenous Law Bulletin **7**(21): 12-16.

[554] B. Garrity, "Conflict Between Maori and Western Concepts of Intellectual Property", (1999) 8 Auckland U L Rev 1203.

[555] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

New Zealand lawyer wrote to Lego objecting to the use of the Maori words, arguing that their use constituted a serious trivialisation of Maori culture, especially when they were names with spiritual significance. Initially Lego rejected the complaint. However, following negative publicity, Lego agreed that it had acted improperly and dropped the use of the word Tohunga and agreed not to use Maori names in future versions of its toys.[556]

Aboriginal cultures across Australian are greatly diverse, each with a particular cultural heritage and customary laws. Alongside the state and federal laws, many indigenous communities follow their own customary laws. Aboriginal customary law plays a vital role in preserving and protecting knowledge by: prohibiting changes to art symbols and designs; having complex rules on who is taught the TK of plants, animals and the country and; providing social boundaries between communities and kinship systems.[557] Maori groups in New Zealand have raised concerns about traditional IP and other issues that might impact on TK, and they have called for revised IP laws to take account of their concerns. Therefore, any changes being considered to customary laws, for the protection of IK, TK and TCEs, should be urgently recognised and implemented.

4.6 Africa

4.6.1 The New Partnership for Africa's Development (NEPAD)

NEPAD is a programme of the African Union (AU) adopted in Zambia in 2001. It was created by African leaders to pursue new priorities and approaches to the political and socio-economic transformation of Africa. NEPAD's objective is to enhance Africa's growth, development and participation in the global economy, and co-operate more effectively in terms of agriculture and food security, climate change and national

[556] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[557] Terri Janke & Company Pty Ltd (2012). New tracks: Indigenous knowledge and cultural expression and the Australian intellectual property system, Response to: Finding the Way: a conversation with Aboriginal and Torres Strait Islander peoples, conducted by IP Australia and Office for the Arts. Rosebery, NSW, Australia.

resource management, regional integration and infrastructure, human development, economic and corporate governance, and cross-cutting issues, including gender, capacity building and ICT.[558] The NEPAD/African Biosciences Initiative (ABI) is a cluster of NEPAD Science and Technology flagship programmes in biodiversity science and technology, biotechnology and IK systems. The problems are that Africa lacks sufficient funding from governments, skilled expertise, and private sector activity to support and initiate research and to take up products and processes that come out of projects. NEPAD/ABI focuses on harnessing biological applications in the health, agricultural, environmental and mining sectors.[559]

WIPO also carries out Technical Assistance and Capacity Building (TACB) programmes and activities for Africa and NEPAD, assisting them with their national IP systems, and to elaborate harmonised regional instruments for the protection of TK and TCEs. The latter includes the establishment of a regional task force, which consists of regional experts, to develop a regional approach towards IP, TK and TCEs.[560]

4.6.2 The African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources

The Organization of African Unity (OAU) Model Law was developed in an effort to create a *sui generis* system of protection of the rights of local communities, farmers and breeders and for the regulation of access to biological resources. The objective is to give considered attention to the conservation of biodiversity, the sustainable use of biological resources, the maintenance of food security, the protection of community

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[558] Please see The New Partnership for Africa's Development (NEPAD). "NEPAD Planning and Coordinating Agency: A technical body of the African Union." 2013, from http://www.nepad.org/.

[559] The New Partnership For Africa's Development (NEPAD), Johannesburg, South Africa. "Africa Biosciences Initiative (ABI)." 2013, from http://www.nepad.org/humancapitaldevelopment/abi.

[560] World Intellectual Property Organization. "World Intellectual Property Organisation (WIPO) Support to NEPAD, Period of Report: July 2008 to June 2009." from http://www.un.org/africa/osaa/2009_un_system/WIPO.pdf.

rights, the equitable sharing of benefits consistent with the provisions of the CBD, the concept of national sovereignty, and to provide member states with a framework for the formulation of legislation relevant to their own national interests and the protection of new plant varieties as required by the TRIPs Agreement.[561]

4.6.3 African Intellectual Property Organization (OAPI) and The Bangui Agreement

The Bangui Agreement, signed in 1977, is legislation common to all the OAPI member states to protect IP in 16 countries of West and Central Africa. The Revised Bangui Agreement grants exclusive commercial rights (monopolies) to breeders of plant varieties that are new, improved, distinct, uniform and stable. Yet, traditional varieties developed by local communities and the knowledge related to them are ignored, as they are not new and the holders of knowledge are not individuals or commercial entities.[562]

4.6.4 West and Central Africa

In Africa, biological resources have been managed by village communities for many centuries. Thus seeds and medicinal plants are exchanged among peasants and traditional healers within and between communities, the main concern being to meet the daily requirements for survival. The food supply for the majority of the population is produced by traditional, family-based farming methods, despite difficulties. Seeds, for instance, are passed on from generation to generation and are exchanged among peasants, relatives or friends, or sold in local markets.[563]

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[561] Ekpere, J. A. (2003). The African Union Model Law for the Protection of the rights of Local Communities Farmers and Breeders and the Regulation of Access to Biological Resources. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Melendez-Ortiz. London and Sterling, VA, Earthscan Publications Ltd**:** 232-237.

[562] Zoundjihekpon, J. Ibid.The Revised Bangui Agreement and Plant Variety Protection in OAPI Countries. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA: 109-116.

[563] Ibid.

West and Central Africa is a major region for diversity. It is the main source of diversity for African rice, millet, yam, sorghum, niebe, fonio and others. The peasants have helped to develop diversity within these different crops. Local GRs provide a solid basis for the improvement of varieties. Long years of cultivation practice and/or cohabitation have produced many local cultivars that are well adapted to their environment. Most of the seed used in Africa is produced by farmers and distributed according to traditional systems of exchange. Very little seed is distributed via the market. It would be a good idea to include farmers in plant breeding programmes; this could help to marry enhanced productivity and conservation.[564] The West Africa Rice Development Association (WARDA) has made a breakthrough in developing 'New Rice for Africa' (NERICA) based on crosses between African and Asian rice. NERICA varieties have better tolerance to most African stresses, including weeds and drought as well as shorter growing cycles, and the potential for higher yields.[565]

4.6.5 South Africa

Traditional healers, present in almost every South African community, have a crucial role in providing health care to the majority of South Africans, and they are deeply interwoven into the fabric of cultural and spiritual life. In 1980, the Traditional Healers' Organisation was created.[566] The South African government has made significant progress in inorporating traditional health practice into the mainstream healthcare system by using the law as a tool. The Traditional Health Practitioners Act 22 of 2007 provides a legal framework for traditional health practitioners, but TM is

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[564] Niangado, O. and D. Kebe Ibid.The Implications of Intellectual Property for Agrucultural Research and Seed Production in West and Central Africa. London and Sterling, VA: 127-134.

[565] Hossain, M. and J. Narciso (2004). **GLOBAL RICE ECONOMY: LONG-TERM PERSPECTIVES** FAO Conference to celebrate the International Year of Rice 2004, " Rice in Global Markets and Sustainable Production Systems" Rome, Italy, FAO.

[566] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

not currently regulated although it is used by traditional practictioners on a daily basis.[567]

Most of the TK in South Africa is oral and passed down from one generation to the next, and so there is no record of it. The country launched the National Recordal System in 2013 to catalogue its IK/TK, allowing access to information about the geographical location of TK owners. It is interactive, providing prior information about art and knowledge about GRs, as well as accessible online/downloadable benefit-sharing agreement forms, so that decisions on permission to use the knowledge are swift.[568]

- **The case of Hoodia cactus**

There has been debate surrounding the bioprospecting and IPRs of the Hoodia cactus. The issue was whether the local people known as the San, who had nurtured the TK underpinning the invention, were entitled to receive a fair share of any benefits arising from its commercialisation. The San people, who live around the Kalahari Desert in southern Africa, have eaten the Hoodia cactus to stave off hunger and thirst traditionally for thousands of years. In 1937, a Dutch anthropologist studying the San noted this use of Hoodia. The South African Council for Scientific and Industrial Research (CSIR) patented Hoodia's appetite-suppressing element (P57), then licensed this element to a UK biotech company, after which a US pharmaceutical company acquired the right to develop and market P57 as a potential slimming drug and cure for obesity. The San claimed that their TK had been stolen and the CSIR had failed to comply with the rules of the CBD, which requires the PIC of all stakeholders and original discoverers and users. In 2002, an understanding was reached between the

[567] Rautenbach, C. (2011). "Institutionalisation of African Traditional Medicine in South Africa: Healing Powers of the Law?" Journal of Contemporary Roman-Dutch Law **74**(1).

[568] Saez, C. (2013). South Africa To Launch National Traditional Knowledge Recording System, Intellectual Property Watch.

CSIR and the San and the San will receive a share of any future royalties, as the custodians of TK associated with the Hoodia plant.[569]

There are ways in which benefit-sharing can be made more equitable for communities. An absolutely fundamental principle of benefit-sharing requires the PIC of communities holding knowledge about biodiversity from the very outset of a project, and engaging them as active partners. The negotiating process between the CSIR and the San demonstrated the importance of building trust between role-players and of having a political climate conducive to fair deliberations, as well as the importance of having community-based institutions through which holders of TK can be represented in negotiations, and have benefits channelled. There is a need for a more holistic, innovative and ethical approach to the commercialisation of biodiversity.[570]

4.6.6 Kenya

Kenya is rich in biodiversity and TM plays a major role in Primary Health Care. TM started to be incorporated into Kenya's national health policy framework in the late 1970s. Kenya's Development Plan (1989–1993) recognised TM and made a commitment to promoting the welfare of TM practitioners. The Ministry of Health and provincial authorities require the registration of TM practitioners. In 1999, Kenya's patent law was revised[571] to include a type of petty patent in order to protect indigenous claims to traditional herbal medicine.[572] Even though the Kenyan

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[569] O'Connor, B. (2004). The Law of Geographical Indications, Cameron May Ltd.

[570] Wynberg, R. (2004). "Rhetoric, Realism and Benefit Sharing: Use of Traditional Knowledge of Hoodia Species in the Development of an Appetite Suppressant." The Journal of World Intellectual Property **7**(6): 851-876.

[571] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

[572] Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices, United Nations Conference on Trade and Development, Commission on Trade in Goods and Services, and Commodities Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices (2000) TD/B/COM.1/EM.13/2.

government has put several laws and institutions in place, there are concerns that some domestic laws contradict each other and, as a result, there has been overlap in the mandates of institutions. This has resulted in a disconnect between government initiatives and the beneficiaries who are local communities, resulting in loss of GRs to foreigners.[573]

Kenya has drafted the Bill on the Protection of TK and TCEs of 2013. Kenya is the first African country that has developed a draft legal framework to validate legislation for the protection of TK and TCEs. It aims to protect holders of TK and TCEs against its misappropriation, misuse and unlawful exploitation by third parties using it in pharmaceutical products, therapy, arts and craft, music, design and even works of architecture.[574]

Most African countries still have no policies or legal framework covering TK, with only Kenya and South Africa having a draft bill on the protection of TK/TCEs. As a whole, Africa has developed various integrations regionally, model legislations and continental instruments specific to its needs. However, a thorough review and revision of the African Model Law, suggests that although it is very strong and detailed in its approach to the protection of community rights, farmers' rights and plant breeders' rights, a complementary guideline document to be used alongside, as well as more effective collaboration at the continental and regional level, including harmonised ABS policies, have been recommended. This is due to the apparent disconnect between some regional bodies activities and those of the African Union, and the

[573] Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

[574] Nzomo, V. B. (2013). EVENT: Unveiling of Proposed Law on Protection of Traditional Knowledge and Traditional Cultural Expressions in Kenya, IP Kenya: a blog on intellectual property in Kenya.

model legislation also contains prominent gaps especially in the context of the Nagoya Protocol.[575]

4.7 Asia

Asian nations have raced against each other to enact the latest IP laws borrowed from the West, on the assumption that they would function in the same manner as they do in the West. However, the Asian nations' dismal record of implementing IP laws has become apparent and turned into a area of dispute with their trading partners, mainly the US, the EU and Japan.[576]

In 2012, the Global Heritage Fund (GHF) for cultural properties, highlighted 10 of Asia's most significant archaeological and heritage sites facing irreparable loss and destruction due to five accelerating man-made threats: developmental pressures, unsustainable tourism, insufficient management, looting, and war and conflict.

4.7.1 Association of South East Asian Nations (ASEAN)

ASEAN was established in Bangkok, Thailand, with the signing of the ASEAN Declaration (Bangkok Declaration). ASEAN member states comprise ten countries in the Southeast Asia region: Indonesia, Malaysia, the Philippines, Singapore Thailand, Brunei Darussalam, Vietnam, Lao PDR, Myanmar and Cambodia. Its aims and purposes are to accelerate and promote economic growth, social progress and cultural development in the region as well as to provide assistance and collaboration between members.[577]

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[575] Munyi, P., M. T. Mahop, et al. (2012). A Gap Analysis Report on the African Model Law on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, Commissioned by the Department of Human Resources, Science and Technology of the African Union Commission.

[576] Endeshaw, A. (2005). "Intellectual Property Enforcement in Asia: A Reality Check." **13**(3): 378-412.

[577] Please see the official website of the Association of Southeast Asian Nations, at http://www.aseansec.org/.

A report prepared by the United States International Trade Commission (USITC), provides an overview of regional trends in Southeast Asia in the areas of economic integration, export competitiveness, and inbound investment, and the major findings were as follows: low wages; high growth in productivity in some countries; diverse production conditions; proximity to large Asian markets; and a liberalising trade policy environment, including free trade agreements with a number of countries, have supported the growth of ASEAN's exports of manufactured goods. Challenges to ASEAN's export competitiveness remain in some countries. These include a shortage of skilled labour and professionals; the lack of a developed system for setting product standards and conformity in assessment procedures; unsophisticated consumer markets; and an inadequate physical and institutional infrastructure. The latter refers to items such as roads and other transport networks, communications, and trade facilitation measures, e.g., customs procedures, and IPR protection.[578]

4.7.2 ASEAN Free Trade Agreements (AFTA)

The AFTA's fundamental objectives are to attract greater foreign direct investment (FDI) into the region and to enhance the competitiveness of ASEAN as a production base for the global market. ASEAN considers the issue of IP protection to be an important factor in establishing a favourable climate for investment, especially in TOT although it lacks uniformity of standards and protection or treatment of IP. ASEAN has prepared to address the issue of IP protection in pursuit of trade and investment liberalisation through AFTA. It, however, has to take into consideration whether it will be able to achieve a fair and equitable exchange with its trading partners and investors through its efforts to promote and enhance IP protection.[579]

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[578] United States International Trade Commission (2010). ASEAN: Regional Trends in Economic Integration, Export Competitiveness, and Inbound Investment for Selected Industries. Investigation No. 332-511, USITC Publication 4176.

[579] Association of Southeast Asian Nations. "Cooperation in Intellectual Property." 2013, from http://www.asean.org/communities/asean-economic-community/item/cooperation-in-intellectual-property.

ASEAN–Australia–New Zealand Free Trade Agreement (AANZFTA)/ ASEAN-EU/ ASEAN-US Free Trade Agreement

AANZFTA was the first time Australia and New Zealand were involved jointly in negotiating an FTA with third party countries and the first time ASEAN embarked on comprehensive FTA negotiations covering all sectors simultaneously.[580] The agreement entered into force in January 2010 for eight signatories: Australia, Brunei, Malaysia, Burma, New Zealand, Singapore, the Philippines and Vietnam; in March 2010 for Thailand; in January 2011 for Laos and Cambodia respectively; and in January 2012 for Indonesia.[581] It covers goods, services, investments, IP, e-commerce, temporary movement of business people, economic co-operation, binds ASEAN tariffs and contains substantial tariff elimination commitments and WTO-plus commitments in other areas.[582] With respect to IP under AANZFTA the parties' existing rights and obligations under the WTO Agreement on TRIPs are reinforced, national treatment obligations are reiterated, and it builds on these rights and obligations in a number of areas. The Agreement[583] contains specific obligations on the protection of trademarks and GIs, copyright, and government use of software and transparency. These include promoting the efficiency and transparency of IP administration and registration systems, and measures for co-operation on borders and international standard-setting treaties for regional IP harmonisation. It also includes a Committee on IP to drive implementation of the IP Chapter.[584] Compared to the

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[580] Australian Government, Department of Foreign Affairs and Trade Guide to the Agreement: ASEAN-Australia-New Zealand Free Trade Agreement.

[581] New Zealand Ministry of Foreign Affairs and Trade. "FTA Milestones." 2013, from http://www.asean.fta.govt.nz/fta-milestones/.

[582] Australian Government, Department of Foreign Affairs and Trade AANZFTA Fact Sheets: AANZFTA Overview.

[583] See full text of Chapter 13: Intellectual Property at http://www.dfat.gov.au/fta/aanzfta/chapters/chapter13.html

[584] Australian Government officials. "ASEAN–Australia–New Zealand Free Trade Area (AANZFTA): Australian Guide to Intellectual Property Commitments." 2013, from http://www.dfat.gov.au/fta/aanzfta/ip.html.

FTAs that were negotiated and signed by the US and the EU, the IP Chapter under AANZFTA is relatively simple and straightforward, and so will lead to fewer questionable implications.[585]

Economic co-operation between Asia and Europe has been expanding rapidly as the EU is one of Asia's largest foreign investors. Since 2007, the EU has initiated negotiations on trade agreements with Asia. The EU initially signed an FTA with ASEAN, but later changed its strategy to one of negotiating separate FTAs with individual ASEAN members, reflecting the economic diversity and heterogeneity among ASEAN countries.[586] The final negotiations for an EU-Singapore FTA were completed in December 2012. The EU is currently negotiating FTAs with Malaysia, Vietnam and Thailand.[587] Negotiations on the EU-India FTA, have been ongoing since 2008 with little success with respect to tariff, visa, energy co-operation, security and generic drug manufacture concerns. It is feared that the FTA could do serious damage to India's production of generic drugs, which are sold to millions of patients in poorer countries at reduced prices. The EU has suggested the clause, 'to ensure that nothing in the proposed agreement would limit India's freedom to produce and export lifesaving medicines'. [588]

The EU also co-operates closely with the ASEAN region as a whole through an EU-ASEAN Dialogue, which includes discussions on trade and investment, regional economic integration, liberalisation of services, technical barriers to trade

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[585] Kuanpoth, J. (2012). "Thailand: Intellectual Property in ASEAN–Australia–New Zealand FTA (AANFTA)." from http://www.mondaq.com/x/166578/International+Trade/Intellectual+Property+in+ASEANAustraliaNew+Zealand+FTA+AANFTA.

[586] Kawai, M. and G. Wignaraja (2010). Asian FTAs: Trends, Prospects, and Challenges. ADB Economics Working Paper Series No 226. Manila, Philippines, Asian Development Bank.

[587] European Commission. "Association of South East Asian Nations (ASEAN)." 2013, from http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/regions/asean/.

[588] BBC (2012). 'Progress' on Free Trade Deal at EU-India Summit. BBC News.

and trade facilitation issues.[589] The proposed ASEAN-EU FTA aims for reciprocal and progressive liberalisation of all substantial goods and services, and for the inclusion of investment, competition policy, government/public procurement, and trade facilitation.[590]

The US and ASEAN are major trading partners. Establishing a US-ASEAN FTA will increase exports by furthering the liberalisation of trade barriers and accelerating AEC. However, the US has also favoured the approach of developing FTAs with individual ASEAN states. One of the major obstacles to successful US FTA negotiations with ASEAN countries is the intention of the US to include WTO-Plus obligations, and pharmaceutical patent protection in particular, a cause of concern to some countries.[591]

4.7.3 ASEAN community

The ASEAN Leaders have agreed to establish the ASEAN Political-Security Community (APSC), which envisages ASEAN to be a rules-based community with shared values and norms. APSC also sees ASEAN as a cohesive, peaceful, stable and resilient region sharing the responsibility for comprehensive security, as well as a dynamic and outward-looking region in an increasingly integrated and interdependent world. The goal of regional economic integration is the establishment of the ASEAN Economic Community (AEC) by 2015, which it is hoped will transform ASEAN into a region with free movement of goods, services, investment, skilled labour, and freer flow of capital. The ASEAN Socio-Cultural Community (ASCC) is focused on nurturing human, cultural and natural resources for sustained development in a

[589] European Commission. "Association of South East Asian Nations (ASEAN)." 2013, from http://ec.europa.eu/trade/creating-opportunities/bilateral-relations/regions/asean/.

[590] Asia-Europe People's Forum. "EU-ASEAN FTA: Examining the EU-ASEAN Free Trade Agreement (FTA)." 2013, from http://www.aepf.info/campaigns/eu-asean-fta/33-examining-the-eu-asean-free-trade-agreement-fta.

[591] Singapore Management University. (2012). "Free trade: Roadmap for US-ASEAN ties." from http://smu.edu.sg/perspectives/2012/06/26/free-trade-roadmap-us-asean-ties#.UViWUxysiSo.

harmonious and people-oriented ASEAN.[592] To be prepared, businesses need to have an international mindset, giving them the appetite and ability to make cross-border investments and acquisitions. Momentum has been established, as can be seen from the many investments and the mergers and acquisitions that have occurred in the region.[593]

4.7.3.1 ASEAN's Regional Comprehensive Economic Partnership (RCEP)

The ASEAN framework for RCEP is an ASEAN initiative to gather all the existing FTAs between ASEAN and China, Japan, South Korea, India, Australia and New Zealand into an integrated regional economic agreement, which will establish deeper economic cooperation. RCEP will open up more trade in goods and services, eliminate trade barriers, and gradually liberalise services and provide for greater foreign direct investment in ASEAN and its external trading partners.[594] The leaders have endorsed RCEP's guiding principles and objectives for negotiating adopted by their economic ministers. The progress and conclusion of RCEP negotiations are dependent on the timely conclusion of the AEC blueprint, which is scheduled for 2015.[595]

4.7.3.2 Trans-Pacific Strategic Economic Partnership Agreement (TPP)

Countries involved in the TPP negotiations - the US, Australia, Brunei Darussalam, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam and Japan have worked for an agreement framework including: core issues in trade agreements;

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[592] Association of Southeast Asian Nations. "ASEAN Community." 2013, from http://www.asean.org/communities/asean-political-security-community.

[593] Charumanee, K. (2012). ASEAN Economic Community (AEC) 2015 and its implication on APEC. The paper for the annual conference for the APEC Study Center Consortium. Kazan, Russia.

[594] Pakpahan, B. (2012). Will RCEP compete with the TPP?, EastAsiaForum - Economics, Politics and Public Policy in East Asia and the Pacific.

[595] Lim, H. (2012). The Way Forward for RCEP Negotiations, EastAsiaForum - Economics, Politics and Public Policy in East Asia and the Pacific.

rules on IP; technical barriers to trade; labour and environment; cross-cutting issues not previously in trade agreements; and new emerging trading issues such as innovative technologies. After rounds of negotiations, the member countries have made concrete progress and have the broad outlines of an agreement.[596] Other potential countries including Thailand have shown interest in joining this agreement, which covers many WTO-plus elements.

4.7.4 The ASEAN Project on the Protection of IPRs (ECAP III)

ECAP III, started in 2010, is based on a Financing Agreement signed in 2009 by the European Commission (EC) and the ASEAN Secretariat (ASEC), and a Contribution Agreement signed in 2009 by the EC and the European Patent Office (EPO). The project covers all ten ASEAN member states, and is aimed at enhancing regional integration by strengthening institutional capacity, and legal and administrative frameworks for protecting IPRs in the region. The implementation of Phase II in 2012 includes key activities to achieve the overall project objective, 'to integrate further ASEAN countries into the global economy and world trading system, to promote economic growth and reduce poverty in the region', and the specific project objective of, 'supporting ASEAN regional integration and further upgrading and harmonising the systems for IP creation, protection, administration and enforcement in the ASEAN region, in line with international IP standards and with the ASEAN IPR Action Plan 2011-2015'.[597]

There is also the ASEAN Framework Agreement on Access, and Fair and Equitable Sharing of Benefits arising from the Utilisation of Biological and Genetic Resources, which aims to ensure co-operation and that ABS regulations within the ASEAN

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[596] The Office of the United States Trade Representative. (2011). "The United States in the Trans-Pacific Partnership." from http://www.ustr.gov/about-us/press-office/fact-sheets/2011/november/united-states-trans-pacific-partnership.

[597] The ASEAN Project on Intellectual Property Rights (ECAP III), the EU Office for Harmonisation in the Internal Market (OHIM). "ASEAN Project on the Protection of Intellectual Property Rights, ECAP III, Phase II." 2013, from http://www.ecap-project.org/.

region are uniform and consistent with the minimum requirements.[598] It has been signed by Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam, but great uncertainty about formulating contracts remains in several countries.[599]

4.7.5 Vietnam

Vietnam has a long history of TM, beginning in about 2,000 B.C. under some influence from Chinese TM. TM has played an important role in the Vietnamese healthcare system, but still faces many difficulties. During recent decades as well as the ntegration of traditional and modern medicines a positive development has been TM-related research and documentation, education and training. Great attempts have been made to combine traditional and modern medicine and to bring TM into the nationwide public healthcare system. The objectives of the national policy are the further development of integration, the renewal and perfecting of the network, mobilising financial resources, and upgrading and developing technical levels.[600] Interestingly, Vietnam established the Museum of Vietnamese Traditional Medicine, where nearly 3,000 relevant items are kept.

Even though Vietnam does not yet have a specific law on TK and benefit-sharing, its importance has been recognised by the government in backing the compulsory public release of information on GRs and TK on patents. The government and the National Office of Intellectual Property (NOIP) encourage the registration of various types of IPRs. For example, a trademark is used to protect its traditional balm of medicinal plants - Truong Son Balsam. A collective mark has been granted to Bat Trang

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[598] Broggiato, A. (2013). Regional regimes on genetic resources, experiences and best practices. UN Interessional Workshop on Marine Genetic Resources. New York, USA.

[599] Thornström, C. G. and L. Björk (2007). "Access and Benefit Sharing: Illustrated Procedures for the Collection and Importation of Biological Materials." Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices: eds. A Krattiger, RT Mahoney, L Nelsen, et al. MIHR: Oxford, U.K., and PIPRA: Davis, U.S.A. Available online at www.ipHandbook.org.

[600] World Health Organization (1999). Development of National Policy on Traditional Medicine: A Report of the Workshop on Development of National Policy on Traditional Medicine. Beijing, China, World Health Organization (Western Pacific Region).

porcelain. Some registered GIs include: Nuoc Mam (fish sauce) from Phu Quoc; Tea Shan Tuyet from Moc Chau; Buon Ma Thuot (coffee); Do An Hung (pomelo); Binh Thuan (dragon fruit); and Dai Hoang Ngu (banana).

4.7.6 Lao People's Democratic Republic (Lao PDR)

Lao's TM is very ancient and has become a very important part of the country's heritage and culture. The government has encouraged and promoted the use of both traditional and western medicine. The Research Institute of Medicinal Plants (RIMP) was established in 1976 and a TM hospital in 1991. Some of the most significant problems are the limited budget, the combination of traditional and western medicine, a lack of mutual understanding of both therapies, different names for medicines, the availability of formulae and training for healers.[601] As the government budget is limited and communication in the country is very difficult, especially in remote areas, the use of TM and herbal medicines became a pertinent and necessary element of the Primary Health Care services for local communities.[602]

The Constitution of the Lao PDR was adopted in 1991 and amended in 2003. It does not contain provisions specifying the primary IPRs relating to patents, trademarks and copyrights, but it protects the right to preserve national culture, natural heritage, traditions, antiques and historical places of the country and its ethnic minorities. The rights to TOT, to create artistic and literary works and to engage in cultural activities are also protected.[603] The Prime Minister's Decree on Trademarks, the Decree on Patent and Industrial Designs, including Regulations, have been promulgated. The Intellectual Property Law of the Presidential Office No. 06/PO, promulgated in 2008, includes all IP-related matters, such as industrial property, plant varieties and

[601] Ibid.

[602] Lao People's Democratic Republic, Peace Independence Democracy Unity Prosperity, Ministry of Health (2011). Laos Country Report. Tawangmangu, Indonesia, 3rd Conference on Traditional Medicine in ASEAN Countries.

[603] World Intellectual Property Organization. "Constitution of The Lao People's Democratic Republic." 2013, from http://www.wipo.int/wipolex/en/details.jsp?id=5829.

copyright and related rights.[604] The country also has a project to establish GIs in order to recognise, promote and set the rules for GIs.

- **Wat Phu: sacred temple complex of Khmer Kings**

Wat Phu is a ruined Khmer temple complex dedicated to the Hindu god Shiva and the largest archaeological site in Laos. This Khmer architecture is important because of its plan, its historic and religious significance, and the value of its sculptures as part of a UNESCO World Heritage Site. It has suffered from a lack of regular maintenance and is prone to damage and destabilisation due to fluvial processes. The Global Heritage Fund's conservation efforts are focused on the scientific conservation of the most endangered monuments, and providing an intensive training program for onsite Laotian conservators and archaeologists. Also, Tte local community around Wat Phu has benefited greatly from growth in tourism and developments in the infrastructure of the site.[605]

4.7.7 Myanmar

TM in Myanmar is based on ayurvedic concepts and influenced by Buddhist philosophy. The Department of Indigenous Medicine was established in 1989, housing more than 4000 ancient palm-leaf and parchment writings and books on traditional Myanmar medicine. In 1996, the Government promulgated the TM Law in order to control the production and sale of TMs. The Ministry of Health has updated and revised the Indigenous Myanmar Medical Practitioners Board Amendment Act and renamed it the Traditional Medical Council Law.[606]

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[604] Lao PDR (2008). Current Intellectual Property Situation in Lao PDR. WIPO/ESCAP High Level Regional Round Table on Intellectual Property Rights and Trade Ulaan Baatar, Mongolia, The World Intellectual Property Organization (WIPO) and The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP).

[605] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

[606] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

- **Myauk-U: capital city of the first Arakenese Kingdom**

Myauk-U, with around 200 Buddhist monuments dating back to the 15th and 16th centuries A.D., can be deemed a great religious centre. As the kingdom prospered, the kings, ministers, and peasants built a great collection of pagodas, temples, monasteries and stupa around the town to reflect their faith, many of which still stand today. The construction of a new railroad through Myauk-U has damaged important cultural sites. Influential residents of the town and monks have requested that local authorities cease the construction of the line, but the project has continued. The systematic and regular maintenance of the monuments is neglected due to a lack of state funding. There are some major cracks in the temple's walls and severe flooding occurs. 'Myauk-U Archaeological Area and Monuments' was added to UNESCO's Tentative World Heritage list in 1996, but Myanmar still has not had a site officially inscribed.[607]

4.7.8 Cambodia

Cambodia's current Constitution, amended in 1999, does not contain provisions that specifically refer to IPRs, but specifies the protection of TCEs guaranteed by the State in Chapter VI 'Education, Culture and Social Affairs', Article 69 - preservation and promotion of national culture and the Khmer language, ancient monuments, artifacts and historic sites. It also clearly refers to punishments for any offense affecting the cultural artistic heritage.[608]

UNESCO has taken part in the research and documentation of Khmer dance, assisted in fund raising activities with the Faculty of Music, and produced plays with the National theatre.[609] In 2010 Kampot pepper and Kampong Speu palm sugar were the

[607] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

[608] World Intellectual Property Organization. "Cambodia: The Constitution of the Kingdom of Cambodia." 2013, from http://www.wipo.int/wipolex/en/details.jsp?id=5886.

[609] Prasad, N. (1999). UNESCO Presentation: UNESCO's approach to the preservation and promotion of traditional and folk performing arts in Asia and the Pacific 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific: Preservation and Promotion of

first two protected GIs, due to the national regulatory framework on GI protection. Many other potential products include Battambang rice, Kampot durian & fish sauce.

A network on TM was established in 1982, but the Cambodian government faces problems mainly due to the lack of collaboration between traditional healers and medical doctors, the lack of proof of TM's benefits, and budgetry and human resource issues. The National Centre for Traditional Medicine as part of the network has performed various activities. Government policy includes the organisation of research on TMs and diseases that can be treated with it, establishing methodologies and technologies for the development of TM, improving the quality of TM, training professional health workers and promoting the use of TM in primary healthcare. The development includes a Health Ministry decision on stores of TM, a sub-decree on production and trading and a procedure for regulation and TM.[610]

- **Preah Vihear**

Preah Vihear is an 11th-century Khmer temple located on the of Thai-Cambodian border. UNESCO has called it a, 'masterpiece of Khmer architecture'. The temple's location atop a steep cliff leaves it vulnerable to the rigours of a mountain climate, which is exacerbated by monsoon conditions. Conversely, the surrounding wooded areas subject it to a risk from forest fires during the dry season. Since the early 20th century, both Thailand and Cambodia have claimed ownership of the site, and despite the ICJ ruling in 1962, awarding the temple to Cambodia (even though its main entrance is in Thailand), disputes and tensions over the surrounding lands have continued. In 2012, the ICJ ruled that both countries must remove their military forces from the area immediately.[611]

Traditional/Folk Performing Arts Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

[610] World Health Organization (1999). Development of National Policy on Traditional Medicine: A Report of the Workshop on Development of National Policy on Traditional Medicine. Beijing, China, World Health Organization (Western Pacific Region).

[611] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

4.7.9 Malaysia

- **The case of the Malaysia - Indonesia cultural dispute**

Malaysia and Indonesia both share deep Islamic and cultural ties. Malaysian efforts to promote the Tor-tor folk dance (a gentle, traditional dance featuring a mix of subtle hand and leg movements) and the Gordang Sambilan drum performance, both with origins in Sumatra, as its own cultural heritage caused protests in Jakarta, Indonesia, in 2012,.[612] The Mandailing ethnic group, based in Malaysia, has clarified the reports, acknowledging that there had been a misunderstanding and denying the accusation that Malaysia claimed cultural ownership. The community argued that instead of claiming ownership over their cultural dance and instrument, they would propose that their culture should be considered part of Malaysia's national heritage to their government. This would promote the Mandailing ethnic culture to be on an equal footing with that of other cultural groups in the multi-ethnic state of Malaysia, such as the Indian and Chinese. Malaysia also refers to the rights of any community to adopt freely their own cultural roots, as stipulated in the UNs' Geneva Convention. There had been numerous cultural ownership disputes previously, such as Malaysia's claim to Indonesia's traditional song, Rasa Sayange, and to the traditional Balinese Pendet dance.[613]

Both governments managed to play down the increasing tension and reached an understanding where the song in particular would be viewed as shared common heritage. They emphasised the need to inform each other whenever one of them wishes to commercially exploit such cultural products.[614] It is difficult to address the issue of ownership in each situation as the neighbouring countries have shared historical roots, traditions and cultural heritage.

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[612] Chatterjee, N. (2012). Malaysia steps on Indonesia's toes in dance dispute. Reuters.

[613] Hanggarini, P. (2012). The way to no more cultural ownership disputes. The Jakarta Post. DeKalb, Illinois.

[614] Indigenous Portal. (2008). "Draft for the Bill on the Protection of Traditional Knowledge and Traditional Cultural Expressions." from http://www.indigenousportal.com/Traditional-Knowledge/-Draft-for-the-Bill-on-the-Protection-of-Traditional-Knowledge-and-Traditional-Cultural-Expressions.html.

4.7.10 Indonesia

As a country with several ethnical groups, Indonesia protects forms of TK in the Copyright Law of 2002 and in the Plant Variety Protection Law of 2000. It speaks of 'folklore' and of 'products of the culture of the people' in the Copyright Act and stipulates that the state holds the copyright with respect to this material.[615] In addition, there are the Cultural Heritage Law of 1992, the Presidential Decree of 1999 for Utilisation of Art and Culture, and the Government Regulation of 2007 concerning ratification of the Convention for the Safeguarding of the Intangible Cultural Heritage. Indonesia is currently preparing a Draft for the Bill on Intellectual Asset Protection and Utilisation of Traditional Knowledge and Traditional Cultural Expression, which will be a new *sui generis* law recognising and protecting the country's TK and TCEs from misappropriation by using different approaches to mainstream IPR protection system. The Draft proposes that a form of custodianship over any particular TK/TCE shall be retained by traditional communities within which that TK/TCE has so far been maintained and nurtured in the traditional and communal sense. The term 'utilisation' is also introduced to represent the application or implementation of any particular TK/TCE outside of its tradition context, and shall cover any act of publication, reproduction, dissemination, broadcast, alteration, transformation, citation, adaptation, distribution, rental, sale, making available to the public, and communication to the public.[616]

Customary law or *hukum adat* is officially recognised as part of the legal system. It is important to distinguish between what has been termed 'remote living communities' and the much larger communities of Javanese, Sundanese, Balinese, etc., that together

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[615] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[616] Indigenous Portal. (2008). "Draft for the Bill on the Protection of Traditional Knowledge and Traditional Cultural Expressions." from http://www.indigenousportal.com/Traditional-Knowledge/-Draft-for-the-Bill-on-the-Protection-of-Traditional-Knowledge-and-Traditional-Cultural-Expressions.html.

form Indonesia. Mystical practices certainly play a big role in Java, for example, but the Javanese are little acquainted with the idea that knowledge should be sacred and secret.[617]

The GI protection system in Indonesia is based on five principles of law namely: (1) constitutive; (2) the first to file principle; (3) substantive checking (evaluation); (4) universal concept; and (5) as part of IPRs. A sign shall be a name of place, region, or any signs that indicate the place of origin of the goods protected by the GI. The goods may be agricultural products, foodstuffs, handicrafts or any other goods complying with the provision. GI is a geographic term used in relation to a product indicating three aspects of: (1) its place or area of origin; (2) qualities or characteristics of the product and; (3) qualities or characteristics due to the geographical and human characteristics of the place of origin.[618] Kintamani Bali kopi arabika Coffee was the first GI protected Indonesian product in 2008, which has to reach the farming standards and post-harvest handling practice standards. Other registered GIs include Kopi Arabika Kintamani Bali (Bali Kintamani Arabican coffee), Mebel Ukir Jepara (Jepara carved furniture), Lada Putih Munthok (Munthok white pepper), and Getuk Goreng Sokaraja (fried getuk Sokaraja).[619]

- **The case of Batik designs registration**

Batik, a traditional art based in Solo, Java, is considered to be a traditional practice because designs and knowledge have been passed down for centuries and designs are infused with stories, history and meaning not readily apparent or transferable to

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[617] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[618] Mawardi, S. (2009). Establishment of Geographical Indication Protection System in Indonesia, Case in Coffee. Worldwide Symposium on Geographical Indications, jointly organized by the World Intellectual Property Organization (WIPO) and the Patent Office of the Republic of Bulgaria Sofia, Bulgaria, WIPO/GEO/SOF/09/3

[619] Goemaere, C. and F. Mattei (2010). Champagne's GI journey in Asia, WWW.MANAGINGIP.COM.

outsiders or those that purchase the batik cloth. Individual families are responsible for specific designs and practices and who may use these, and for what purposes, has traditionally been negotiated within the batik community. Other places have increased reproduction of batik styles.[620]

The government has issued a certification mark, called a 'Batikmark', aiming to assert that Javanese patterned batik textiles are items of traditional Indonesian cultural heritage, to serve as a quality assurance label, to compete with similar products on the market and to deal with the threat of unauthorised copying. Design patent, trademark and copyright are other forms of potential IP protection. Trademark protection should perpetually be applied as a source identifier. Copyright registration should also be applied in order to protect the patterns from being copied, stolen or subjected to unauthorised use, both in Indonesia and in countries where the products are distributed. Design patents for novel designs should be sought to protect the ornamental appearance as it is applied to products, and to exclude others from making, using, selling, offering to sell or importing the particular design of an article without permission.[621] Establishing the appropriate national framework for Batik registration and a protection system will, of course, make it easier to identify the owners of patterns. This is an interesting example of different approaches to IP protection used in developing countries.

- **The case of Tempeh**

Tempeh, the soul food of the Javanese people and a unique feature of Indonesia's culinary heritage, is gaining popularity, especially as a vitamin B12-rich health food, and serving as a cheap substitute for animal protein. The processing of tempeh is based on the fermentation of soyabeans and is considered one of the oldest food technologies in the history of Javanese people, having been documented as early as

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[620] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[621] Knobloch, C. and D. S. Reni. (2009). "Using "Batikmark" as a First Step to Extend Protection of Indonesian Javanese-batik Patterned Textile in Foreign Countries ", from http://www.usptclaw.com/pdfs/Batikmark_Article.pdf.

the 16th century. Tempeh is currently being claimed to be a national product of foreign countries. Japan has granted several patents on the tempeh making process, which disregard its traditional creation from Indonesian culture and will also disadvantage Indonesia's position as a leading producer and centre of studies on tempeh.[622] This shows that the TK of several indigenous communities has been misappropriated as a result of modern biotechnology.

- **The case of *I La Galigo* and the Bugis People**

I La Galigo is a musical theatre production, developed in 2002, which toured internationally, and draws upon the epic creation myth, Sureq Galigo, of the Bugis people in South Sulawesi, Indonesia. It consists of a cast of musicians and dancers in the traditional Buginese styles, utilising traditional instruments as well as contemporary music. It is profoundly important to the Bugis people and has stimulated extensive cultural pride and re-invigorated cultural practices including the nreading and writing Buginese. With the adaptation and transposition of the oral Bugis story into a stage production, various new IPRs, such as, copyright and performers' rights have been established. These rights are not held by the Bugis people, but rather are held by Indonesian individuals and foreign nationals who adapted and produced the stage production and musical score. The Bugis community suffers from extreme economic disadvantage as it received no direct economic return, and no performance occurred within the community from where the musical originally derives and has significant cultural significance. That IPRs do not vest with the community has now become a fundamental concern for many Indonesian governmental representatives.[623]

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[622] Assisi Foundation, Biothai, CEC, GRAIN, Greens Philippines, Hayuma, MAPISAN, MASIPAG, PAN Indonesia, PDG, SIBAT, TREE, Dr Romy Quijano (University of the Philippines) and Dr Oscar Zamora (University of the Philippines). (1998). "Biopiracy, TRIPs and the Patenting of Asia's Rice Bowl: A collective NGO situationer on IPRs on rice." from http://www.grain.org/briefings/?id=29.

[623] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

4.7.11 The Philippines

The Philippines was the first nation to legislate an 'Indigenous People's Rights Act', in 1997, to protect and promote the rights of indigenous cultural committees/indigenous people. The Act recognises 'community property' and dictates that the state shall set up necessary mechanisms to protect the culture and identity of indigenous people.[624] The recognition of indigenous people's customary rights improved with the acceptance of the international concept of 'indigenous peoples' by the government.[625] The rights of 'indigenous cultural communities' to the preservation and development of their cultures, traditions and institutions has found expression in the constitution and in four further pieces of legislation. It seems that TM is not limited to 'indigenous medicine', but is more in accord with the idea of 'alternative medicine' of many Western countries.[626]

Interestingly, the Philippines specifically acknowledged a category of 'National Artists' in 1973, granting them certain, privileges and honours. Another programme creating Living National Treasures (Gawad Manlilikha ng Bayan - GAMABA) began in 1988, with the objective of preserving indigenous traditions and transmitting them to younger generations.[627]

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[624] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[625] B. Kingsbury, 'The Applicability of the International Legal Concept of "Indigenous Peoples" in Asia', in: J.R. Bauer/D.A. Bell, The East Asian Challenge for Human Rights, Cambridge University Press 1999.

[626] Antons, C. (2005). Traditional Knowledge and Intellectual Property Rights in Australia and Southeast Asia. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and J. Strauss. Oxford and Portland, Oregon, Hart Publisher**:** 57-72.

[627] Prasad, N. (1999). UNESCO Presentation: UNESCO's approach to the preservation and promotion of traditional and folk performing arts in Asia and the Pacific 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific: Preservation and Promotion of Traditional/Folk Performing Arts Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

- **Fort Santiago and Intramuros: Historic Fortresses of the Philippines**

Intramuros (meaning 'within the walls') was built by the Spanish in the 16th century AD, and is the oldest district of the capital city of Manila. Fort Santiago is a defence fortress built into the city walls of Santiago. Much of Intramuros was severely damaged or destroyed by the US Air Force during World War II. It then became a special historical zone and underwent major restoration. Fort Santiago is now a museum that houses well-preserved legacies of the Spanish government. Modernisation, insufficient management, and rampant commercialism are threats to these premises.[628]

4.7.12 Japan

Protection of cultural properties by designation is a distinctive characteristic of Japan's Law for the Protection of Cultural Properties, which covers both tangible and intangible cultural properties. Under this Law, intangible cultural heritage is designated as *'intangible cultural property'*, protecting intangible cultural properties of significant value by subsidising persons and groups recognised to be qualified to preserve such properties, and who are referred to as Living National Treasures. *'Intangible folk-cultural property'* refers to customs and practices, including manufacturing and livelihood, formal ceremonies, entertainment and competition, social life, annual observances, festive ceremonies, folk-performance arts and folk-techniques, while traditional skills and crafts that are essential for maintaining cultural properties are termed *'traditional techniques for the conservation of cultural property'*.[629]

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[628] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

[629] Boonyakiet, C. (2012). The safeguarding of the Intangible Cultural Heritage in Japan – Lessons from National Research Institute for Cultural Properties by Shigeyuki Miyata, Director of Department of Intangible Cultural Heritage, National Research Institute for Cultural Properties, Japan. Princess Maha Chakri Sirindhorn Anthropology Centre, Thailand. Available at http://www.sac.or.th/databases/ichlearningresources/images/Lecture%2021-EngSummary_AD.pdf

Japan is greatly concerned about extending IPR protection to TK. If the protection of TK provides incentives for further creation it will lead to industrial development, and if TK is accorded IPR protection for that reason, the term of IPRs for TK should be limited out of consideration for the balance between the interests of inventors and the public. A fair balance has been kept between the protection of TK and the protection of the public domain under IP systems and other laws. Japan sees no need to introduce any sanctions/penalties other than those already adopted under existing systems.[630]

4.7.13 The Republic of Korea (South Korea/ROK)

The Government of the Republic of Korea introduced its own system to ensure that intangible cultural properties are preserved and transmitted to future generations.[631] The oldest recorded TM, known as oriental medicine, dates to the Gochosun period, about 4332 years ago, and is very popular today. The Korean Oriental Medical Association (KOMA) was established to promote health through the development of oriental medical science, and the Korea Institute of Oriental Medicine was initiated by National Act 4758. The Institute focuses on clinical trials of oriental medicine, research on the standardisation and development of oriental medicines, investigation and analysis of acupuncture, and research to assist in the development of the oriental medicine industry.[632] Oriental doctors practise only oriental medicine. The existing legal system covers herbal medicine pharmacists, oriental medical doctors, and herbal medicine dispensers and shops with different laws. Research and development of TM

[630] World Intellectual Property Organization. "Comments on the List of Issues from Japan (Traditional Knowledge)." 2013, from http://www.wipo.int/export/sites/www/tk/en/igc/pdf/japan_tk.pdf.

[631] Prasad, N. (1999). UNESCO Presentation: UNESCO's approach to the preservation and promotion of traditional and folk performing arts in Asia and the Pacific 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific: Preservation and Promotion of Traditional/Folk Performing Arts Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

[632] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

is also of great importance.[633] The South Korean healthcare system, in its modern, institutionalised, and mainly biomedicine-based form, exists within a heterogeneous dispersal of Western and Korean medicine practitioners. The globalisation of healthcare in Western countries has had an interesting impact on this unique mixture of medical practices in Korean healthcare.[634]

4.7.14 The People's Republic of China

The earliest records of Chinese TM date back to the 8th century BC. Diagnosis and treatment are based on a holistic view of the patient and the patient's symptoms, expressed in terms of the balance between yin and yang. Chinese TM, including acupuncture, moxibustion, herbal medicines, manual therapies, exercises, breathing techniques, and diets can be used for promoting health as well as preventing and curing diseases. The constitution promotes both Western medicine and Chinese TM. A series of Provisional Management Stipulations released in 1988 and 1989 regulate the private health care offered by traditional Chinese medical physicians within the state-sponsored socialist health-care system and protect patients from abuse and deception.[635] The Chinese State Intellectual Property Office also has a team of patent examiners specialising in Chinese TM.[636]

UNESCO plays an important role in preserving and promoting performing arts in China, by, for example, documentating with audio-visual media the oral tradition of the Han nationality. The project consisted of selecting and recording performances by storytellers, collecting and organising audio-visual recordings and archival services,

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[633] World Health Organization (1999). Development of National Policy on Traditional Medicine: A Report of the Workshop on Development of National Policy on Traditional Medicine. Beijing, China, World Health Organization (Western Pacific Region).

[634] Na, S. (2012). "East Asian Medicine in South Korea." Harvard Asia Quarterly **14.4**.

[635] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

[636] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

and developing a methodology for selection, recording and preservation of non-physical cultural heritage. UNESCO prepared the project on the Preservation of the Chinese Minority Nationalities Intangible Cultural Heritage. The field investigation covered the poorest regions of China and villages and counties from where intangible heritage has never been recorded were among the priority areas covered, including the project on the Protection and Promotion of the Tibetan Intangible Cultural Heritage.[637]

- **Kashgar: one of the last intact Silk Road cities in China**

Kashgar, considered one of the world's best-preserved examples of a traditional Islamic city, has been a unique and historic region for centuries. Since 2009, a programme called 'Kashgar Dangerous House Reform' has been progressively destroying historical houses and buildings, with plans to ultimately wipe out 85 percent of the traditional Old City. The Chinese government has been heavily criticised for its programme of destructive modernisation and urban development in Kashgar, but officials have shown no mercy towards the city's disappearing cultural heritage. In 2011, a resolution by Members of the European Parliament (MEP) charged the Chinese government with, 'forcibly resettling residents without considering the loss of priceless historical and cultural heritage, and without giving priority to the preservation of relics or principal building artifacts and architecture in order to pass on to future generations, and to the world, objects illustrating the thousands of years of Chinese historical and cultural development'. The MEP resolution urged the Chinese government to reverse its course in Kashgar and consider the irreplaceable treasures being destroyed every day. But ethnic tensions have not relaxed between the Muslim Uyghurs and the Han Chinese in Xinjiang

[637] Prasad, N. (1999). UNESCO Presentation: UNESCO's approach to the preservation and promotion of traditional and folk performing arts in Asia and the Pacific 1999 Regional Seminar for Cultural Personnel in Asia and the Pacific: Preservation and Promotion of Traditional/Folk Performing Arts Bangkok, Thailand Asia/Pacific Cultural Centre for UNESCO (ACCU), The Thai National Commission for UNESCO.

province, with political and economic factors contributing to a resurgence of violence in Kashgar in 2012.[638]

4.7.15 Sri Lanka

In Sri Lanka GIs are protected without registration. They can also be protected under the unfair competition law from the Intellectual Property Act, the consumer protection law from the Consumer Affairs Authority Act, false trade descriptions of the IP Act, action for passing-off. GIs are protected against being registered as an ordinary trademark, including when the mark is a geographical name. Certification marks and collective marks have limitations for the use of geographical names. A *Sui generis* system of regulation is a means for implementing a special system of protection for GIs in a particular industry or sector; power is given to the relevant minister or statutory authority to adopt regulations.[639]

Farmers in Sri Lanka want to increase the possibilities for marketing traditional rice and vegetable varieties, which are known to have many benefits as they can be grown well without chemical fertilisers and pesticides and have important nutritional value. The Indigenous Seeds Protection Movement has already conserved 300 varieties of paddy of which at least 12 are high yielding. In order to enable growth of an area where a traditional variety is cultivated, more farmers want access to these varieties. However, the National Seed Act does not allow the selling of traditional varieties due to fear of wild varieties and of low productivity. In the context of the Asian Regional Initiative on Biocultural Community Protocols (BCP), Sri Lankan NGOs want to explore possibilities to use BCPs to change the Seed Act in this respect.[640]

TM is an integral part of the health care delivery system in Sri Lanka. Traditional and natural medicine, founded on the concept of three humours, has a long anecdotal

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[638] Global Heritage Fund (2012). Saving Our Vanishing Heritage: Asia's Heritage in Peril.

[639] Yatawara, R. A. Gaining competitiveness through Geographical Indications in Sri Lanka, Institute of Policy Studies of Sri Lanka.

[640] Hiemstra, W. (2011). Farmers want to sell local varieties, COMPAS (COMPAring and Supporting endogenous development)

history of effective diagnosis and treatment. Ayurvedic medicine is also widely practised, but there is a lack of scientific research to support this history of TM. The Indigenous Medicine Ordinance in 1941 established the Board of Indigenous Medicine. The establishment of the Department of Ayurveda within the Ministry of Health by Ayurveda Act 31 of 1961 was a landmark in the modern history of ayurveda. In 1980, the Ministry of Indigenous Medicine was established as a separate department to be led by a senior parliamentarian, who was an ayurvedic practitioner by profession. Responsibility for the Department of Ayurveda was transferred to the Ministry, which established traditional medical dispensaries and hospitals that provide medical care at no cost.[641]

- **The case of Ceylon Tea and Ceylon Cinnamon**

Sri Lanka has protected 'Ceylon Tea' globally, and the names of seven major regional tea growing areas, as Certification Marks under GIs of the TRIPs to prevent counterfeiting and misuse of the words. It has secured GI protection for the Pure Ceylon Tea and the Pure Ceylon Cinnamon trademarks in the EU. Sri Lankan cashew nuts and black pepper also have the potential to be registered as Sri Lankan GIs.

4.7.16 India

IK has been used for centuries by Indian indigenous and local communities, and has been the mainstay of their existence, especially in the key sectors of food and health. IK also plays a vital role in the conservation of biodiversity.[642] India's People's Biodiversity Registers (PBRs) are village-level documentations of people's knowledge of biodiversity, including its conservation and sustainable utilisation, and their perceptions relating to its use and commercial exchange. PBRs have been recognised by the Indian Biological Diversity Act as a way to ensure equitable access

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[641] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

[642] Sahai, S. (2003). Indigenous Knowledge and its Protection in India. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 166-174.

and benefit-sharing, by recognising such registration as prior requisites for scrutinising related IPR applications, as well as the basis for sharing resultant benefits equitably.[643]

India has made efforts to document its own indigenous knowledge by creating the Traditional Knowledge Digital Library (TKDL) in 2001. TKDL was the result of India's five-year fight to overturn two patents registered in the US and Europe, which were based on Indian TK of the use of Neem and Turmeric for medical purposes. Following its success, various governmental institutes in India have collaboratively created the TKDL which documents information in 14 Ayurvedic texts. Through the process of TKDL creation, India developed an innovative TK resource classification system, adapted from the existing IPRs regime, to offer a distinct classification system for TK documentation.[644] In Europe, India has succeeded in bringing about the cancellation or withdrawal of several applications to patent traditionally known medicinal formulations. Its database contains over 34 million pages of formatted information on some 2,260,000 medicinal formulations in multiple languages.[645] TKDL provides information on the TK existing in the country in five languages, English, German, French, Japanese and Spanish, and the format is understandable by patent examiners at International Patent Offices (IPOs). It involves documentation of the TK available in the public domain in the form of existing literature related to

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[643] Utkarsh, G. (2003). Documentation of Traditional Knowledge: People's Biodiversity Registers. Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 190-195.

[644] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

[645] World Intellectual Property Organization (2011). Protecting India's Traditional Knowledge. WIPO Magazine. **3/2011**.

Ayurveda, Unani, Siddha and Yoga, in a digitised format in the TK Resource Classification (TKRC).[646]

Ancient literature of India records that old communities used several kinds of medicinal plants for combating disease. The ancient Indians used the 'Snake root plant' (Rauwolfia serpentina) about 3000 years ago to treat several diseases from mental disorders to 'insomnia' and 'snake bite'. They also used poppy juice (Papavar somniferum) to relieve pain and anxiety. Tribal healers use medicinal plants for a wide variety of diseases, ranging from rheumatism, paralysis, epilepsy, dropsy, leprosy, jaundice, diabetes and malaria to syphilis, gonorrhea, chronic constipation, dysentery and diarrhea. They also treated various skin diseases, women's ailments and bone fractures. Several of the medicinal plants that were being used by the tribal people of India for centuries, have found wide acceptance and application in other Indian medical systems e.g. Ayurveda, Siddha & Unani, and even in modern medicine.[647] Ayurveda (meaning 'science of life') is not only a system of medicine, but also a way of living. It involves using herbal medicines and medicinal baths to both prevent and cure diseases, and is widely practised in South Asia, especially in Bangladesh, India, Nepal, Pakistan and Sri Lanka.[648]

In Southern India the medicinal knowledge of the Kani tribes led to the development of a sports drug named Jeevani, which is an anti-stress and anti-fatigue agent, based on the herbal medicinal plant *arogyapaacha*. Indian scientists used tribal know-how to develop the drug. The knowledge was divulged by three tribe members, while the customary rights to the practice and transfer of certain traditional medicinal knowledge within the Kani tribes are held by tribal healers, known as *Plathis*. The scientists isolated 12 active compounds from *arogyapaacha*, developed the drug

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[646] Council of Scientific & Industrial Research (CSIR), Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopat (AYUSH). "About TKDL." from http://www.tkdl.res.in/tkdl/langdefault/common/Abouttkdl.asp?GL=Eng.

[647] Sahai, S. (2008). Protection of Indigenous Knowledge: The Indian Experience. Articles on Indigenous Knowledge, Gene Campaign

[648] World Health Organization (2001). Legal Status of Traditional Medicine and Complementary/Alternative Medicine: A Worldwide Review.

Jeevani, and filed two patent applications on it. The technology was then licensed to an Indian pharmaceutical manufacturer, which was pursuing the commercialisation of Ayurvedic herbal formulations. A trust fund was established to share the benefits arising from the commercialisation of the TK-based drug.[649]

In 2012, the Indian Patent Office (IPO) released guidelines giving strict procedural requirements for the screening, allotment and examination of patent applications relating to TK and biological material. These have been criticised for raising the bar for the assessment of patentability as well as for the cumbersome requirement to obtain prior approval from the National Biodiversity Authority (NBA). The Country has also made some amendments to its Patents Act, excluding the granting of patents for inventions relating to TK, making disclosure of the source and geographical origin of the genetic material used in the invention mandatory, and introducing new grounds relating to opposition and revocation to protect genetic material from unauthorised use and also to prevent TK from being patented. Further, the application form for the granting of a patent was revised to make it binding for the applicant to attach a copy of the PIC, for the use of genetic material of Indian origin, from the authority concerned. Hence, effectively enforcing the obligation for PIC and benefit-sharing envisaged under the CBD.[650]

- **The case of Basmati Rice**

Basmati is a slender, aromatic, long grain variety of rice originating from the Punjab provinces of India and Pakistan and it is a major exported agricultural product of both countries. In 1997, the USPTO issued patents for three new strains of rice, which could be sold under the name Basmati. In 1998, the US Rice Federation submitted that the term Basmati was generic and referred to a specific type of aromatic rice. After the protest, the USPTO later disallowed the patent-holder from using the

[649] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[650] Shanker, A. and V. Garg (2013). Patent protection of traditional knowledge and biological material, Life Sciences Intellectual Property Review, published by Newton Media.

generic name Basmati. The rice can currently be sold only as '*texmati*' or any other name that clearly informs the consumer that the rice is not from the Punjab region.[651]

The Basmati Rice controversy presents one interesting example in which 'defensive protection' will keep TK separate from IP law, while 'positive protection' will seek to integrate TK into IP law. GI protection is one way to integrate TK into existing IP law, although there are some hurdles.[652] As there is still no effective TK law in place, in order to preserve the TK of Basmati and commercialise it as the common heritage of India and Pakistan, it may be best for both countries jointly to claim rights for GI registration.

- **The case of Yoga**

Instances of self-styled yoga gurus are claiming copyrights to ancient 'asanas', widely known as Yoga postures/positions, by misappropriation. It is estimated that the US patent office has issued over 200 yoga-related copyrights. Some scientists and researchers from the Council of Scientific and Industrial Research (CSIR) and the Union health ministry's department of Ayush worked together to put on record all known yoga postures and techniques. Yoga is a 2,000-year-old art of righteous living, which originated in India. Scientists have been scanning through 35 ancient Sanskrit texts, including the Mahabharata, Bhagawad Gita and the Yoga Sutras of Patanjali to identify and document all known yoga concepts, postures and terminologies.[653]

India completed documenting 1,300 'asanas' which have been uploaded onto the country's TKDL, making them public knowledge. Nine well known yoga institutions in India have helped with the documentation. Around 250 of these 'asanas' have also been made into video clips with an expert performing them. Once the database is

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[651] O'Connor, B. (2004). The Law of Geographical Indications, Cameron May Ltd.

[652] Subbiah, S. (2004). 'Reaping What They Sow: The Basmati Rice Controversy and Strategies for Protecting Traditional Knowledge.' 27 B.C. Int'l & Comp. L. Rev. 529, available at http://lawdigitalcommons.bc.edu/iclr/vol27/iss2/12.

[653] Sinha, K., TNN (2009). Yoga piracy: India shows who's the guru. The Times of India. India.

completely online, patent offices across the world will have a reference to check each time a yoga guru claims a patent on a particular 'asana'. CSIR's Dr V P Gupta, who created TKDL, stated, 'all the 26 sequences which are part of Hot Yoga have been mentioned in Indian yoga books written thousands of years ago. Chances of misappropriation with them are higher. So if somebody wants to teach yoga, he does not have to fight copyright issues. He can just refer to the TKDL.'[654] These efforts will raise public awareness, and show that all 'asanas' are public knowledge, and not patentable. This will also help prevent yoga from misappropriation.

- **The case of Darjeeling Tea**

Darjeeling tea differs from others due to the specific soil and environmental conditions of the region, as well as the TK and production practices of local producers. The Tea Board of India is the owner of all IPRs associated with Darjeeling tea. The Darjeeling logo and the word Darjeeling are now registered certification trademarks (CTM) of the Board under the Trademarks Act of India. Both the logo and the word are registered domestically under the Geographical Indications of Goods Act. The Darjeeling logo is copyright protected and registered as an artistic work with the Copyright Office. Internationally, the logo has been registered in various jurisdictions as a trademark/certification mark/collective mark, as well as under the Madrid system.[655]

There has been unauthorised use and attempted registrations of the words 'Darjeeling and Darjeeling logo' by several countries including France, the US and Japan. Despite a registration of 'Darjeeling' as a GI in France, the Tea Board was unsuccessful in defending it because French law does not permit any opposition to an application for a trademark, which is similar to or identical to a GI. India's efforts to protect 'Darjeeling' in Japan did not succeed because the prefix 'Divine' has not gained currency in the Japanese language. The legal and registration expenses, costs of hiring

[654] Sinha, K., TNN (2011). India pulls the plug on yoga as business. The Times of India. India.Sinha, K., TNN (2011). India pulls the plug on yoga as businessIbid.

[655] World Intellectual Property Organization. "Managing the Challenges of the Protection and Enforcement of Intellectual Property Rights." 2013, from http://www.wipo.int/ipadvantage/en/details.jsp?id=2540.

an international watch agency and fighting infringements in overseas jurisdictions are quite high.[656] It is important to put great effort into preventing and defending the word and the logo from misappropriation of unauthorised use and attempted registration around the world, and to ensure that most consumers are familiar with and convinced of the legitimate product.

As we can see from the example cases, several claims leading to disputes over TK and TCEs on the Asian mainland and borderlands still exist. Asian governments have largely been proponents of strong protection of TK and TCEs. However, laws and administrative rules, adopted in Asian countries, for the promotion and protection of such knowledge have not necessarily respected the distinction between technical knowledge and artistic expression. There are also some important differences in the understanding and role of TK and of the term 'indigenous' in their countries in contrast to among the settler societies in North or South America, Australia or New Zealand.[657]

4.8 Thailand's memberships of international and free trade agreements

Thailand's Free Trade Agreements (FTAs) with various countries

Arguably, bilateral agreements may tend focused and have a limited scope. They are usually based on models prepared by developed countries, which have many standardised clauses and little space for manoeuvring in negotiations.[658]

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[656] Srivastava, S. C. "Managing the Challenges of WTO Participation: Case Study 16: Protecting the Geographical Indication for Darjeeling Tea." 2013, from http://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm.

[657] Antons, C. (2012). Asian Borderlands and the Legal Protection of Traditional Knowledge and Traditional Cultural Expressions (Asian Borderlands). Modern Asian Studies, Cambridge University Press.

[658] Vivas-Eugui, D. (2003). Regional and bilateral agreements and a TRIPS-plus world: the Free Trade Area of the Americas (FTAA). TRIPS Issues Papers 1. G. Tansey, Quaker United Nations Office (QUNO), Geneva; Quaker International Affairs Programme (QIAP), Ottawa; International Centre for Trade and Sustainable Development (ICTSD), Geneva.

Thailand is implementing trade arrangements, negotiating trade agreements and has proposed and is in the midst of studying arrangements with different countries.[659] Apart from the Thai-US talks, Thailand has signed a limited FTA with Laos (1991) and with China (agriculture only, 2003), framework agreements with Bahrain (as a stepping stone towards an FTA with the GCC, 2002), Peru (2003) and India (2003), and fairly comprehensive FTAs with Australia (2003), New Zealand (2005) and Japan (2007). Since the current political crisis unravelled in 2006, the pace of Thailand's FTA negotiations has slowed down. The government is still technically in negotiation with the US, EFTA, India, Peru and Papua New Guinea, while there has been talk of further deals with Chile, the Czech Republic, Hong Kong, Mexico, South Africa and Canada.[660]

4.8.1 Thailand-United States Free Trade Agreement

In 2004, Thailand and the US held FTA negotiations, which were suspended in 2006 due to Thailand's political situation. The proposed bilateral Thai-US FTA contains detailed provisions on the substance and enforcement of IPRs protection, which may force Thailand under increased pressure to accept higher standards of IP protection or the TRIPs-plus. It also threatens to restrict the measures the country can take to obtain affordable drugs, and will affect the ability of Thailand to continue its other healthcare programmes.[661] The US intentions to seek TRIPs-plus standards are indicated clearly in the statement of objectives in the United States Trade Representative (USTR)'s Letter of Notifications for FTA negotiations with Thailand, as follows: *'The United States has concerns about intellectual property protection in Thailand. The United States has worked with Thailand on intellectual property rights issues under the Trade and Investment Framework Agreement. While some progress has been made, bringing Thailand's intellectual property regime up to the standards set in other*

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[659] The Thailand Board of Investment (2008). "FTAs and Thailand." Thailand Investment Review **18**(8).

[660] Bilaterals.org. (2009). "Thailand." from http://www.bilaterals.org/spip.php?rubrique117.

[661] Kuanpoth, J. (2006). "TRIPS-Plus Intellectual Property Rules: Impact on Thailand's Public Health." The Journal of World Intellectual Property **9**(5): 573-591.

recent FTAs that the United States has negotiated will be a high priority of these negotiations.'[662]

In order to achieve the desired levels of IP protection in developing nations, the US amended the Trade Act of 1974 to link trade and IP via an instrument known as '*Special 301',* which requires the USTR to identify foreign countries denying adequate and effective protection of IPRs or fair and equitable market access for US citizens or entities that rely on IP protection. Depending on the extent of the deficiency in IP protection, these countries are placed onto either the '*Priority Foreign Countries List*', the '*Priority Watch List*, the '*Watch List'*, or the '*Section 306 Monitoring List'*.[663] Thailand agreed to improve its IP protection in response to the 1990 Section 101 filing over its lax copyright enforcement.[664] In 2013, the US still put Thailand on the *Priority Watch List* due to it's lack of an effective legal system and enforcement of IPRs, as well as its failure to complete many initiatives and several pending legislations.

Recent FTA negotiations have led to much controversy among many Thai groups, from farmers to people with HIV/AIDS with concerns about access to medicine or the availability/costs of generic medicines, GMOs in agriculture, compulsory licensing, patent-term extension, and patents on life forms. It is likely that the Thailand-US FTA will contain IP provisions similar to those found in previous US FTAs. This will require a number of changes with Thai IP laws needing to be rewritten, new laws to be passed, and more effective enforcement of IPRs, yet Thailand has much to gain from this FTA.[665]

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[662] Letter of Notification of USTR to US Congress of Intent to Initiate Free Trade Agreement Negotiations with Thailand, 12 February 2004.

[663] Arnold, C. M. (2006). "PROTECTING INTELLECTUAL PROPERTY IN THE DEVELOPING WORLD: NEXT STOP--THAILAND." Duke L. & Tech. (Rev. 0010).

[664] Sell, S. K. (1995). "Intellectual property protection and antitrust in the developing world: crisis, coercion, and choice." **49**(02): 315-349.

[665] Arnold, C. M. (2006). "PROTECTING INTELLECTUAL PROPERTY IN THE DEVELOPING WORLD: NEXT STOP--THAILAND." Duke L. & Tech. (Rev. 0010).

4.8.2 Thailand–EU Free Trade Agreement

The EU is Thailand's third largest trading partner. In January 2013, the Thai Parliament approved the government's mandate to start negotiations on the Thai-EU FTA as fears grew within Thai industries that they might lose out on EU market share. This was because Thailand's neighbours had begun negotiating on EU FTAs, and they thought that Thailand could lose its European GSP privileges. The opposition raised concerns over the FTA's impact on the domestic pharmaceutical and agricultural sectors, and the social consequences of tariff reductions on alcohol and tobacco imports.[666] Matters discussed during the first round of negotiations in May 2013 include goods, rules of origin, services and investment, trade and IP. The FTA is due to be concluded by 2015.

4.8.3 Thailand-Australia/New Zealand Free Trade Agreement

Thailand and Australia established the Thailand-Australia FTA (TAFTA) in 2005 to increase their international trade. It contains an obligation to gradually reduce and remove their trade barriers in tariff and non-tariff goods, facilitating cross boarder commerce as well as IP cooperation.[667] TAFTA strengthens both countries' capacities to protect IP and reaffirms that they will respect the provisions of TRIPs. Under TAFTA, both countries will take measures to prevent the export of goods that infringe copyright or trademarks. They will also cooperate, with a view to eliminating trade in goods that infringe IPRs, to increase awareness of IPRs and the commercialisation of IP.[668]

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[666] British Embassy Bangkok (2013). Thailand/EU FTA: Out of the Starting Blocs, UK Trade & Investment.

[667] Wisuttisak, P. (2009). "Thailand and Australia Free Trade Agreement (TAFTA): The Advantage Pace of Foreign Investment of Both Countries " Thailand Journal of Law and Policy **12 Fall**(2).

[668] The South and South-East Asia Division of the Department of Foreign Affairs and Trade (DFAT), Austrade, the Australian Customs Service, the Department of Industry, Tourism and Resources and the Australian Embassy in Bangkok (2004). A Business Guide to the Thailand-Australia Free Trade Agreement (TAFTA), Australian Government, Department of Foreign Affairs and Trade.

The Thailand-New Zealand Closer Economic Partnership (TNZCEP) Agreement, implemented in 2005, is a treaty that liberalises and facilitates trade, establishes rules for trade and investment relationships and promotes co-operation in economic activities, by establishing a free trading area between both countries. The TNZCEP reaffirms both countries' WTO commitments on IPRs, and aims to ensure effective enforcement of IPRs through co-operation and to promote wider co-operation between agencies responsible for IP.[669]

4.8.4 Thailand–Asian Countries Free Trade Agreements

Prior to the establishment of the ASEAN-China FTA, Thailand entered into an FTA with China, which took effect in 2003. The agreement focuses on the import and export of fruit and vegetables of the two countries, eliminating duties on nearly 200 different items of produce.[670]

Since 2007, Thailand and Japan have traded through the Japan-Thailand Economic Partnership Agreement (JTEPA), which will eliminate tariffs on more than 90 percent of bilateral trade during the next ten years. In the next decade there is an aim to conclude a comprehensive economic partnership that will cover a range of projects.[671]

Thailand and India have agreed to conclude an FTA, following the signing of some agreements. Trade and investment between the two countries has been increasing. Exporters of both countries enjoy the low tariffs for merchandise purchased from a third country. Both countries agreed to the goal of doubling bilateral trade in 2014. Thailand proposed the establishment of the Trade and Investment Forum, to be

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[669] New Zealand Ministry of Foreign Affairs and Trade. (2005). "The New Zealand - Thailand Closer Economic Partnership." from http://www.mfat.govt.nz/downloads/trade-agreement/thailand/nzthaicepbooklet.pdf.

[670] The Thailand Board of Investment (2008). "FTAs and Thailand." Thailand Investment Review **18**(8).

[671] Ibid.

representative of government departments and the private sector, and to promote trade and investment.[672]

4.9 Review of the potential impact of international agreements, and how Thailand could formulate an appropriate IP policy into its laws and regulations consistent with international obligations

This section focuses on two areas: the lessons that can be learned from other countries, and the impact/consequences of signing regional and international agreements.

4.9.1 Lessons learned from other countries

Thailand could gain valuable insights from the experiences of and examples set by several other countries.

Copyright laws are used by Canada and Australia to protect TK and creations of their Aboriginal peoples, but they are still limited. Mutually beneficial reconciliation of the interests of Aboriginal/non-Aboriginal peoples and the government as well as stricter moral rights could be used in certain situations.

Trademarks are used by the Mexican Seri People to protect their traditionally-made ironwood products in order to compete with mass production, and by the New Zealand Maori who have a trademark specifically designed to promote their arts and crafts. New Zealand's trademark law increased the protection of Maori IPRs by excluding trademarks that cause cultural offence to the Maori community. Many indigenous communities in Australia also use specific marks or labels on their goods to acknowledge or identify the source of their works. A Database of Official Insignia of Native American Tribes, the official insignia of federally and state-recognised Native American tribes available for trademark examiners to use, is a very useful tool in preventing others from registering their insignia as trademarks in the US.

[672] The Nation (2012). Thai-Indian FTA to be concluded mid-2012. The Nation. Bangkok.

The Europe scheme for agricultural products and food stuffs protection (PDO, PGI and TSG), having a special design for a narrow idea, gives strong and effective protection. It guarantees the origin and method of the product to consumers. However, this scheme has increased high production and marketing costs.

For GIs, although they are usually geographical names, there are some examples of non-geographical names that have been or could potentially be protected if consumers believe or feel that those names are linked to a particular place identified as an inherently product such as Feta Cheese from Greece. Some Antigua coffee of Guatemala does not actually originate from Guatemala, as well as Darjeeling tea and Basmati rice of India. Therefore, if Thai jasmine rice, which is not a direct geographical name, has secondary meaning or acquired distinctiveness as it identifies the source of the rice; it is also feasible for GI protection. The advantage of GI is that it is not time-limited and it can be used by anyone who produces Thai jasmine rice in that region.

The Philippines enacted the 'Indigenous Peoples' Rights Act (IPRA) of 1997', which specifically protects the cultural community intellectual rights of their indigenous peoples. Two different Draft TK Bills on the protection of TK have been proposed in South Africa; the IP Laws Amendment Bill 2007 covers protection for TK by amending several pieces of IP legislation, and the other Bill, known as 'Wilmot Bill' has a *sui generis* system for protecting TK, comprising the traditional work, the traditional design and the traditional mark. Also, the *sui generis* law on protection of TK and TCEs has been proposed in Kenya. This law will help protect TK and TCEs holders against misappropriation by adopting important and useful concepts such as moral rights, compulsory licensing, ABS and PIC.

Developing countries should analyse whether the granting of patents over plant varieties will produce imbalances rather than incentives and social and entrepreneurial benefits to the locals. The ideal is the establishment of a system that accords

differentiated levels of protection to varieties, according to their purpose.[673] Non-monetary forms of benefit-sharing include conservation activities, the sharing of technology and information and access to propagation material. The experience of Peru shows that the Peruvian Potato Park conserves a substantial amount of potato varieties, ensuring access to a wider range of propagating material. The re-introduction of lost varieties through virus-free potatoes is a way of sharing the technology and information of modern scientific institutions with local communities, where seed quality and performance of farmers' varieties can be superior to that of certified propagating material.[674] Another example is the South African-based Council for Scientific and Industrial Research (CSIR) patented active compounds of Hoodia, a succulent plant indigenous to southern Africa using for centuries by indigenous San peoples to stave off hunger and thirst, for potential commercialisation of an appetite suppressant, leading to a licensing agreement between CSIR and commercial companies, then a benefit-sharing agreement was signed with the San peoples.

TK could be integrated with modern technologies and adapted to modern living conditions. The National Recordal System of South Africa uses new technologies to collect unrecorded TK, while the knowledge belongs to communities it is not in the public domain, although publicly available.

It is important for Thailand to learn from national, regional and international laws and experiences of other countries as these useful lessons and guidelines could definitely be used for any adaptations of the Thai existing laws as well as enacting its *sui generis* laws.

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[673] Basso, M. and Edson Beas Rodrigues Jr (2007). Free Trade Agreements, UPOV and Plant Varieties. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 171-209.

[674] Farmers' Rights Project, Norway. "Best Practices: The Peruvian Potato Park." 2013, from http://www.farmersrights.org/bestpractices/success_benefit-sharing_7.html.

4.9.2 Impact/consequences of signing international agreements

Thailand has acceded to a number of regional/international agreements, and is considering signing/ratifying some international conventions as well as bilateral or multilateral agreements in the future. Therefore, it would be useful to concentrate on the potential benefits of these to the country and the downsides.

The TRIPs, as the strongest international agreement in the IP area yet arguably favours industrialised countries than developing countries, may threaten the role that farmers play in the conservation of PGRs, as well as impinging on their rights and limiting their role as cultivators. The ambiguity of the TRIPs's '*sui generis*' system might have caused developing countries to avoid developing strong IPR laws covering plant varieties. There is confusion and scepticism about TK. The terminology used can be greatly affected by the way in which it is defined for the purposes of the text. A poor choice of terminology can confuse those interpreting the text and may give a false impression of its subject matter and aims.[675] The patent system has already reached a certain level of international harmonisation. It cannot be denied that the lack of clear definitions of the patentability considerations by TRIPs gives a useful tool to restrict the granting of patents to plant varieties. The unresolved issue is how to implement this flexibility.[676] In other words, there is a lack of a clear understanding or a consistent approach to what is considered a new plant variety. Unlike inventing a new plant variety, new varieties could be 'discovered' by a local community.[677]

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[675] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[676] Basso, M. and Edson Beas Rodrigues Jr (2007). Free Trade Agreements, UPOV and Plant Varieties. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 171-209.

[677] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

TRIPs could be amended to provide requirements that WTO member states must meet, as a condition of acquiring patent rights: (i) disclosure of the source and country of origin of a biological resource and of TK used in the invention; (ii) evidence of PIC through approval of authorities under the relevant national regimes; and (iii) evidence of fair and equitable benefit-sharing under the national regime of the country of origin.[678]

The important convention, of which Thailand is not currently a member, is the UPOV Convention. Adoption of either a patent system or a PVR system, based on UPOV 1991, will have a large impact on the traditional operation methods of farmers. A major concern of local farmers in developing countries, including Thailand, is that adoption of the new UPOV rules will severly curtail the farmers' traditional ability to reuse seed from their crops. Farmers will no longer be able freely to keep and exchange seed from one year to the next, unless the role of farmers is recognised in any IP system adopted.[679] Small-holder farmers are dependent on the informal seed sector and the customary practices of freely saving, using, exchanging and selling farm-saved seeds and other propagating material; all practices that would be restricted by UPOV 1991.[680] The UPOV system, which was designed with and for the European plant breeding community, may not be suited to everywhere. There could be some adaptations made according to the very different economic, social and agricultural and environmental conditions of its new members to ensure that countries take adequate steps to assess what level of PVP is appropriate for their circumstances. Some countries have PVP systems that are based on the 1978 Act, but diverge from it,

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[678] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

[679] Adcock, M. (2007). "Commentary: Intellectual property, genetically modified crops and bioethics." Biotechnology Journal **2**(9): 1088–1092.

[680] Saez, C. (2013). "UPOV 1991 Will Adversely Impact Farmers In Tanzania, Civil Society And Farmers Say." Intellectual Property Watch, from http://www.ip-watch.org/2013/03/25/upov-1991-will-adversely-impact-farmers-in-tanzania-civil-society-and-farmers-say/.

such as by conditionally allowing farmers to sell seed and allowing the registration of farmers' varieties.[681]

It is recommended that UPOV 1991 develop legal definitions of terms such as 'breeder', 'legal person', 'propagating material', 'harvested material', etc., which would provide clarity for breeders and assist in the enforcement of their rights, with the revision of some texts that are unclear and contradictory, for example, the text in Article 14(5)(b) (i) and (iii).[682] UPOV should be more open to participation and provide more detailed and accessible information about its system and how it operates. UPOV members might consider: revisiting the appropriate UPOV definition of the term 'novel' (particularly in the light of efforts in other forums to protect biological diversity and TK), finding ways of permitting national requirements for disclosure of origin of GRs to be compatible with the UPOV Convention, recognising within UPOV different approaches to plant breeding and conservation, including recognising farmers' rights and *in situ* conservation, and clarifying the relationship between PVP and patents. Many believe that plants belong to communities that breed and maintain them, and should only be protected by collective user rights defined by these communities, and not by privately held property rights. There should be an international system that is more farmer-friendly and so better suited to countries with large numbers of small-scale farmers who also engage in plant breeding.[683]

While the CBD addresses the equitable sharing of benefits derived from resources by providers and users, the TRIPs agreement, UPOV, and CITES do not address or conform to ABS and PIC when dealing with IP. Furthermore, while UPOV is concerned with protecting PBR, there are no clear mechanisms to link it with FAO's

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[681] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

[682] See International Union for the Protection of New Varieties of Plants (2012). Administrative and Legal Committee Advisory Group: Seventh Session REPORT adopted by the Administrative and Legal Committee Advisory Group. Geneva, Switzerland.

[683] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

ITPGRFA, which is concerned with multilateral systems of sharing the benefits derived from plant varieties.[684]

Although the UNDRIP's FPIC provisions could complement or bridge gaps between IPR based on individual rights and IPR based on emerging potential collective rights and between IPR and ABS, there is an argument that FPIC contravenes state sovereignty in general, including state sovereignty over natural resources.[685] Moreover, it contains too many ambiguities, uncertainties and redundancies currently to constitute a new standard of conduct with respect to resource development that affects indigenous people's lands, territories or resources. UNDRIP is silent on whether the right of consent includes a right of veto and unclear on whether indigenous people's consent is an absolute precondition for the approval of actions that may affect them, or simply an aspiration of good faith. Its description of the lands, territories and resources to which the FPIC provisions apply is overly broad and generic. There is a risk that FPIC provisions will be interpreted in order to support each side's own best interests, leading to more conflict.[686]

Futhermore, the 'TRIPs-plus' standards of IP protection go beyond the mandatory requirements of the TRIPs Agreement.[687] Considering the stricter protection of IPRs in TRIPs-plus, this would increase the monopoly powers of rights-holders so that they would have far greater control over the production chain of crops and food. It would

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[684] Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

[685] Tamang, P. (2005). An Overview of the Principle of Free, Prior and Informed Consent and Indigenous Peoples in International and Domestic Law and Practices. UN Headquarter, New York, USA, Presented at Workshop on Free, Prior and Informed Consent and Indigenous Peoples, organised by the Secretariat of UNPFII.

[686] Seier, F. (2011). "'Free, Prior and Informed Consent under UNDRIP': What Does it Really Mean?" from http://www.right2respect.com/2011/06/%E2%80%98free-prior-and-informed-consent%E2%80%99-under-the-un-declaration-on-the-rights-of-indigenous-peoples-what-does-it-really-mean/.

[687] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

also block access to generic medicines. Thailand has flexibly implemented TRIPs provision by incorporating farmers' rights and the ABS system under the CBD into national legislation. However, Thailand has resisted ratifying the UPOV 1991, or adopting it as the standard for its PVP law, since the UPOV 1991 system would impose mandatory components of PVP and restrict the country's sovereign rights over its biological resources and its ability to regulate access to its biodiversity.[688]

The positive aspects of the ITPGR are that Thailand will receive the benefits arising from the utilisation of its GRs kept with the IARCs, and may have greater opportunities to obtain PGR in the public domain and under the control of other member states. The negative aspects are that Thai laws governing the ABS of PGR under control of the government and in the public domain for those PGR covered by Annex 1 of the ITPGR must be revised. Thailand will lose its domestic sense of knowledge and resource-sharing from the use of its PGR, in that it will justify their pilferage if this is done to obtain an exclusive right such as IPR. The membership of the International Treaty may be a reduction of Thai sovereignty as Thailand needs to manage its *ex situ* collection under conditions set forth by the International Treaty; especially in the case of the use of the Multilateral System instead of the Plant Variety Act B.E. 2542 (1999). Therefore Thailand, now a signatory, should not yet ratify ITPGR as this may not be constructive, especially when the gains are not obvious.[689] So, the country has what it needs and cannot see the benefit of being a party to the ITPGR.

Thailand-US FTA negotiations have been suspended since 2006 due to strong opposition and concerns among many Thai people on several issues, including access to medicines, life patenting, and GMOs in agriculture. Thailand is under pressure to conclude a trade deal with the EU. Both Thailand and the EU, during the negotiations

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[688] Lianchamroon, W. (2006). TRIPs-plus provisions and its negative consequences on Agriculture in Thailand. Presentation given during the EFTA-Lobbying trip organised by the Berne Declaration.

[689] Kuanpoth et al, (2004), and Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

on FTA, agreed to serve the purpose of appropriate IPR protection and access to medicines. Regarding TPP, as more restrictive regulations in the field of IP, i.e. protection without time limit, including human rights and labour rules, have been imposed, Thailand has to be aware of threats to the healthcare development, access to medicines, price of necessary drugs, food safety, and integrity of Thai economy.

Conclusion

Some TK-related legislation of selected countries and their management are illustrated in this chapter. Interesting issues of misappropriation or just minor variations in IPR that developing countries have faced, their concerns, and the ways they have dealt with these issues by using different IP tools and other strategies have also been discussed. We have learned that the way in which TK is protected domestically varies dependent on each country's strategies, and that there still are different approaches between western and biodiversity rich countries. In countries with indigenous peoples who always seek for greater prevention and control equitably use over TK, laws are unable to provide overall protection for different groups and for a wide range of TK. There are also conflicts between federal laws and interests of indigenous peoples. It is, therefore, difficult for indigenous peoples to get recognition by appropriate law.

Most countries, especially developing ones, do not have adequate materials or mechanisms for protecting their TK. The value of the knowledge has prompted national efforts to legislate on TK in different jurisdictions.[690] Many countries considered the current IPRs system to be inadequate for protecting TK, which has unique characteristics and therefore, they have already established *sui generis* systems to protect their TK and GRs. Others are in the process of doing so, but most developing countries do not have an efficient IP regime to protect TK and GRs from misappropriation. Some countries have found existing IP rights useful and their TK protection strategies make some use of the IP system. Appropriate domestic IP

[690] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

policies and legislative frameworks, as well as international co-operation are important for policy-makers to develop.

As we can see that several countries have either used their existing IP laws, which are sometimes limited, or have adapted/developed *sui generis* measures for TK protection through different approaches. The ideal Thai law should recognise indigenous/local community authorship rights to oral knowledge and expressions, as well as their rights to sacred/secret material and their ownership of designs of artefacts that have cultural significance. It should also ensure that preservation of TK does not facilitate the misappropriation of the knowledge.

Considering that TRIPs-plus, FTAs or other international instuments may impose stricter obligations in most areas including IPRs than the minimum TRIPs standards set by the WTO, particularly increased costs and more limited access to medicines, or a large impact on traditional agriculture of farmers, Thailand may not be able to comply with all aspects of them. The country should, therefore, carefully consider their benefits and drawbacks before getting involved in negotiations or being bound by these agreements. It should refuse any agreements that are likely to offend their local communities and indigenous peoples; any requirements for flexibility or morality should be applied, if necessary, in certain circumstances, such as compulsory licenses from TRIPs flexibilities.

Chapter 5
Possible Approaches and Solutions

This chapter highlights potential instruments for the protection of TK, TCEs and GRs, which could be carried out in various ways, by considering their unique characteristics. Taking into consideration all the factors, applying appropriate approaches to each situation is recommended on a case-by-case basis, depending upon the government, local community and individual. In the end of the Chapter, the Thai Draft Act on TK Protection and Promotion is analysed to see whether Thailand is ready for the *sui generis* law on this purpose and how to incorporate useful information into this Law.

5.1 Trends and developments in international IP protection

As several countries are aware of their obligation for IP issues to be compatible with international instruments, changes in domestic legislature and administration have been carried out accordingly. For example, in the past museum curators, archivists and anthropologists had rarely worried about whether the information they collected and managed should be treated as someone else's property. Since ownership of knowledge and artistic creations traceable to the world's indigenous societies emerged as a major social issue, the situation has become radically different.[691]

The international IP landscape has been ostensibly driven by three main factors: firstly, many newcomers possess much more sophisticated knowledge of IP norms; secondly, a more complete recognition that, theoretically at least, IP has an optimal protection point; and thirdly, the increasingly visible intersection between IP and other rights broadens the base of the search for a balance. A large number of countries believe that they have not derived great benefits from traditional forms of IP, yet find themselves rich with TK, especially GRs and folklore. They would like to explore

[691] Brown, M. F. (2003). Who Owns Native Culture?, Harvard University Press (Cambridge, Massachusetts and London, England).

these resources, and several companies share this interest. Moreover, Aboriginal communities in several countries are of growing political importance. While pharmaceutical and biotechnological companies are looking at ways of exploiting indigenous medicinal knowledge, plants and other resources often found in developing countries, the internet is progressively allowing creators of folklore or folklore-based copyrighted material to disseminate their material worldwide at very low cost.[692]

Indigenous peoples tend to use, value and protect a larger variety of species and to make modifications to their environments. Their continued use and management of ecosystems is important to conserve their TK and biological diversity.[693] The prevention of misappropriation seems to be the primary motivator for protecting TK. There are ample reasons for governments to take steps to protect TK legally:
Moral - to fulfil moral obligations towards indigenous/local communities, and to prevent 'misappropriation';
Legal - to comply with international treaties on biodiversity, PGR and human rights;
Utilitarian - for local/ national/ global economic, welfare (health and food security) and subsistence benefits, for improved sustainable management of biodiversity and conservation.[694]

There is currently not yet an international consensus on how indigenous rights to the protection of their knowledge systems can be secured, either within an IP regime or through some other overarching legislative or policy framework.[695] A legal gap exists

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[692] Gervais, D. J. (2007). The Changing Landscape of International Intellectual Property. Intellectual Property and Free Trade Agreements. Christopher Health, and Anselm Kamperman Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 49-86.

[693] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[694] Dutfield, G. (2004). Intellectual property, biogenetic resources and traditional knowledge, Earthscan.

[695] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

between the kinds of protections afforded by existing IP law and TK. This legal gap has serious potential consequences for trade relations and relations between developing and developed countries.[696] The protection and promotion of TK may rely on a set of legal instruments or non-legal mechanisms. Legal issues that may arise include ownership, objectives of protection, accessibility, protection under IP law, TK databases, and contractual arrangements.[697]

The protection of TK through IP may be by use of new-fangled or extant IPRs, referred to as positive protection. It responds to the needs of indigenous peoples and local communities who want to benefit from the commercialisation of their knowledge. This system aspires to create an entitlement system through mechanisms such as *sui generis* legislation, contractual agreements and/or the use of existing IP systems of protection, which enable indigenous peoples and local communities to protect and promote their knowledge. Another way, considered to be a defensive one, is protection against exploitation of this knowledge by preventing its misappropriation through the use of a similar IP regime. It responds to the needs of indigenous people and local communities who may want cultural heritage preserved as an end in itself, the identification and protection of TK as a factor in promoting the preservation of biodiversity and the sustainable use of biological resources, and their protection in a human rights context.[698]

The following challenging questions may need to be taken into consideration. Is the IP system compatible with the values and interests of traditional communities, or does it privilege individual rights over the collective interests of the community? Can IP

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[696] Subbiah, S. (2004). 'Reaping What They Sow: The Basmati Rice Controversy and Strategies for Protecting Traditional Knowledge.' 27 B.C. Int'l & Comp. L. Rev. 529, available at http://lawdigitalcommons.bc.edu/iclr/vol27/iss2/12.

[697] Kuanpoth, J. (2007). "Legal protection of traditional knowledge: A Thai perspective." Tech Monitor: 34-41.

[698] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

bolster the cultural identity of indigenous and local communities, and give them a greater say in the management and use of their TK? Has the IP system been used to misappropriate TK, failing to protect the interests of indigenous and local communities? What can be done, legally and practically, to ensure that the IP system functions better to serve the interests of traditional communities? What forms of respect for and recognition of TK would deal with concerns about TK and give communities the tools they need to safeguard their interests?[699]

So far, there have been no binding international legal instruments directly dealing with TK. The existing framework for international protection of IPRs (i.e., WTO TRIPs) has failed not only to accommodate and protect the interests of TK owners, but also to prevent misappropriation of the knowledge.[700] The search for an appropriate modality of protecting TK transcends a single model, as the needs and expectations of traditional communities differ, depending on the purpose and the context in which their knowledge is practised. It may be difficult to find a single strategy suited to the practices and values of traditional communities.[701] Various factors, including the use of social, economic, environmental and educational policies to supplement legal instruments, and regional/international co-operation, should be taken into account when protecting TK in order to ensure the suitability and legitimacy of the relevant laws and policies. TK cannot and should not be treated in isolation; its dynamic and diverse nature, together with its inseparable link with the

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[699] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[700] Kuanpoth, J. (2007). "Legal protection of traditional knowledge: A Thai perspective." Tech Monitor: 34-41.

[701] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

environment and culture dictates that TK protection should be integrated into and/or supplemented by various public policies.[702]

5.2 International level

Although WTO members must implement the minimum standards set by TRIPs, there are opportunities to develop appropriate national strategies within its framework. The impact of TRIPs therefore depends on how individual countries choose strategies best suited to their technological, commercial and economic development and thereby achieve their policy goals.[703] Importantly, in developing international laws and policies on TK, there is a need for flexibility, sensitivity to local realities, and adaptability to changes in customary law and practice.[704]

In the context of international policy-making, participants in the IK and IP discourse tend to primarily include bureaucrats from relevant international agencies, governmental representatives from recognised nation states, representatives from NGOs, and select indigenous representatives and spokespeople, as well as various academics participating as experts or observers to the proceedings.[705] International organisations and NGOs should serve as a forum for IP protection and to provide helpful information and resources to countries. For example, UNESCO's International Fund for Cultural Diversity will support programmes and projects that are designed to: facilitate the introduction of cultural policies that protect and promote the diversity of cultural expressions and strengthen the corresponding institutional infrastructure;

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[702] Thathong, S. (2008). Rethinking Strategies in Legal Protection of Traditional Knowledge - a case study of Thailand. Law. Durham, Durham University. **LLB:** 32.

[703] Balasubramanian, K. (2003). Access to Medicines and Public Policy Safeguards under TRIPS. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 135-142.

[704] Alexander, M., K. Chamundeeswari, et al. (2004). The role of Registers and Databases in the protection of Traditional Knowledge: A comparative analysis, UNU-IAS Report, United Nations University Institute of Advanced Studies (UNU-IAS).

[705] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

strengthen existing cultural industries; and foster the emergence of new cultural industries, and activities that aim to protect cultural expressions at risk of extinction, under threat or in need of urgent safeguarding, or that provide capacity-building opportunities.[706] The Minority Rights Group International (MRG), registered under English law, is an NGO working to secure the rights of ethnic, religious and linguistic minorities and indigenous peoples worldwide, and to promote co-operation and understanding between communities.

5.3 National level

Agriculture in developing countries has changed dramatically: small scale farmers are coming under pressure from governments to produce crops for export; GM seeds and their promise of higher yields are becoming an increasingly attractive option, which may lead to dependency on commercial seed companies.[707]

National laws are currently the prime mechanism for achieving protection and practical benefits for TK holders.[708] It is important to adapt national IP legislations and to explain the concepts to non-IP administrations as well as to public, to avoid misunderstandings leading to GI and trade mark concepts and goals being mixed.[709]

Inevitably, there are two different views, one stresses the rights of indigenous people who are unwillingly enmeshed in nation-states and emphasises the use of IP as a means to express ethnic autonomy and to redress exploitation; another stresses the

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[706] United Nations Educational, Scientific and Cultural Organization - Media Services, (2012). International Fund for Cultural Diversity:Third Call for Funding Requests.

[707] Anderson, T. (2012). Intellectual Property Rights Over Seeds in Developing Nations, A4ID Advocates for International Development.

[708] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[709] Passeri, S. (2007). Protection and Development of Geographical Indications (GIs) in the world markets. EC-ASEAN Intellectual Property Rights Co-operation Programme (ECAP II) Workshop on "Production of Thai silk under GI". Bangkok, Thailand.

merits of local knowledge and emphasises the use of IP regimes to provide incentives and protect biological resources.[710]

As stated in the Principles and Guidelines for the Protection of the Heritage of Indigenous Peoples 1995, Articles 25-29: national laws should guarantee that indigenous peoples can obtain prompt, effective and affordable judicial or administrative action in their own languages to prevent, punish and obtain full restitution and just compensation for the acquisition, documentation or use of their heritage without the proper authorization of the traditional owners. They should deny to any person or corporation the right to obtain patent, copyright or other legal protection for any element of indigenous peoples' heritage without adequate documentation of the free and informed consent of the traditional owners to an arrangement for the sharing of ownership, control, use and benefits. They should ensure the labelling and correct attribution of indigenous peoples' artistic, literary and cultural works whenever they are offered for public display or sale. Attribution should be in the form of a trademark or an appellation of origin, authorised by the peoples or communities concerned. National laws for the protection of indigenous peoples' heritage should be adopted following consultations with the peoples concerned, in particular the traditional owners and teachers of religious, sacred and spiritual knowledge, and, wherever possible, should have the informed consent of the peoples concerned. And they should ensure that the use of traditional languages in education, arts and the mass media is respected and, to the extent possible, promoted and strengthened.

Both national and international law must be in accordance with customary laws, and national IP legislations have to be compatible with international standards. There should be practical administrative procedures and enforcement mechanisms. National ministries and IP authorities, or probably an umbrella national agency, should work cordially. All the standard domestic legal protection should provide key definitions, incorporate all minimum requirements - formalities, applications, procedures - be

[710] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

practical and transparent, and not intervened by any parties. Also, the use of effective legal mechanisms including ADRs, as well as some other forms of protection such as remedies against TK misappropriation, unfair competition and breach of confidence, some of which do not require specific right holders, should be enhanced. Policy-makers and stakeholders should address the multiple and multi-layered issues and questions, and make choices, or develop and fine-tune a range of solutions in order to address and balance the various objectives and interests.[711]

Due to the limitations of IPR systems, the adoption of a *sui generis* law in any country should be a strong consideration of all governments when dealing with issues relating to community rights over TK.[712] The tendencies of policies, laws and programmes to ignore the value of TK, the role of indigenous and local communities in biodiversity conservation and their close dependence on natural ecosystems, and to promote modern forms of development need to be reviewed.[713]

Each national patent office and the secretariat for each IPR convention, in consultation with indigenous organisations, can create an ombudsperson position, with the task of investigating complaints from indigenous communities, delaying patent approvals and requesting the review of specific patents or patent applications. A tribunal or patent court should be held to resolve the disputes.[714] Furthermore, governments could provide useful activities and funding mechanisms to enable indigenous peoples to participate directly in negotiations relevant to the protection of their intellectual and cultural property rights, at local, national and international

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[711] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

[712] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

[713] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

[714] Bengwaya, M. A. (2003). Intellectual and Cultural Property Rights of Indigenous and Tribal Peoples in Asia, Minority Rights Group International.

levels. The repatriation of cultural property to its rightful indigenous owners should be facilitated, and it should be ensured that the rights of indigenous peoples to own and benefit from their ancestral lands and territories are fully protected in their domestic laws and policies. This would be done by disseminating information to all indigenous communities on national and international policies on intellectual and cultural property rights.[715]

5.4 Protection under the existing IP regime

5.4.1 Protection through Patents or PBR

IP protection of plants may be by patents or Plant Breeders' Rights (PBR), or both (Article 27.3(b)). Most countries are selecting the PBR option while the complete solution might be an effective *sui generis* system.[716] Some elements of TM may be protected under patents. Patents have been granted on natural components, as well as on combinations of plants for therapeutic use. Patents are probably the most efficient means of protecting biotechnological inventions. However, as most TK is not contemporary and has been used for a long period, the novelty and/or inventive step requirements of patent protection may be difficult to meet.[717] Therefore, petty patents may be more suitable for TK, as TK is not typically documented in the same manner as Western science. Some countries have enforced this mechanism as a means of protecting TK.[718]

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[715] Ibid.

[716] Lesser, W. (2000). An Economic Approach to Identifying an 'Effective *sui generis* System' for Plant Variety Protection Under TRIPs. Agriculture and Intellectual Property Rights: Economic, Institutional and Implementation Issues in Biotechnology. V. Santaniello, R. E. Evenson, D. Zilberman and G. A. Carlson, CABI Publishing**:** 53-76.

[717] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

[718] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

Utility patents are applied to live organisms in a few countries, notably the US. These patents use different criteria (novelty, utility, and non-obviousness) and are more restrictive than plant variety protection. Breeders' or farmers' exemptions are not recognised under utility patents.[719] There is a high incidence of third party opposition involved in biotechnology patenting as might be expected in such a fragmented field where competition is extremely intense. One solution is cross-licensing, whereby both parties grant each other the rights to technology.[720]

Some countries protect plant varieties with PVP certificates. This mechanism is used to protect the rights of breeders of sexually reproducing varieties of plants (reproducing by seed). Breeder's rights protect the commercial interests of the breeder, so that economic incentives exist for continued breeding of new plant varieties. Unlike patents, PVP certificates do not require the authorisation of the breeder for use of the variety by others for research purposes. The criteria for a PVP certificate are slightly different from those for a plant patent. To meet UPOV requirements, varieties must be: distinct to existing, commonly known varieties; sufficiently uniform; stable; and novel.[721] UPOV has other advantages over patents. It provides some legal clarity whereas patents do not; while a single product may be protected by numerous patents, any one plant variety is covered by one PVP certificate and they involve far less litigation than patents.[722] It is, nevertheless, recommended that developing countries avoid adhesion of the UPOV 1991 model and

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[719] Brush, S. B. (1996). Whose Knowledge, Whose Genes, Whose Rights? Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 1-21.

[720] Sullivan, N. F. (1995). Technology Transfer: Making the most of your intellectual property, Cambridge University Press.

[721] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

[722] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

do not accept the insertion of chapters regulating IPR in bilateral and regional trade negotiations.[723]

Some features that could be considered in establishing IPR for plant technology innovations have been suggested by Evenson (2000), as follows: plant breeders' rights, such as PVP certificates, could be adopted including appropriate exemptions to balance private and public interests. The utility patent laws could be modified to include the exemptions now included under the US Plant Variety Protection Act, namely: (i) a crop replanting exemption for farmers; (ii) a research exemption; and (iii) a public policy exemption allowing the government to require the availability of sufficient seed stock to provide food needs. The duration of the patent right protection could be modified or controlled by requiring 'working' or commercialisation so as to prevent the holding of blocking patents that are not exploited. The term for the patent rights could be structured to include downstream years of the patent life when blocking effects may be the most adverse, and patent rights will presumably be the most valuable and able to support higher fees. The scope of the patent claims allowed could be carefully limited to preclude the coverage of open-ended ranges that were never allowed in the original patent application specification.[724]

5.4.2 Geographical Indications

A variety of legal tools are used in national laws to provide protection for GIs. For example, France continues its system of appellations d'origine controllée (AOCs); the Italians and Spanish have parallel systems; the EU merges French and German juridical notions with its bifurcated system of PDO and PGI; the US, Canada, and Japan provide GI protection principally through certification mark law; Mexico has a long-standing appellations law in its Industrial Property Code; the Brazil, China, and

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[723] Basso, M. and Edson Beas Rodrigues Jr (2007). Free Trade Agreements, UPOV and Plant Varieties. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 171-209.

[724] Evenson, D. D. (2000). Patent and Other Private Legal Rights for Biotechnology Inventions (Intellectual Property Rights - IPR). Agriculture and Intellectual Property Rights: Economic, Institutional and Implementation Issues in Biotechnology. V. Santaniello, R. E. Evenson, D. Zilberman and G. A. Carlson, CABI Publishing**:** 11-25.

India have implemented special GI laws in response to TRIPs; and most major wine-producing jurisdictions (EU, US, Australia, South Africa, Chile) have special laws on the geographic names used in conjunction with wines and spirits.[725]

Even though GIs are usually geographical names, non-geographical names can also be protected if they are linked to a particular place. The most famous example of such a GI is 'feta' cheese, which is not named after a place in Greece, but is so closely connected to Greece that it is identified as an inherently Greek product.[726] There are some examples of goods sold on the international market under the same GI names producers in developing countries are known for, but they do not actually originate from them. The region of 'Antigua' in Guatemala produces some six million pounds of genuine 'Antigua' coffee, yet some 50 million pounds of coffee are sold under the 'Antigua' name around the world. Indian 'Darjeeling' tea producers export 8.5 million kg of this tea, generating some 30 million euros for the region, yet some 30 million kg of tea are traded around the world under the denomination 'Darjeeling'. This practise includes products as diverse as Indian Basmati rice, Namibian Devil's Claw, South Pacific Kava, South African Rooibos, Andean Quinoa, and the Neem tree.[727] GIs may enhance the value of agricultural products, handicrafts and other TK-derived products. Within the WTO, several developing countries have indicated their interest in an enhanced protection of GIs.[728] However, it should be aware that

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[725] Hughes, J. (2009). Coffee and chocolate - can we help developing country farmers through geographical indications? , A report prepared for the International Intellectual Property Institute, Washington, D.C., USA.

[726] European Commission. "Geographical Indications." 2012, from http://ec.europa.eu/trade/creating-opportunities/trade-topics/intellectual-property/geographical-indications/.

[727] Dagne, T. W. (2010). "Law and Policy on Intellectual Property, Traditional Knowledge and Development: Legally Protecting Creativity and Collective Rights in Traditional Knowledge-Based Agricultural Products Through Geographical Indications." Estey Centre Journal of International Law and Trade Policy **11** (Number 1): 68-117.

[728] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

protection of GIs is only aimed at protecting the names of goods, but not the knowledge behind them.[729]

5.4.3 Trademarks/Certification Marks/Trade Names/Industrial Designs

Trademarks can become a valuable asset and as many technology companies are entering the market, often with similar products, they will become increasingly important in order to distinguish their features.[730] However, trademarks are aimed at protecting signs used for goods and services by entrepreneurs, and not TK. Indirect protection of TK under a trademark might be possible as one could be granted to a sign of a group to which TK belongs. A brand could be established using the mark of the group.[731]

Trademarks or GIs can be used as mechanisms to protect some forms of indigenous art. For example, a trademark or a GI can be an indicator of a particular tribe or indigenous group, thereby identifying the tribe or group to the consumer.[732] In practice, trademarks and GIs co-exist in the market place. Many products are double-branded by trademarks and GIs, where several producers market one kind of product under specific standards and use their own distinct trademarks along with the GI or certification mark applicable to that product.[733]

Certification marks are a subset of trademark indicating that the goods or services on which they are used are certified by the proprietor of the mark with respect to

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[729] O'Connor, B. (2004). The Law of Geographical Indications, Cameron May Ltd.

[730] Sullivan, N. F. (1995). Technology Transfer: Making the most of your intellectual property, Cambridge University Press.

[731] World Intellectual Property Organization. "Comments on the List of Issues from Japan (Traditional Knowledge)." 2013, from http://www.wipo.int/export/sites/www/tk/en/igc/pdf/japan_tk.pdf.

[732] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[733] International Trademark Association. "Geographical Indications." 2012, from http://www.inta.org/TrademarkBasics/FactSheets/Pages/GeographicalIndicationsFactSheet.aspx.

geographical origin, material, method of manufacture, standard of performance of services, quality, accuracy, or other characteristics. Typically an applicant for a certification mark must indicate: who is authorised to use the mark; the characteristics to be certified by the mark; how the certifying body is to test those characteristics and supervise the use of the mark; the fees (if any) to be paid in connection with the operation of the mark; and the procedures for resolving disputes.[734]

Trade names may protect any manufacturer, craftsman, professional person or trader in a native or indigenous community. They can identify the bodies that represent such persons or in which they are grouped (co-operatives, guilds, etc.), and are also used to promote the activities of the person, or entity that it identifies, within and beyond the borders of the country of origin. In industrial design, they could protect the design and shape of utilitarian craft products such as furniture, garments and other materials.[735]

5.4.4 Copyright

Copyright law can generally be used to protect some kinds of works; for instance, the artistic manifestations of TK holders and related rights such as performing rights to protect their performances. However, it has some fundamental limitations in the context of folklore. Firstly, whereas copyright requires an identifiable author, the notion of authorship is a problematic concept in many traditional societies. Secondly, copyright has a time limit, whereas for folkloric expressions that are important elements of people's cultural identity it would be more appropriate to have permanent protection. Thirdly, copyright normally requires works to be fixed. Frequently, folkloric expressions are not fixed, but are passed on orally from generation to

[734] Sanders, A. K. (2005). Future Solutions for Protecting Geographical Indications Worldwide. New Frontiers of Intellectual Property Law:IP and Cultural Heritage-Geographical Indications-Enforcement-Overprotection. J. Drexl, R. Hilty and H. C. J. Strauss. Oxford and Portland, Oregon, Hart Publisher. **25:** 153-168.

[735] Nunez, R. G. A. (2008). "Intellectual Property and the Protection of Traditional Knowledge, Genetic Resources and Folklore: The Peruvian Experience." Max Planck Yearbook of United Nations Law **12**: 487-549.

generation, and this normally excludes such expressions from eligibility for copyright protection.[736]

5.4.5 Trade Secrets/Confidential Information/Know-How

Some say trade secret law is possibly the best form of protection for TK amongst prevailing regimes of IP. A trade secret can consist of any pattern, device, compilation, method, technique, or process that gives a competitive advantage. The first step towards trade secret protection of knowledge of indigenous people is the realisation of its value by the holders. An awareness of the rights and long term benefits that will be gained if knowledge is protected as a trade secret is also essential. Normally, knowledge limited to and secured by an identifiable number of people is subject to trade secret protection, provided there is a clear intention to treat it as a secret.[737]

Trade secrets and know-how can take on a wide variety of forms, and a licence on such property must define very clearly what is being licensed. The licensee may seek sufficient assistance from the licensor to enable it to utilise the licensed property effectively; the licensor, however, should take care not to include anything in the licence that could be construed as a warranty of the suitability or effectiveness of the licensed property. Licences of trade secrets and know-how should include provisions for the maintenance of secrecy.[738]

The law of confidentiality and trade secrets has generally been used to protect matter, which is unpatentable, non-disclosed TK, and secret and sacred TK. Trade secrets can also be applied to a wide range of areas; for instance, information collected by an anthropologist/plant collector from a traditional healer, and subsequently transcribed

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[736] Dutfield, G. (2004). Intellectual property, biogenetic resources and traditional knowledge, Earthscan.

[737] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

[738] Poltorak, A. I. and L. P. J. (2004). Know-how and Trade Secret Licenses. Essentials of Licensing Intellectual Property, John Wiley & Sons, Inc.**:** 69-77.

to a herbarium label attached to a specimen voucher or published in a report, could be considered as a trade secret.[739] Courts may award remedies for breach of confidence when customary laws of secrecy are violated.[740]

5.4.6 Traditional/Customary law

Black's Law Dictionary defines 'customary law' as law, 'consisting of customs that are accepted as legal requirements or obligatory rules of conduct; practices and beliefs that are so vital and intrinsic a part of a social and economic system that they are treated as if they were laws'. Customary laws are derived from the use of natural resources. Some practices and beliefs acquire the force of law, are locally recognised, orally held, adaptable and evolving. They are enforced by community institutions, and can have sanctions attached. Nevertheless, they tend not to be recognised in formal courts if they conflict with formal law. To improve recognition, customary legal structures/systems need to be strengthened, and elements of customary law may need to be written down.[741]

International negotiations on measures for the protection of TK, both within the framework of the CBD and in the WIPO IGC, have included the treatment of customary law as one of the basic elements for the protection of TK associated with GRs and TCEs.[742] Community-level *sui generis* systems should be based on existing customary laws and practices for the conservation, sustainable use and ABS of biodiversity and related knowledge in their particular ecological and socio-cultural

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[739] Jermy, Long, Sands, Stork, Winser (Eds.) (1995). Biodiversity assessment: a guide to good practice., Department of the Environment/HMSO, London.

[740] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

[741] International Institute for Environment and Development (IIED) Protecting Community Rights over Traditional Knowledge: Implications of customary laws and practices. Key findings and recommendations 2005-2009. London, UK.

[742] Cruz, R. d. l., J. G. Mirabal, et al. (2006). Regional Study in the Andean Countries: "Customary Law in the Protection of Traditional Knowledge". Final Report Revised for WIPO. Quito, Ecuador.

contexts.[743] The case for the recognition of customary laws and practices as the basis for protection of TK is stronger when under treaty, national and constitutional law, indigenous peoples or local communities have rights to full or partial self-governance and/or control of access to and use of their resources and TK.[744] However, some scholars opine that the formal IPR system and customary legal systems that apply to traditional innovations do not interface.[745]

5.5 What's wrong with the current IP regime?

There following are some reasons why the IPR system, in some cases, has limitations and is not suitable for protecting TK:

Generally, under current IPRs the criteria set for inventions make them inadequate to protect TK. IPRs are largely individual rights and they recognise individual ownership based on the time and labour expended in producing the new invention, but they do not recognise TK as this is always owned largely by the community and passed on from generation to generation. In addition, TK is largely in the public domain but limited to certain families or communities, hence there is no one inventor.[746] The IPR system is not designed for the needs of indigenous and local communities as it gives

[743] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

[744] Alexander, M., K. Chamundeeswari, et al. (2004). The role of Registers and Databases in the protection of Traditional Knowledge: A comparative analysis, UNU-IAS Report, United Nations University Institute of Advanced Studies (UNU-IAS).

[745] See Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

[746] Wekundah, J. M. (2012). Why Protect Traditional Knowledge?, The African Technology Policy Studies Network, Biotechnology Trust Africa, Nairobi, Kenya. Special Paper Series No. 44.

too higher standards of protection and innovations generated at the community level have difficulty meeting the required criteria.[747]

The use of IPRs may lead to the heavy commercialisation of knowledge and resources. Applying market mechanisms to TK will erode the pool of valuable herbs and wild species and might undermine local culture and the way of life of many people. The IPR system protects individual and corporate interests, rather than communal rights. Some forms of IPRs, such as copyrights and trademarks, may be used to protect TK, but inadequacies in these laws remain. Even if IPRs were extended to cover informal knowledge, there would still be serious problems with: how rights might be allocated; how they might be enforced; what form of administrative structure would support them; and how the benefits from the rights might be delivered to stakeholders. Even if TK was protected under IPR law, there would still be several limitations on the enforcement of rights as the benefit of IPRs to TK owners seems minimal. The unsuitability of existing IPR laws makes it necessary for developing countries to adopt a *sui generis* law if they want to protect their informal innovations and biological resources properly.[748]

There are several potentially negative aspects to patents for protecting TK. Firstly, applying for a patent requires the full disclosure (making public) of the invention or innovation and shortly after the patent is approved, this information is placed in the public domain by the patent application publication becoming publicly available. If the knowledge concerned is considered to be a trade secret, a patent may not be the most appropriate IP solution for TK. The invention or innovation must be novel according to patent office standards. The patent applicant must prove that the invention or innovation is not part of the current prior art base as defined by each country's definition of novelty in patent law. In many countries, TK may be considered *de facto* part of the prior art base. The application process for obtaining a patent can be time-consuming and expensive. Additionally, once a patent is granted, it

[747] Yano, L. I. (1993). "Protection of the ethnobiological knowledge of indigenous peoples." UCLA L. Rev. Vol. 41, 443 at p 460.

[748] Kuanpoth, J. (2007). "Legal protection of traditional knowledge: A Thai perspective." Tech Monitor: 34-41.

is the responsibility of the patent holder to enforce the patent against infringement.[749] And under patent laws, collective innovations are not patentable and TK is not considered to be joint ventures, which mean that each inventor must have contributed to the inventive step or given thought to the final results.[750] The consideration of these limitations, together with the fact that rights are ordinarily granted to individuals or corporations rather than to cultures or peoples, indicates that patents are not useful for protecting TK or indigenous people's heritage. Neither are they helpful for protecting knowledge that people wish to keep confidential or does not meet the high standards of inventiveness and non-obviousness required.[751]

Although there have been some attempts to harmonise the PVP and patent systems, especially with respect to farmers privilege, there are still some fundamental differences in the rights of a patent holder and a PVP holder; importantly the one to research exemption.[752]

GIs offer certain protection for TK and IK only when there is a product circulating within a market. There are various difficulties in protecting IK that spans communities, locations and even countries. In such circumstances GIs have the potential to grant monopoly rights over knowledge to one region, when the knowledge is, in fact, spread over many regions.[753] Trademarks and certification

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[749] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

[750] Institute of Economic Affairs (2011). Biodiversity, Traditional Knowledge and Intellectual Property in Kenya: The Legal and Institutional Framework for Sustainable Economic Development. Nairobi, Kenya.

[751] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[752] Adcock, M. (2007). "Commentary: Intellectual property, genetically modified crops and bioethics." Biotechnology Journal **2**(9): 1088–1092.

[753] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

marks provide certain economic rights to indigenous owners of marks registered, as well as preventing third parties from registering culturally offensive marks. However, there are some limitations to these marks being used to protect TK, as TK needs to be transformed into words, phrases, symbols, designs or a combination of these to qualify as registrable marks. This condition would exclude a TK that is not distinctive, incapable of being transformed or expressed in a way that makes it impossible to fashion it into one of prescribes forms.[754] Another challenge includes the UNDRIP 2007, which contains various provisions for the safeguarding of heritage, TK and TCEs, but does not define the concept of 'indigenous peoples'.

Under the condition that copyright only protects the way ideas are expressed but not the ideas themselves; there are some issues concerning indigenous cultural expression meeting copyright requirements in terms of the originality and form of the material, as some indigenous cultural works may be very old or are deemed to be in the public domain and so they are out of copyright protection, or the legal individual author may be unknown.[755] Also, as projects involving documentation and collecting involving indigenous peoples are often carried out by researchers, colonial administrations and non-indigenous governments, indigenous peoples need to secure permission from the copyright owner to make productions and copies of items.[756]

Secret and sacred knowledge refers to knowledge that is strictly controlled under customary laws. It may be made available only to the initiated, used at a particular time or for a specific purpose. It may be information that can only be seen and heard

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[754] Samoa Law Reform Commission (2010). The Protection of Samoa's Traditional Knowledge and Expressions of Culture, Issues Paper IP 08/10.

[755] Terri Janke & Company Pty Ltd (2012). New tracks: Indigenous knowledge and cultural expression and the Australian intellectual property system, Response to: Finding the Way: a conversation with Aboriginal and Torres Strait Islander peoples, conducted by IP Australia and Office for the Arts. Rosebery, NSW, Australia.

[756] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

by particular people with certain knowledge.[757] There may be difficulties in satisfying the key elements that constitute a claim for breach of confidence, especially using the conditions set out in the TRIPs Agreement.[758] Enforcement of trade secrets law is difficult, due to problems of maintaining secrecy and the extent of public disclosure.[759]

IP enforcement for TK in general, either through civil or criminal proceedings, will be concerned with the details of civil procedure, the available remedies, the structure and specialisation of courts and appellate bodies, the alternatives to court procedures, the cost of litigation and legal advice, as well as criminal sanctions.[760] In many cases, dealing with TK may involve complex IP issues where experts need to be involved. Also, hard proof of evidence that TK is a collective/communal right, time-consuming processes, and great effort and expense may be required. Hence, the damages, remedies or criminal sanctions for the rights owners or TK beneficiaries may not be sufficient unless effective enforcement is in place.

In summary, there are many reasons why the set criteria in current IPRs make them unsuitable and inadequate to protect TK. IPRs are private/individual rights and as such they contain no real concept of communal/joint rights, and so do not recognise TK. As TK is largely in the public domain and is passed down from generation to generation, it is difficult to indentify the genuine owner/holder. The granting criteria and the standards of protection are, respectively, too strict and too high. What to

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[757] Terri Janke & Company Pty Ltd (2012). New tracks: Indigenous knowledge and cultural expression and the Australian intellectual property system, Response to: Finding the Way: a conversation with Aboriginal and Torres Strait Islander peoples, conducted by IP Australia and Office for the Arts. Rosebery, NSW, Australia.

[758] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[759] Jermy, Long, Sands, Stork, Winser (Eds.) (1995). Biodiversity assessment: a guide to good practice., Department of the Environment/HMSO, London.

[760] World Intellectual Property Organization. "What is understood by "intellectual property (IP) enforcement"?" 2013, from http://www.wipo.int/enforcement/en/faq/general/faq01.html.

protect is often too specific, the duration of protection is too limited, and enforcement mechanisms are always too complicated and expensive.

5.6 *Sui generis* system for IP-related issues

A *Sui generis* system is perhaps suitable for some countries in certain situations as it should be treated differently from one country to another. *Sui generis* is a term used to describe something that is unique or different. A *Sui generis* system includes the modification of some of the features of the IP system so as to properly accommodate the special characteristics of its subject matter (TK) and specific policy needs that led to the establishment of a different system. It is intended for wider application to the knowledge, innovations and practices of indigenous and local communities with the involvement of holders. It might consist of some standard forms of IP protection combined with other forms of protection or none at all, or adopt measures of protection specific to TK.[761]

As TK does not exist in isolation but is intimately connected to biodiversity, landscapes, cultural and spiritual values, and customary laws, its preservation and maintenance depends on these components of knowledge systems and their ongoing interaction. *Sui generis* systems should go beyond a narrow focus on protecting the rights over knowledge, including the protection of rights to traditional resources and territories, as well as the protection and strengthening of cultural and spiritual values, and the recognition of customary laws.[762]

Special legislative schemes have been developed to deal with PBRs and access to GRs. *Sui generis* regimes have been mooted for all manner of other subject matter,

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[761] Kalaskar, B. S. (2012). "Traditional Knowledge and Sui-Generis Law." International Journal of Scientific & Engineering Research **3(**7).

[762] IIED, Kechua-Aymara Association for Nature and Sustainable Development (ANDES, Peru), Fundacion Dobbo Yala (Panama), University of Panama, Ecoserve (India), Centre for Indigenous Farming Systems (India), Herbal and Folklore Research Centre (India), Centre for Chinese Agricultural Policy (CCAP, China), Southern Environmental and Agricultural Policy Research Institute (ICIPE, Kenya), Kenya Forestry Research Institute (2005). Sui Generis Systems for the Protection of Traditional Knowledge (Information for the Secretariat of the Convention on Biological Diversity)**:** 1-21.

including scientific discoveries, animal breeders' rights, genetic databases and the protection of TK.[763] However, Brazil, Costa Rica, India, Peru, Panama, the Philippines, Portugal, Thailand and the US have all adopted *sui generis* laws that protect at least some aspects of TK.[764]

There is a lot of debate on the systems of protection that can be adopted to provide legal protection for the IP of indigenous peoples and communities. Adapting existing forms of IPRs, such as patents, trade secrets and copyrights, to the IK and bioresources fields is not likely to work. This is because of the inherent mismatch between protection that was created for finite, inanimate objects emerging from industrial activity, and the flowing, mutable and variable properties of biological materials and associated IK.[765]

Although the drafting of a unique *sui generis* system may suit the needs of an individual country, the problem of extraterritorial protection of TK and genetic resources remains. There is still the possibility that large pharmaceutical and agro-industrial companies will continue to patent inventions (or discoveries) and processes, which utilise genetic resources and associated TK, in the developed countries where they are based without disclosing the source and country of origin of such resources and knowledge.[766] Furthermore, the establishment of a *sui generis* regime, which has been strongly advocated by some academics, would result in many complex conceptual and practical issues. These include: how to define the subject matter to be

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[763] Rimmer, M. (2008). Intellectual Property and Biotechnology: Biological Inventions, Edward Elgar.

[764] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[765] Sahai, S. (2003). Indigenous Knowledge and its Protection in India. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 166-174.

[766] Robinson, D. F. (2006). Governance and Micropolitics of Traditional Knowledge, Biodiversity and Intellectual Property in Thailand: Research Report, National Human Rights Commission of Thailand, Bangkok, UNSW and University of Sydney.

protected; what the requirements for protection should be; what the nature of the rights to be conferred should be; who the title holders should be; how the rights should be acquired; how long the rights should last; and how the rights should be enforced.[767]

If the *sui generis* route is adopted, a critical policy issue is whether the search for a regime of protection of TK should be aimed at creating one comprehensive regime covering all manifestations of TK, or at creating a set of different, specific regimes adapted to the nature of the subject matter to be protected. The development of a single regime would require it to deal with quite diverse subject matters for which it might be hard to define common rules, e.g., artistic works, farmers' varieties, traditional medical methods. An alternative approach is to consider the adoption of specific regimes for well-defined components of TK, such as for artistic creations, including expressions of folklore, TM, and PGR for food and agriculture and associated knowledge.[768]

Sui generis systems should be flexible and practical. It is also important to understand the context in which TK and GRs are provided and utilised by including the following key elements:

1) Equity: IPRs can be used as an instrument between TK holders and acquirers in order to ensure that justice and fairness is well recognised and achieved.

2) Human Rights: Human rights are a crucial element and could provide a basis for the recognition and protection of TK and GRs. This also

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[767] Sahai, S. (2003). Indigenous Knowledge and its Protection in India. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 166-174.

[768] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

deals with the question of how to define a fine line between the public domain and the scope of IP protection.

3) Autonomy: Autonomy means the independence or freedom of each community. Sovereignty must be recognised as TK, TCEs and the cultural autonomy of communities all linked together.

4) Moral Rights: The authors or owners/holders of TK and TCEs should be entitled to the right to retain some control over their works or knowledge in a non-economic way.

5) Protection & Preservation: This part considers some concerns, as well as the role that IP principles and systems can actively play in protecting, safeguarding or preserving TK and GRs.

6) Development: It is essential to study how changes and developments in a new form of IPRs to protect the use of TK should effectively be made.

5.7 Considerations for optional protection

The six key elements are elaborated on below for a clear understanding:

5.7.1 Equity

One of the reasons for protecting TK is to fulfil moral obligations to indigenous/local communities and to prevent bio-misappropriation.[769] Equity originated in England as a quasi extra-judicial remedy for redress of the excesses and injustices arising through the rigid application of the law, as a form of relief dependent upon subjective

[769] Dutfield, G. (2004). Intellectual property, biogenetic resources and traditional knowledge, Earthscan.

interpretation of justice. The subsequent case law gradually evolved into the branch of law known in common law systems as 'equity'.[770]

The irony is that scientists can protect and benefit from their innovations whereas the traditional farmers' contributions are overlooked. Farmers do not charge for the samples taken by scientists and seed companies, hence the inequality inherent in the current system of IPRs.[771] As a result, the underlying concept in many proposals for the protection of TK is based on equity considerations. TK generates value that is currently not adequately recognised and compensated. Therefore, the protection of TK is necessary to bring equity to essentially unjust and unequal relations.[772] The CBD may be seen to acknowledge the injustices relating to access and use of GRs and TK of the existing legal regime.[773] Interestingly, the use of doctrines of the law of equity is perhaps another approach to ABS agreements with indigenous communities. Equity is a moral issue with repercussions with respect to the distribution of benefits and environmental conservation. Equity is dependent on the beholder; different individuals come to different conclusions about how to achieve it and about what is equitable.[774]

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[770] Tobin, B. (2002). Biodiversity prospecting contracts: the search for equitable agreements. Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice. S. A. Laird. London and Sterling, VA, Earthscan Publications Ltd**:** 287-309.

[771] Wekundah, J. M. (2012). Why Protect Traditional Knowledge?, The African Technology Policy Studies Network, Biotechnology Trust Africa, Nairobi, Kenya. Special Paper Series No. 44.

[772] Correa, C. M. (2001). Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge, Quaker United Nations Office Geneva.

[773] Tobin, B. (2002). Biodiversity prospecting contracts: the search for equitable agreements. Biodiversity and Traditional Knowledge: Equitable Partnerships in Practice. S. A. Laird. London and Sterling, VA, Earthscan Publications Ltd**:** 287-309.

[774] Krattiger, A., R. Mahoney, et al. (2007). "Bioprospecting, Traditional Knowledge, and Benefit Sharing." Executive Guide to Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices **2**(16): 1437-1559. Available online at http://www.iphandbook.org/handbook/execguide_files/ipHandbook%20Guide-Section%2016.pdf.

Implementing equitable principles for indigenous and local community participation in biodiversity management need not wait for legislation. Scientists and scientific societies could increase their support for IK research in partnership with communities, and indigenous peoples should take part at all levels of decision-making and in co-management. Scientists should also make data generated available to the communities of its origin, and provide capacity-building to help them manage their own information.[775]

5.7.1.1 Access and Benefit-Sharing Agreements (ABS)

The fair and equitable sharing of the benefits arising out of the utilisation of GRs is one of the three objectives of the CBD, stated in Articles 15 (Access to GRs) and 8(j) (TK), and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation and the CBD has strengthened this important principle for greater legal certainty. ABS agreements are promoted and implemented as one of the key mechanisms for the protection of TK from illegitimate appropriation; for example, by pharmaceutical companies or other actors. However, because they predominantly treat TK as IP in need of protection from misappropriation, they have the effect of expanding capitalism into a previously non-capitalist domain.[776] Local benefits can serve as conservation incentives. Compensation can be either monetary in the form of fees, payments into trust funds managed by a community or a donation of a percentage of royalties from the sales of products, and/or non-monetary, such as screening for therapeutic potential, providing training in relevant areas, equipment purchases and other developments of infrastructure.[777]

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[775] Mauro, F. and P. D. Hardison (2000). "Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Initiatives." Ecological Applications **10**(5): 1263-1269.

[776] Moeller, N. (2010). The Protection of Traditional Knowledge in the Ecuadorian Amazon: A Critical Ethnography of Capital Expansion, Lancaster University, ESRC Genomics Network.

[777] Grifo, F. T. and D. R. Downes (1996). Agreements to Collect Biodiversity for Pharmaceutical Research: Major Issues and Proposed Principles. Valuing Local Knowledge:

Depending on the ABS situation (no ABS situation, simple ABS situation, ABS situation, or complex ABS situation), a series of procedural steps will need to be taken pursuant to relevant national legislation. Documents needed might include a letter of intent, a research permit, PIC, MAT, MTA and a confidentiality agreement.[778] The government could incorporate the concept of PIC of indigenous and local communities into national legislation relevant to intellectual and cultural property, integrate biodiversity resource protection and indigenous peoples' rights education into their school curricula, and suspend projects in indigenous peoples' territories that were initiated without their full and PIC.[779]

The most complex scenario is a situation in which the proposed research involves several steps, including research for commercial purposes and the possible use of TK. Initially, confidentiality agreements and letters of intent could be signed, followed by PIC, MAT, and MTA. In the MAT, issues concerning benefits have to be elucidated and agreed upon. Terms like interest, profit, and return, as well as payment times, have to be discussed and jointly interpreted by all stakeholders.[780] A model MTA should specify: whether it concerns only the transfer of biological material, or whether TK or know-how is included; the purpose and scope of the transfer, and the use of the knowledge or materials; notably, the details of the contract may differ in cases where the use for commercial purposes is agreed to. Restrictions to potential use may be also specified: who will have the right to apply for ensuing IPR protection;

Indigenous People and Intellectual Property Rights. S. B. Brush and D. Stabinsky, Island Press.

[778] Thornström, C. G. and L. Björk (2007). "Access and Benefit Sharing: Illustrated Procedures for the Collection and Importation of Biological Materials." Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices: eds. A Krattiger, RT Mahoney, L Nelsen, et al. MIHR: Oxford, U.K., and PIPRA: Davis, U.S.A. Available online at www.ipHandbook.org.

[779] Bengwaya, M. A. (2003). Intellectual and Cultural Property Rights of Indigenous and Tribal Peoples in Asia, Minority Rights Group International.

[780] Thornström, C. G. and L. Björk (2007). "Access and Benefit Sharing: Illustrated Procedures for the Collection and Importation of Biological Materials." Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices: eds. A Krattiger, RT Mahoney, L Nelsen, et al. MIHR: Oxford, U.K., and PIPRA: Davis, U.S.A. Available online at www.ipHandbook.org.

whether royalties would be paid, and if so, how they should be distributed between concerned parties (such as the local community and a traditional healer); a clause forbidding further disclosure of the transferred knowledge or know-how may be included; conditions with respect to TOT to the provider of the TK can be included; for example, research and development can be performed as a collaboration between the parties; and termination of the contract and settlement of disputes will have to be addressed.[781]

The receipt of fair and equitable benefits by indigenous people will depend on the degree to which they are informed about the potential commercial value of their knowledge and about the legal consequences of any agreements. It will also be dependent on the extent to which they possess: the institutional capacity, at the community level, to engage in effective negotiations; the financial resources; juridical standing; expertise to take legal action; and the existence of effective and affordable legal remedies.[782]

The *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of Their Utilisation* are expected to assist parties, governments and other stakeholders to develop overall ABS strategies, and to identify the steps involved in the process of obtaining access to GRs and benefit-sharing. More specifically, the guidelines are intended to help them when establishing legislative, administrative or policy measures on ABS and/or when negotiating contractual arrangements for ABS. A programme for capacity-building is already under way to ensure that developing countries are in a position effectively to implement the guidelines and the corresponding provisions of the convention. Although they are not legally binding, the fact that the guidelines were unanimously adopted by some 180

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[781] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

[782] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

countries gives them clear and indisputable authority.[783] Costa Rica's Biodiversity Law of 1998, for example, has sucessfully created a legal framework in line with the principles and themes outlined in the CBD, setting one of its goals as, promoting the conservation and sustainable use of biodiversity and ensuring the fair and equitable sharing of benefits derived therefrom in an integrated and inter-related manner.[784] Interpretation of the principles of FPIC and ABS should be embedded in international instruments, and implemented based on a human rights approach. They should also be legally recognised in national legislation and legally enforceable through the courts. Also international legal frameworks need to be developed on these vital principles in order to elaborate and harmonise the implementation of the international agencies in relation to indigenous peoples and local communities.[785]

5.7.1.2 Unfair competition/ Antitrust

In IPRs, provisions against unfair competition may be used to protect undisclosed or secret TK of indigenous people. These would deal with situations in which TK-holders engaged in commercial activities (relating, for example, to know-how, medicinal plants, artworks or handicrafts) had their trade affected by certain unfair commercial practices committed by others.[786] This system permits actions against false or misleading claims that a product is authentically indigenous, or has been

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[783] Secretariat of the Convention on Biological Diversity (2002). Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization. Montreal: Secretariat of the Convention on Biological Diversity.

[784] Cabrera, J., F. Perron-Welch, et al. (2011). Crafting Visionary Biodiversity Laws: Costa Rica's Biodiversity Law 1998 - A Best Policy in Implementing the UN Convention on Biodiversity. A Paper Presented at the United Nations Decade on Biodiversity. Costa Rica, World Future Council (WFC) and Centre for International Sustainable Development Law (CISDL).

[785] Tamang, P. (2005). An Overview of the Principle of Free, Prior and Informed Consent and Indigenous Peoples in International and Domestic Law and Practices. UN Headquarter, New York, USA, Presented at Workshop on Free, Prior and Informed Consent and Indigenous Peoples, organised by the Secretariat of UNPFII.

[786] Dutfield, G. (2004). Intellectual property, biogenetic resources and traditional knowledge, Earthscan.

produced or endorsed by, or associated with, a particular traditional community.[787] Antitrust violations are difficult to detect because practices like cross licensing, patent pools or refusal to deal are not prohibited. Decisions by competition authorities may directly affect the incentive to innovate. Antitrust laws prohibit behaviour that goes beyond what patents, copyright and trademarks generally allow. Price fixing, co-ordinated restrictions on output or foreclosure of innovation are the most important practices to be prohibited by antitrust provisions.[788]

Antitrust enforcers and the courts have recognised that IP and antitrust are complementary bodies of laws that work together, sharing the same fundamental goals of enhancing consumer welfare and promoting innovation. Antitrust laws protect robust competition in the marketplace, while IP laws protect the ability to earn a return on the investments necessary to innovate,[789] although there will always be tensions between the two fields of law, e.g. in cases of patent pooling, of licensing contracts containing restrictive clauses or of abuse of an IP-protected dominant position. An appropriate definition of IP rights, e.g. in duration and scope is recommended. Overprotection, which increases conflicts with competition law, and underprotection, which jeopardises innovation, should be avoided.[790]

In the US, holders of patents and other types of IP, while enjoying the benefits that the law confers on their inventions and works, must navigate a wide array of antitrust rules and regulations. Both §§ 1 and 2 of the Sherman Antitrust Act (15 U.S.C.) are applicable to the licensing and use of IP. Section 1, which covers agreements between

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[787] Nunez, R. G. A. (2008). "Intellectual Property and the Protection of Traditional Knowledge, Genetic Resources and Folklore: The Peruvian Experience." Max Planck Yearbook of United Nations Law **12**: 487-549.

[788] Heimler, A. (2008). "Competition Law Enforcement and Intellectual Property Rights." from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1105326#.

[789] The U.S. Department of Justice and the Federal Trade Commission (2007). Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition.

[790] Heinemann, A. (2007). International Antitrust and Intellectual Property. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 261-282.

two or more parties on restraint of trade, is the primary antitrust law regulating IP licences. Section 2 of the Sherman Act is concerned with monopolisation and attempts at monopolisation and regulates unilateral conduct by IP owners who hold a dominant position in a relevant market.[791] US courts and European agencies have adopted different approaches to the treatment of anti-competitive conduct favoured by the exploitation of an IPR. American courts have tended to refrain competition law tools from interfering with intangible monopolies, while European agencies have severely constrained the conduct of monopolists using IPRs to leverage their dominant position in a second market.[792]

5.7.1.3 TBKIP Model Law

TBKIP Model Law are the guidelines developed to assist policy-makers to develop national legislation for the protection of traditional biological knowledge, innovations and practices based on the Traditional Biological Knowledge, Innovations and Practices Act, which is separated into five phases:[793]

Part 1: Assessing the approach of the TBKIP Model Law. It is assumed that those using the guidelines have reached the stage in their policy development process where the lack of legal protection for TBKIPs has been identified as a problem, and *sui generis* legislation, is needed to meet the country's protection objectives. If a country is to use the TBKIP Model Law as the basis for national legislation, it will need to firstly adopt its approach as this sets the framework for the legislation.

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[791] Saint-Antoine, P. (2011). "Antitrust Law and Intellectual Property: Intersection or Crossroad?" The Computer & Internet Lawyer **28**(3).

[792] Arezzo, E. (2007). "Intellectual Property Rights at the Crossroad Between Monopolization and Abuse of Dominant Position: American and European Approaches Compared." John Marshall Journal of Computer & Information Law **24**(3).

[793] Pacific Islands Forum Secretariat (2010). Guidelines for developing legislation for the protection of traditional biological knowledge, innovations and practices based on the Traditional Biological Knowledge, Innovations and Practices Model Law. Suva, Fiji.

Part 2: Developing the policy framework of the legislation. Countries will need to adopt the policy framework of the TBKIP Model Law, but can articulate matters differently if they wish.

Part 3: Developing the content and/or scope of the legal elements of protection by addressing the subject matter for protection, criteria for protection, beneficiaries, scope of protection, exceptions and limitations, management of rights, terms of protection, formalities, enforcement, legal proceedings, dispute resolution, relationship with IP protection, relationship with the ABS regime, and international and regional protection. Translating the legal elements of protection into legislative language

Parts 4 & 5: Developing the additional legislative features and secondary legislation (regulations). The majority of these features will be shaped by national legislative practices. The guidelines focus only on complex matters in which policy-makers are likely to require assistance, such as the development of transitional measures and regulation-making powers.

5.7.1.4 IP Dispute Resolutions (non-litigation alternatives)

Alternative Dispute Resolution (ADR) offers an option for tackling disputes that arise, in relation to TK and TCEs, between holders and third parties over ownership and control, access and benefit-sharing, which are complex and may bring about cultural or ethical questions. For example, the inappropriate use of a sacred cultural artifact, symbol or design can cause considerable spiritual offence.[794] Furthermore, biodiversity disputes over a wide range of highly specific subject matter relating, for example, to patents, GRs, TK, plant varieties, the environment, and food are often

[794] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

international and, again, can involve sensitive non-legal elements of a commercial, cultural, ethical, or moral nature.[795]

Typically, court litigation contains multiple proceedings under different laws, with the risk of conflicting outcomes; the possibility of actual or perceived home court advantage of a party litigating in its own country; the decision-maker might not have relevant expertise; procedures are often drawn-out; injunctive relief is available in certain jurisdictions; the possibility of appeal; and public proceedings, some of which may not be suitable for dealing with ADR disputes.[796] Highly technical issues present a substantial economic incentive to favour ADR methods as a lay judge or jury may lack the technological knowledge needed. In cases where there is a tendency to spend a great deal of time, effort, and expense, parties can consider using appropriate ADR, which offers many distinct advantages over litigation, for resolving commercial disputes in different areas of IP.[797] So, alternatives to litigation or the ADR system could be used instead of the conventional legal procedures of litigation. ADR is a new term for an old concept. A non-aggressive, non-confrontational approach to dispute settlement has been the teaching and practice of Eastern philosophers since time immemorial. However, it is only recently that the method of ADR has been the subject of critical and scientific analysis. Ironically, it is western academics who have brought ADR, with its famous 'win-win solution' trademark to world attention. Globally, society, commerce and trade are the beneficiaries of ADR.[798]

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[795] World Intellectual Property Organization. "WIPO Alternative Dispute Resolution (ADR) for Biodiversity." 2013, from http://www.wipo.int/amc/en/center/specific-sectors/biodiversity/.

[796] World Intellectual Property Organization. "Why Arbitration in Intellectual Property?" 2013, from http://www.wipo.int/amc/en/arbitration/why-is-arb.html.

[797] Blackman, S. H. and R. M. McNeill (1998). "Alternative Dispute Resolution in Commercial Intellectual Property Disputes " The American University Law Review **47**: 1709-1734.

[798] Central Intellectual Property and International Trade Court, Thailand. (2002). Alternative Dispute Resolution in Thailand. IDE Asian Law Series No. 19 Dispute Resolution Process in Asia (Thailand), Institute of Developing Economics (IDE-JETRO), Japan.

ADR is particularly useful for IP dispute settlement as it is flexible, confidential, and helps parties to adopt sustainable and interest-based solutions that may go beyond monetary relief, eg, specific acts such as the production of documents. ADR may also be a forum in which the customary laws and protocols of indigenous communities may be considered. ADR allows parties to choose a mediator, arbitrator or expert that has expertise in the specific subject, and understands the cultural and linguistic backgrounds of the parties. It provides a neutral forum through which a global biodiversity dispute can be resolved with a single procedure. The usefulness of ADR in this area has been recognised in the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the CBD, which encourages mutually agreed terms to include options for ADR.[799] ADR mechanisms, in some cases, can secure the interests of countries and their indigenous peoples/local community and they might be preferred for resolving IPR disputes, which have their own characteristics, over the traditional litigation system where remedy through litigation in a national court is not possible or desirable.

ADRs can be separated into:

5.7.1.4.1 Negotiation

A 'win-win' situation, or successful negotiation, results when each party receives the greatest amount possible of what it desires. The probability of success in a negotiation is increased by including the appropriate people on the negotiating teams and preparing an agenda for negotiation sessions. A dialogue should also be established and early successes built upon. A record should be kept of what has been accomplished and all parties should agree with its accuracy.[800] The negotiation process should consider defining expectations, the negotiating parties, public notices

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[799] World Intellectual Property Organization. "WIPO Alternative Dispute Resolution (ADR) for Biodiversity." 2013, from http://www.wipo.int/amc/en/center/specific-sectors/biodiversity/.

[800] Poltorak, A. I. and P. J. Lerner (2004). Negotiating the Deal. Essentials of Licensing Intellectual Property, John Wiley & Sons, Inc.**:** 115-121.

and consultation, disclosures of information, consent, a cooling-off period, the nature and contents of the agreement and benefit-sharing.[801]

It is suggested that developing and the least developed countries maintain use of IPR negotiations in multilateral forums only. If it considers using IPR in bilateral or regional negotiations as a currency for trade-offs, it is mandatory to carry out a socio-economic assessment prior to any concessions involving stricter IPR obligations.[802]

5.7.1.4.2 Mediation/Conciliation

Mediation is sometimes called conciliation. A mediator or conciliator is a neutral person who assists parties in resolving their dispute. The parties are required to submit their dispute to mediation, and may terminate their participation at any stage. The settlement is in effect a contract between the parties. It is particularly attractive where the parties wish to preserve or develop their relationship and resolve a dispute privately by taking account of the parties' respective interests, more than their legal positions.[803] When a dispute arises, parties to contracts or relationships involving the exploitation of IP often share these goals; for example, in the fields of contracts including patents, know-how and trademark licences, franchises, computer contracts, multimedia contracts, distribution contracts, joint ventures, research and development contracts, technology-sensitive employment contracts, and mergers and acquisitions.[804]

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[801] Grifo, F. T. and D. R. Downes (1996). Agreements to Collect Biodiversity for Pharmaceutical Research: Major Issues and Proposed Principles. Valuing Local Knowledge: Indigenous People and Intellectual Property Rights. S. B. Brush and D. Stabinsky, Island Press.

[802] Basso, M. and Edson Beas Rodrigues Jr (2007). Free Trade Agreements, UPOV and Plant Varieties. Intellectual Property and Free Trade Agreements. C. Health and A. K. Sanders. Oxford and Portland, Oregon, Hart Publishing**:** 171-209.

[803] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

[804] World Intellectual Property Organization. "Why Refer Intellectual Property Disputes to Mediation?" 2013, from http://www.wipo.int/amc/en/mediation/why-mediation.html.

For Aboriginal people to use mediation processes they need to be adapted to be culturally sensitive. Mediation, in appropriate circumstances, can successfully assist in managing and resolving conflicts in a culturally appropriate way. Successful Aboriginal mediators require extensive consultations within the community to organise preparatory steps, discuss and agree on how the mediation session should be conducted, and to establish a relationship of trust and confidence in the process.[805]

5.7.1.4.3 Arbitration

Arbitration has been increasingly used to resolve IPR disputes, especially when they involve parties from different jurisdictions. Some of its advantages are: a single proceeding under the law determined by the parties; the arbitral procedure and nationality of arbitrator can be neutral to the law, language and institutional culture of parties; parties can select an arbitrator(s) with relevant expertise; arbitrator(s) and parties can shorten the procedure; limited appeal options; proceedings and awards are confidential.[806]

ADR is an important element of the range of options available to local communities as it has many advantages for disputes involving TK and TCEs over typical litigation. Nevertheless, in some circumstances, there still may be reasons for either party to want to avoid using ADRs in IP disputes. For example, if there is concern that emergency injunctive relief may be needed, such relief is more likely to be obtained from a public court rather than from an arbitration tribunal; and in cases where there is the strategic need for precedent or publicity when an IP rights holder or an alleged infringer may desire a complete and public vindication of its rights.[807]

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[805] Spencer, D. and M. Brogan (2006). Power, Empowerment and Difference in Mediation. Mediation Law and Practice, Cambridge University Press**:** 223-261.

[806] World Intellectual Property Organization. "Why Arbitration in Intellectual Property?" 2013, from http://www.wipo.int/amc/en/arbitration/why-is-arb.html.

[807] McConnaughay, P. J. (2002). ADR of Intellectual Property Disputes SOFTIC Symposium 2002. Tokyo, Japan.

5.7.1.4.4 Hybrid methods

Arbitrations are sometimes combined with mediations or some other ADR devices. The most common hybrid is a mediation effort, followed by the arbitration of any issues that could not be resolved consensually by the parties in mediation (a 'med-arb'). A second significant hybrid is the converse, an 'arb-med' in which full arbitration comes first, complete with an award determined by the arbitrator, followed by mediation. Each of these hybrids is somewhat problematic. With a 'med-arb', the same person should not act as both the mediator and arbitrator, and an 'arb-med' can end up duplicating costs. Furthermore, the adversarial process of arbitration can sometimes inflame poor relationships between the parties, making a subsequent mediation less effective than it would have been without arbitration having first occurred.[808]

5.7.1.5 International IP dispute resolution tribunals and institutions

An international dispute settlement body for commercial and non-commercial disputes involving IP and IK is needed. It should include indigenous people in processes from the outset and develop the capacity to respectfully and appropriately engage with indigenous peoples and deal with their concerns, as well as the ethical, political, and/or historical dimensions of their comunities.[809]

5.7.1.5.1 The International Court of Justice (ICJ)

The ICJ, in The Hague, the Netherlands, was established in 1945 and is the principal judicial organ of the UN. The court's role is to settle, in accordance with international law, legal disputes submitted to it by states and to give advisory opinions on legal

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[808] Barton, T. D. (2012). Prevention and Alternative Dispute Resolution of Intellectual Property Problems in the United States. Seminar on Specialized Intellectual Property Rights Courts. Global Intellectual Property Academy, United States Patent and Trademark Office, Virginia, USA, International Intellectual Property Institute.

[809] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

questions referred to it by authorised UN organs and specialised agencies.[810] An article allowing a party to bring an IP dispute to the ICJ is found in each convention/treaty; however, states prefer not to use the court for this purpose as historically, they have been reluctant to embark on international adjudication, or IPRs involve subject matter that is too specialised for the ICJ. Moreover, the ICJ is unable to offer specific performance and lacks effective enforcement of its judgments.[811]

5.7.1.5.2 The European Court of Justice[812] (ECJ)

The ECJ is the judicial institution of the EU, with the task of examining the legality of EU measures and ensuring the uniform interpretation and application of EU law. The ECJ works in conjunction with national courts applying EU law. Cases are submitted to the court through a written stage and an oral stage (public hearing), where advocate-generals may be required to give their opinion. The development of its case-law illustrates the court's contribution to creating a legal environment for citizens by protecting the rights that EU legislation confers on them.[813] The ECJ has played a significant role in the development of European IP law by interpreting and recognising IPRs, including GI and TK, as can be seen in a number of its decisions.

5.7.1.5.3 European Unified Patent Court (UPC)

A unitary patent will be a European patent granted by the EPO under the provisions of the European Patent Convention to which unitary effect for the territory of the twenty-five participating states (excluding Italy and Spain) is given after grant, at the

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[810] International Court of Justice. "The Court." 2013, from http://www.icj-cij.org/court/index.php?p1=1.

[811] Hertz, A. Z. (1996). "Intellectual Property Rights and International Dispute Settlement." from http://www.allenzhertz.com/2010/10/intellectual-property-rights-and_07.html.

[812] The Court of Justice of the European Communities - as its full name.

[813] CURIA. "The Court of Justice in the legal order of the European Union." 2013, from http://curia.europa.eu/jcms/jcms/Jo2_7024/.

patentee's request. The unitary patent may be requested from 1 January 2014 or from the date of the entry into force of the Agreement on a Unified Patent Court.[814]

Prior to this, national courts and authorities of the contracting states of the European Patent Convention were competent to decide on the infringement and validity of European patents, which gave rise to a number of difficulties when a patent proprietor wished to enforce a European patent, or when a third party sought the revocation of a European patent, in several countries. These were high costs, risks of diverging decisions, lack of legal certainty, forum shopping as parties sought to take advantage of differences in national courts' interpretation of harmonised European patent law and in procedural laws, as well as differences in the speed and in the level of damages awarded. The Agreement on the Unified Patent Court addresses the above problems by creating a specialised patent court (Unified Patent Court - UPC) with exclusive jurisdiction for litigation relating to European patents and European patents with unitary effect.[815] This is considered to be a huge success after almost forty years of debate about harmonising the European patent system.

5.7.1.5.4 The European Court of Human Rights

The European Court of Human Rights is an international court, which rules on individual or state applications alleging violations of the civil and political rights set out in the European Convention on Human Rights. The countries concerned are bound by the court's judgments and they have led governments to alter their legislation and administrative practice in a wide range of areas. Importantly, the court's case-law also developed the rules of law and democracy in Europe[816] in different areas of the law dealing with cultural rights, covering issues such as artistic

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[814] European Patent Office. "Unitary Patent." 2013, from http://www.epo.org/law-practice/unitary/unitary-patent.html.

[815] European Patent Office. "Unified Patent Court." 2013, from http://www.epo.org/law-practice/unitary/patent-court.html.

[816] European Court of Human Rights, Public Relations (2013). The Court in brief. Strasbourg cedex, France.

expression, access to culture, cultural identity, linguistic rights, education, cultural and natural heritage, historical truth and academic freedom.[817]

5.7.1.5.5 WIPO Arbitration and Mediation Centre

WIPO has the WIPO Arbitration and Mediation Centre, established in 1994, to offer ADR options, particularly arbitration and mediation, for the resolution of international commercial disputes between private parties. The WIPO Centre provides, at the request of Intellectual Property Offices (IPOs), dispute resolution advice and case administration services to offer parties the option of resolving pending disputes related to IPRs before IPOs. Disputes may involve opposition to registration, invalidation or revocation of IPRs before IPOs, such as trademarks, patents and industrial designs. While parties whose disputed subject matter concerns applications for IPRs in several jurisdictions or where the dispute involves parties based in different regions of the world can take advantage of the neutrality, flexibility and expertise offered.[818]

Other international arbitration and mediation centres include the American Arbitration Association (AAA), the International Center for the Settlement of Investment Disputes (ICSID), the International Chamber of Commerce (ICC) the Court of Arbitration, the London Court of International Arbitration (LCIA), and the Stockholm Chamber of Commerce (SCC).

5.7.1.5.6 Industrial Property Office

In most countries, the functions of patent offices are administrative in character rather than judicial. Commissioners and registrars are obliged to interpret the law in order to carry out their functions properly. In a number of countries, the commissioner or registrar is able to summon witnesses, administer oaths, and require the production of

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[817] Research Division (2011). Cultural rights in the case-law of the European Court of Human Rights, Council of Europe / European Court of Human Rights.

[818] World Intellectual Property Organization. "WIPO Alternative Dispute Resolution (ADR) for Intellectual Property Offices." 2013, from http://www.wipo.int/amc/en/center/specific-sectors/ipos/.

documents or articles and award costs, and these roles are often referred to as 'quasi-judicial'.[819]

The European Patent Office (EPO), the Japanese Patent Office (JPO) and the United States Patent and Trademark Office (USPTO) co-operated to set up the Trilateral Patent Offices in 1983 to improve the efficiency of the global patent system. The Five IP Offices (IP5) form a forum, established in 2007, comprising the EPO, the JPO, the USPTO, the Korean Patent Office (KIPO), and the State Intellectual Property Office of the People's Republic of China (SIPO), which aims to eliminate unnecessary duplication of work among the IP5 offices and to improve the quality and efficiency of the search and examination processes for patents, which account for around 80% of all patent applications filed worldwide.

5.7.1.5.7 Specialised IPR Courts

The establishment of specialised IPR courts would bring with it advantages. Such courts would surely benefit IPR owners and the government as they are more efficient and expedient compared to traditional courts. However, a specialised IP court model that is effective in one jurisdiction may not work in another. Each country has to consider its own needs and priorities. Factors such as local customs and practices, IP caseloads, numbers of judges, budgetary concerns or financial limitations and local procedural issues, among others, have contributed to the different types of specialised IP courts established thus far.[820] Recommendations for effective practices that government officials could follow can be found in the 'Study on Specialized Intellectual Property Courts', such as the following: 'appoint judges who have a background in IP issues; try IP cases by judge, not by jury; provide judges with continuing training and technical experts; anticipate judicial turnover and be prepared to train replacement judges; create specialised IP enforcement units; evaluate costs by

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[819] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

[820] See International Bar Association Intellectual Property and Entertainment Law Committee (2007). International Survey of Specialised Intellectual Property Courts and Tribunals. London, UK.

undertaking a survey to determine the number of IPR cases that are either pending, or that are likely to arise under a new legal regime'. Another possible method is to create a specialised IPR division within an existing court structure.[821]

However, some negatives impacts of a specialised IPR court that governments should be aware of are: the costs of maintaining them, insufficient cases or litigation; insufficient judges trained in IP; inaccessibility; geographical availability; loss of the generalist's overview; overlap with other areas of the law; over-familiarity; tunnel vision;[822] the difficulty of reversing ill-grounded decisions, a lack of alternative strategies; influence of the Patent Office and other federal authorities; the difficulty of removing bad judges from the court; and the taking of political or ideological positions.[823] Some of these disadvantages may, however, be ameliorated by WIPO's activities and co-operation in development, such as: legislative advice and other assistance to countries contemplating the establishment of specialised IP courts; training members of the judiciary in IP matters; and promoting exchange of information among judges serving in IP matters, e.g., study visits, conferences, or collections of court decisions from various countries.[824]

In practice, the Court of Justice of the Andean Community, as the judicial body and an integral part of the Andean Community, deals with disputes and interprets community law. The large majority of decisions concern IP disputes, in particular pre-trial interpretation, which allows the court strong expertise in IP matters and uniform

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[821] Zuallcobley, R. W., J. A. Castañeda, et al. (2012). Study on Specialized Intellectual Property Courts, The International Intellectual Property Institute (IIPI) and The United States Patent and Trademark Office (USPTO).

[822] Zuallcobley, R. W. (2012). Introduction to Specialized IPR Courts and the Study. Seminar on Specialized Intellectual Property Rights Courts. Global Intellectual Property Academy,United States Patent and Trademark Office, Virginia, US.

[823] Amaral, L. H. d. Ibid.Specialized IP Courts and Enforcement in Brazil. Global Intellectual Property Academy, United States Patent and Trademark Office, Virginia, US, Dannemann Siemsen.

[824] International Bar Association Intellectual Property and Entertainment Law Committee (2007). International Survey of Specialised Intellectual Property Courts and Tribunals. London, UK.

application of the Andean IP instruments; for instance, the Common Industrial Property System (Decision 486) and the Common Regime on Copyright and Related Rights (Decision 351).[825] Another example of a specialised patent court is the Unified Patent Court (UPC), mentioned in section 5.7.1.5.3. Once established, the UPC, consisting of a Court of First Instance, a Court of Appeal and a Registry, will hear cases relating to the validity and infringement of European patents in the territories of participating states. This will benefit those seeking patent protection across Europe by eliminating the need for separate litigation in each state.

5.7.2 Human Rights

In theory, IP regimes should promote and protect all human rights and fundamental international human rights norms should be integrated into the enactment and interpretation of IP law to make it consistent with obligations to respect international human rights. The general principles always guarantee that no measure or policy designed to protect and promote the diversity of cultural expressions shall infringe human rights and fundamental freedoms, such as the freedom of expression, of information and communication, as well as the freedom of individuals to choose their own cultural expression.[826]

However, respect for and implementation of IP systems and human rights may be problematic in some cases; for example, the cultural rights of indigenous peoples can only be expressed in terms of collective or group rights since much IK and culture is collectively held by whole communities or groups within them. This runs counter to human rights in international law, which are traditionally articulated as the rights of individuals.[827] Some forms of cultural expression or the process of engaging in cultural heritage can contravene either group rights, or the individual human rights, of

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[825] Ibid.

[826] United Nations Educational, Scientific and Cultural Organization (2005). TEN KEYS to the Convention on the Protection and Promotion of the Diversity of Cultural Expressions adopted by the General Conference of UNESCO at its 33rd session, 2005. CLT/CEI/DCE/2007/PI/32.

[827] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

others. The topics of the return or repatriation of cultural artefacts or human remains displayed in museums and the right of representation have been strongly voiced in debates about human rights and cultural heritage. Some countries have agreements or legislation in place dealing with the issue. The exclusion of particular heritage sites in the landscape has also been seen to infringe the human rights, or perceived human rights, of particular groups.[828]

5.7.2.1 International rights instruments

International law provides a range of human rights instruments, which guarantee the important cultural rights of indigenous peoples and local communities. Several international instruments promoting the TK rights of indigenous peoples are in place including, as already clarified in Chapter 2, the Universal Declaration on Human Rights (UDHR), the International Covenant on Economic, Social and Cultural Rights (ICESCR), the International Covenant on Civil and Political Rights (ICCPR), and the Declaration on the Rights of Indigenous Peoples (UNDRIP), which should all be applied to benefit indigenous peoples and their communities.

As a fundamental principle in international law, people's rights to self-determination are provided in Common Article 1, paragraph 1 of the Charter of the UN and the ICCPR and the ICESCR: 'All peoples have the rights of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development'. This is also recognised in other international and regional human rights instruments. The ICJ, the UN Human Rights Committee and the Committee on the Elimination of Racial Discrimination as well as international jurists and human rights experts have all widely endorsed and elaborated on this concept.[829] Yet in practice there is concern that the US, for example, has

[828] Northern Ireland Assembly (2011). Heritage and Cultural Rights: International Standards. Belfast, Northern Ireland, Research and Library Service, Research Paper.

[829] International Work Group for Indigenous Affairs (IWGIA). "Self determination of indigenous peoples." 2012, from http://www.iwgia.org/human-rights/self-determination.

violated the rights of indigenous peoples in some ways, as well as failing to fully implement the ICCPR at state and local levels.

5.7.2.2 Notions of ownership of knowledge and the public domain

Issues relating to the ownership and control of TK are causing problems. The UNDRIP sets out the individual and collective rights of indigenous peoples, whereas the ICESCR protects the moral rights of authors. Yet, it is difficult to divide clearly between collective and individual rights. Ideas of ownership of knowledge vary and are inexplicit. The first and most modern concept is that all knowledge is in the public domain, free for anybody to use except private knowledge or that which is protected under IPR laws. This concept implicitly underlies most IPR laws and is time-limited, thereafter the knowledge becomes part of the public domain. The second concept is that within the private domain, one can distinguish between knowledge that is protected according to customary laws and practices, and knowledge protected by IPR laws. The assumption that TK is free for anyone to use is questionable. There are customary laws that apply to this knowledge, and which may restrict the rights of third parties to access and use it. The third concept holds that there are three domains of knowledge: individual, community and public. Different rights are associated with knowledge in the different domains, which are overlapping. None are part of the public domain. The rights of individuals who produce new knowledge should differ to the rights of other community members. The community has certain rights and deserves a share of the benefits, which innovators may accrue.[830]

The term ‘public domain’ refers to elements of IP that are ineligible for private ownership and the contents of which any member of the public is legally entitled to use, which is different from ‘publicly available’. For example, content on the internet may be publicly available but not in the ‘public domain’ from an IP perspective.[831] In

[830] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

[831] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

practice, many IP rules treat all knowledge as being in the public domain, unless protection can be extended to it through patents or other IPRs. This is extremely unsatisfactory for the many indigenous TK holders who claim that IPRs tend to favour those exploiting TK for commercial gain.[832] Developed countries always argue that TK is in the public domain, and that there is no such thing as bio-misappropriation. Developing countries argue that the actual IPRs system leads to unfair situations such as the misappropriation of TK and the unsustainable use of biodiversity and claim requisite disclosures of origin, benefit-sharing, and the necessity for an amendment of the TRIPs agreement.[833] Therefore, any internationally agreed forms of collective rights to knowledge in the public domain are highly recommended.

5.7.3 Autonomy

State sovereignty and community/indigenous autonomy with respect to their territories, laws and customs are of great importance to indigenous communities, while their rights have to be well balanced and recognised. Cultural rights are collective as they are predominantly the rights of peoples, groups or communities.[834] Given that TK/IK is collectively owned, only the group as a whole may consent to sharing indigenous cultural property and IP.[835]

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[832] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[833] Nunez, R. G. A. (2008). "Intellectual Property and the Protection of Traditional Knowledge, Genetic Resources and Folklore: The Peruvian Experience." Max Planck Yearbook of United Nations Law **12**: 487-549.

[834] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[835] Bengwaya, M. A. (2003). Intellectual and Cultural Property Rights of Indigenous and Tribal Peoples in Asia, Minority Rights Group International.

Free, Prior Informed Consent (FPIC)

The principle of PIC concerning access to GRs can be found in Article 15 of the CBD, which recognises that States have sovereign rights over their GRs. The Bonn Guidelines and Nagoya Protocol emphasise the importance of PIC. This same principle is also used in a number of national laws concerned with access to and use of TK, as well as, in some cases, use of TCEs. According to the principle of PIC, TK holders should be fully consulted before their knowledge/expression/GR is accessed or used by third parties, an agreement should be reached on appropriate terms and they should be fully informed about the consequences of the intended use. Many argue that use of protected subject matter should be subject to PIC, especially in the case of sacred and secret materials, but others fear that granting exclusive control over traditional cultures could stifle innovation, diminish the public domain and be difficult to implement in practice.[836]

The UNDRIP contains a number of provisions regarding FPIC. FPIC is a collective right and indigenous communities having a specific right that others should respect. Communities should not be forced, intimidated, manipulated, coerced or pressurised by any government or company. Prior to a government allocating land for particular uses and to the approval of specific projects, the community must be given enough time to consider all the information and make a decision. They must also be given all the relevant information in order to decide on the project.[837]

The FPIC is to be signed by all stakeholders and other concerned parties, and should include: conditions for export of biological material and related information; conditions for use of the material and related knowledge; conditions for how and what

[836] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

[837] Hill, C., S. Lillywhite, et al. (2010). Guide to Free Prior and Informed Consent. Victoria, Australia, Oxfam Australia.

to make public; patents and country of origin; and how and where to solve disputes.[838]

5.7.4 Moral Rights[839]

The TRIPs Agreement does not appear clearly to recognise TK and explicitly excludes moral rights. However, the WIPO Berne Convention for the Protection of Literary and Artistic Works, Article 6bis, requires member countries to grant to authors: (i) the right to claim authorship of the work (the right of paternity); and (ii) the right to object to any distortion or modification of the work, or other derogatory action in relation to the work, which would be prejudicial to the author's honour or reputation (the right of integrity). The convention requires the moral rights of authors to be independent of their economic rights, and to remain with them even after he/she has transferred his/her economic rights.[840] The ICESCR, Article 15, also recognises the right of everyone to benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic work he/she has created.

Moral rights originate in the 'Droit Moral' system of continental Europe, and are derived from the opinion that authors should, independently of their economic rights, continue to have some relationship with their works and some control over the ways in which their works are presented to the public; they guard the creator's reputation and honour.[841] Moral rights work most effectively within the prevailing theoretical model of free and equal individuals exchanging work for valuable consideration,

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[838] Thornström, C. G. and L. Björk (2007). "Access and Benefit Sharing: Illustrated Procedures for the Collection and Importation of Biological Materials." Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices: eds. A Krattiger, RT Mahoney, L Nelsen, et al. MIHR: Oxford, U.K., and PIPRA: Davis, U.S.A. Available online at www.ipHandbook.org.

[839] French - *droits d'auteur* or rights of the author.

[840] World Intellectual Property Organization. "Understanding Copyright and Related Rights." 2013, from http://www.wipo.int/freepublications/en/intproperty/909/wipo_pub_909.html#moral_rights.

[841] Wienand, P., A. Booy, et al. (2000). A Guide to Copyright for Museums and Galleries, Routledge.

although in practice most moral rights are waived and unlikely to be protected through litigation.[842]

Moral rights have become increasingly relevant in the digital environment. In the UK's Copyright, Designs and Patents Act of 1988, the four moral rights are:

> *The right of paternity* – the right of the author to be identified as such. This right has to be asserted and a statement to this effect is to be found on the title page verso of many publications, photographs or slides. There are exceptions e.g. the right does not apply to computer programmes, designs or typefaces and computer-generated works. Neither does it apply to works generated in the course of one's employment.
>
> *The right of integrity* – the right of the author to prevent or object to derogatory treatment of his/her work. 'Treatment' is defined as an addition to, deletion from, alteration or adaptation of the work. The treatment of a work would be seen as derogatory if it distorts or mutilates or is otherwise seen as being prejudicial to the honour or reputation of the author.
>
> *The right of false attribution* – the right of a person not to have a literary, dramatic, musical or artistic work falsely attributed to him/her as an author;
>
> *The right of disclosure* – the right of an author to withhold certain photographs or films from publication. This would apply to a person who commissions the work but decides not to have it issued to the public, exhibited or shown in public, or included in a broadcast or cable programme.[843]

In contrast to copyrighted economic rights, moral rights are concerned with protecting authors' personalities and reputations. Moral rights last for as long as the copyright of

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[842] Battiste, M. and James (Sa'ke'j) Youngblood Henderson (2003). Protecting Indigenous Knowledge and Heritage: a Global Challenge, Purich Publishing Ltd. Saskatoon, Saskatchewan, Canada.

[843] Norman, S. (1996). Copyright in further and higher education libraries, Library Association Publishing London.

the work, although the creator may waive (that is choose not to exercise) his or her moral rights. Unlike copyrights they cannot be sold or assigned to another person.[844]

Moral rights have historically been associated with written works and copyright. In the context of TK, moral rights may be defined as the rights of knowledge holders to have their TK properly acknowledged, not to have it modified without permission, and not to have it used in a manner that discredits TK holders.[845] According to the Model Law for the Protection of Traditional Knowledge and Expressions of Culture for Pacific Island countries and territories, the moral rights of traditional owners of TK and expressions of culture are: (a) the right of attribution of ownership in relation to their TK and expressions of culture; (b) the right not to have ownership of TK or expressions of culture falsely attributed to them; and (c) the right for their TK and expressions of culture not to be subjected to derogatory treatment.[846] Some concerns for indigenous peoples are: the limited acknowledgement or attribution associated with their works; moral rights only protect the rights of individuals not of communities or collectives; and, sound recordings are excluded from moral rights protection.[847] It is suggested that moral rights should be collective (regional or community) in order to offer a more effective means for the protection of indigenous people's and local communities' rights with respect to works that utilise or derive from TK/IK.

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[844] Intellectual Property Office, United Kingdom. "Moral rights." 2013, from http://www.ipo.gov.uk/types/copy/c-otherprotect/c-moralrights.htm.

[845] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

[846] See Secretariat of the Pacific Community, Pacific Islands Forum Secretariat and UNESCO Pacific Regional Office. (2002). "Pacific Regional Framework for the Protection of Traditional Knowledge and Expressions of Culture." from http://www.forumsec.org.fj/resources/uploads/attachments/documents/PacificModelLaw,ProtectionofTKandExprssnsofCulture20021.pdf.

[847] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

5.7.5 Protection and preservation

TK holders face various difficulties such as: commercial exploitation; external social and environmental pressures; migration; the encroachment of modern lifestyles and the disruption of traditional ways of life; the lack of respect and appreciation for their knowledge.[848] Severe disruption of the passage of TK from generation to generation may have occurred during the colonial period when traditional modes of education and socialisation were replaced by modern Western models. Movements of populations, warfare, famine or severe epidemics, and the pressures of commercial exploitation can all lead to interruptions in the passage of environmental TK.[849]

As TK is generated, recorded, and transmitted differently to Western scientific knowledge, the two are difficult to integrate. There is the urgent problem of the disappearance of TK and the lack of resources to document it before it is lost. There are also the problems of trying to reconcile two different world views and attempting to translate ideas and concepts from one culture into another. In addition, an attitude problem exists within indigenous groups as they rightly believe that if benefits of their TK are discovered, they will see none of the profits and be unable to afford and of the uses.[850] Other problems include cultural barriers and misunderstandings, leading to the question of political power.[851]

TK protection focuses on the *use* of knowledge such as traditional technical know-how, or traditional ecological, scientific or medical knowledge. This encompasses the

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[848] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[849] Fisheries and Aquaculture Department, Food and Agriculture Organization of the United Nations. "Social Issues in Fisheries." 2013, from http://www.fao.org/docrep/003/W8623E/w8623e0b.htm.

[850] Eisenstein, M. (2012). "Is Quinoa a Solution for Food Security and Economic Growth in Bolivia?" from http://www.law.buffalo.edu/content/dam/law/restricted-assets/pdf/environmental/papers/eisenstein12.pdf.

[851] Johnson, M. (1992). Research on Traditional Environmental Knowledge: Its Development and Its Role. Lore: Capturing Traditional Environmental Knowledge. M. Johnson. Northwest Territories, Canada, Dene Cultural Institute, International Development Research Centre**:** 3-22.

content or substance of traditional know-how, innovations, information, practices, skills and learning of TK systems such as traditional agricultural, environmental or medicinal knowledge. These forms of knowledge may be associated with TCEs or expressions of folklore, such as songs, chants, narratives, motifs and designs.[852] The protection of TCEs raises issues related to the preservation and safeguarding of cultural heritage. 'Protection' is different from 'preservation' or 'safeguarding', which are the identification, documentation, transmission, revitalisation and promotion of knowledge and cultural heritage in order to ensure its maintenance or viability. Protection and preservation may be implemented in conjunction with one another and help to promote each other.[853]

5.7.5.1 Different approaches to TK protection

There are two approaches to TK legal protection; the first is automatic protection, where the only condition is that the owner has to prove that the informal knowledge has been created by members of any national local community and passed down from generation to generation. However, this does not solve any problems related to identifying the actual owner, conflicts over rights between different communities and/or between owners, and the demarcation between protected knowledge and knowledge in the public domain. The second approach is protection through registration, which requires the government to set up systems for the registration and documentation of TK. Several criteria also need to be laid down in law, including those for determining what is registrable knowledge, who has the right to file an application, who will become the rights holder, the term of protection, access to bio-resources, etc.[854] As this 'positive protection' approach requires the legal recognition

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[852] World Intellectual Property Organization INTELLECTUAL PROPERTY AND TRADITIONAL KNOWLEDGE, Booklet nº2, WIPO, Geneva, Switzerland.

[853] World Intellectual Property Organization. (2012). "Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions: An Overview." from http://www.wipo.int/freepublications/en/tk/933/wipo_pub_933.pdf.

[854] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

of rights over TK, either under existing IPR regimes or *sui generis* regimes, it helps to promote recognition of TK as a community right connected to that knowledge. This prohibits the commercialisation of TK in a way that would grant monopolistic rights to third parties, and means that benefits generated by the use of TK must be utilised by recipient indigenous peoples to strengthen and protect their knowledge base in a manner that secures equitable sharing both within and between generations.[855]

There are different strategies that should probably be designed. For non-contemporary and ancient TK in the public domain the main strategy should probably be disclosure, including its incorporation in searchable databases, in order to avoid 'misappropration' and to promote awareness about and use of medicines, thereby increasing people's access to treatment. For contemporary and ancient TK not in the public domain the healers/communities concerned should probably be free to decide whether they want to keep their knowledge secret or whether they want to share it, and on what condition. IP laws are designed to protect different forms of intangible subject matter, which sometimes overlap, and have issues with the notion of ownership of knowledge. Therefore, effective policies, for instance, regarding communal ownership of IPR, as well as for ABS and PIC should be put in place. Alternatively, a *sui generis* system could be developed. For contemporary traditional and indigenous innovations, in order to provide incentives for individual healers to innovate, modifications may have to be made to the IPR system, to make it more accessible. Individual innovators, opposed to the principle of exclusive rights being granted over their innovations, could opt to keep them secret or to publish them. For TK that was unintentionally disclosed (including unintentional and/or unjustified disclosure by third parties) mechanisms could be developed to allow healers and/or communities to claw back their rights - at least in cases of relatively recent unintentional disclosure - via expanding the grace period, for example.[856]

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[855] Alexander, M., K. Chamundeeswari, et al. (2004). The role of Registers and Databases in the protection of Traditional Knowledge: A comparative analysis, UNU-IAS Report, United Nations University Institute of Advanced Studies (UNU-IAS).

[856] Timmermans, K. (2003). "Intellectual property rights and traditional medicine: policy dilemmas at the interface." Social Science & Medicine **57**: 745–756.

The restitution of cultural objects aims to restore the sacred links between people, land and cultural heritage. Promotion of the restitution of cultural objects is a means of ameliorating or reversing internationally wrongful acts, including discrimination and genocide, and it is intimately tied to the broader notion of the right to self-determination, which includes the return of lands, ancestral remains, cultural heritage and resources.[857]

TM/CAM has many positive features including: diversity and flexibility, accessibility and affordability in many parts of the world, broad acceptance among many populations in developing countries, increasing popularity in developed countries, comparatively low costs, the low levels of technological input needed, and its growing economic importance. Increasing the availability and affordability of TM/CAM at the national and global level requires: the identification of the safest and most effective TM/CAM therapies and products; research into safe and effective TM/CAM treatments for diseases that are the greatest burden, particularly for poorer populations; recognition of the role TM practitioners play in health care provision in developing countries; TM practitioners in developing countries having optimal and improved skills; the protecteion and preservation of indigenous TM knowledge, and the sustainable cultivation of medicinal plants.[858]

5.7.5.2 Concerns about TK protection

The premises on which IPRs have been developed are contradictory to the needs of much intangible heritage and the communities that have created and maintain it. Some concerns include: the reproduction of traditional crafts in overseas factories, thus damaging the cultural and economic interests of the tradition-holders and their communities; collective as opposed to individual ownership of the heritage and associated collective rights; the protection of the economic interests of the producer

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[857] Vrdoljak, A. F. (2006). International Law, Museums and the Return of Cultural Objects, Cambridge University Press.

[858] World Health Organization (2002). WHO Traditional Medicine Strategy 2002–2005. Geneva, Switzerland, WHO.

communities; and respect for the sacred and secret nature of certain aspects of this heritage, particularly that of indigenous peoples.[859]

As stated in the previous Chapters, there are many examples of unauthorised access and misappropriation of TK and GRs worldwide. One misappropriation that indigenous and traditional communities often complain of is false and misleading claims as to authenticity and/or origin of products. For example, a souvenir may carry a label falsely indicating that it is 'authentic', 'indigenously made', or that it originates from a particular community. Unfair competition laws, trade practices, and labelling laws are helpful in practice in several instances.[860]

Issues to do with the worsening global misappropriation of TK/cultural property have been acknowledged. In the 1954 Hague Convention for the Protection of Cultural Property the fundamental principles of protecting and preserving cultural property with respect to misappropriation, theft, pillage and acts of vandalism are widely regarded to reflect customary international law.[861] The 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property extended protection to curb the increasing illicit international trafficking of cultural property, as the state parties are now required to provide inventories, provide export certificates, monitor trade, impose penal or administrative sanctions, instigate educational campaigns, etc. Prior to this, thefts were increasing both from museums and archaeological sites, particularly in Southern

[859] Blake, J. (2002). Developing a New Standard-setting Instrument for the Safeguarding of Intangible Cultural Heritage Elements for Consideration University of Glasgow, Glasgow, United Kingdom, UNESCO.

[860] World intellectual Property Organization. "Intellectual Property and Traditional Cultural Expressions/ Folklore." Booklet nº 1, from http://www.wipo.int/export/sites/www/freepublications/en/tk/913/wipo_pub_913.pdf.

[861] International Committee of the Red Cross. (2013). "Rule 40. Respect for Cultural Property." from http://www.icrc.org/customary-ihl/eng/docs/v1_cha_chapter12_rule40.

countries. In the North, private collectors and official institutions were increasingly offered objects that had been fraudulently imported or were of unidentified origin.[862]

The limited access to patented pharmaceuticals is also a serious issue faced by developing countries. Governments across the developing world have tried to improve consumer access to medicines sold by foreign pharmaceutical companies by imposing price controls on them. There were some crucial aspects to Thailand and Brazil's experiences with compulsory licensing: price considerations were a major factor in prompting the use of compulsory licensing; there was essentially a single local producer that had the competence to produce the relevant drug under a compulsory license; and the local producer's quality was clearly inferior to that of the original patent-holder.[863]

5.7.5.3 Alternative law options

Apart from criminal law, the law of civil liability, and common law remedies such as unjust enrichment, rights of publicity, blasphemy,[864] a bilateral contract between the TK holder and persons/companies wishing to access and use the knowledge is another interesting option to ensure PIC and benefit-sharing. Contract law is often used in a situation where one party wishes to convey a future benefit to another in exchange for receiving a present or future benefit. Contracts are used to cover the gaps that patent law does not. A trust or other organisational entity can hold non-inventorship patent

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[862] UNESCO. "Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property – 1970." 2013, from http://www.unesco.org/new/en/culture/themes/illicit-traffic-of-cultural-property/1970-convention/.

[863] Bond, E. and K. Saggi (2012). Compulsory licensing, price controls, and access to patented foreign products, Department of Economics, Vanderbilt University, USA.

[864] World intellectual Property Organization. "Intellectual Property and Traditional Cultural Expressions/ Folklore." Booklet nº 1, from http://www.wipo.int/export/sites/www/freepublications/en/tk/913/wipo_pub_913.pdf.

rights for the administration of another. Incoming royalties and other payments could be reinvested to support biodiversity research and conservation efforts.[865]

5.7.5.4 Joint Recommendation on Genetic Resources and Associated Traditional Knowledge

This document, submitted by delegations from Canada, Japan, Norway, the Republic of Korea and the USA, recommends that each member state of WIPO may consider using this recommendation, which was adopted by the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, as guidelines for the protection of GRs and associated TK as follows:

Member states should: aim to prevent patents from being granted erroneously for inventions that are not novel or inventive with respect to GRs and TK associated with GRs; protect indigenous peoples and local communities from the limitations of the traditional use of GRs/TK that might result from the erroneous patenting thereof; ensure that patent offices have the appropriate available information on GRs/TK needed to make informed decisions in granting patents; and maintain the incentives for innovation provided by the patent system. Member states should provide legal, policy or administrative measures, as appropriate and in accordance with national law, to prevent patents from being granted erroneously with regard to claimed inventions that include GRs/TK where, under national law, those GRs/TK anticipate a claimed invention (no novelty), or obviate a claimed invention (obvious or no inventive step). Member states should provide legal, policy or administrative measures to allow third parties to dispute the validity of a patent, by submitting prior art, with regard to inventions that include GRs/TK. Member states should encourage the development and use of voluntary codes of conduct and guidelines regarding the protection of the use of GRs/TK, and facilitate the creation, exchange and dissemination of, and access to, databases of and/or regarding GRs/TK, as well as provide adequate and effective

[865] Mays, T. D., K. Mazan, et al. (1996). Quid Pro Quo: Alternatives for Equity and Conservation. Valuing Local Knowledge: Indigenous People and Intellectual Property Rights. S. B. Brush and D. Stabinsky, Island Press.

legal, policy or administrative measures to facilitate the application of these Recommendations.[866]

5.7.6 Development

The development of IP systems and the use of IPRs regarding TK, TCEs and GRs should be encouraged, as the existing international IP system does not adequately protect TK and TCEs, the potential of *sui generis* approches has been proposed. One can see the development of the international legal instruments from the Paris Convention for the Protection of Industrial Property of 1883, which created a framework for international integration of IP (patents, trademarks and industrial designs), and the Berne Convention for the Protection of Literary and Artistic Works of 1886 governing copyright and including some conventions concerning cultural properties, up until the present day, with many treaties/conventions in place and still under development. IP is a tool that could empower a country's growth and development. However, it must be aware that the paradox between preserving what are perceived to be the key markers of a culture and the need for cultures to develop in their own way may impact upon the assertion of cultural rights.[867]

This part provides a range of IP tools and strategies, which are under development and can be usefully applied to certain situations in order to achive a country's goals.

5.7.6.1 Material transfer agreements (MTAs)

An MTA is a contract that governs the transfer of tangible research materials between two organisations, where the recipient intends to use it for the purposes of his/her own research. The MTA protects the rights of all the parties involved in the exchange of

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[866] Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (2013). JOINT RECOMMENDATION ON GENETIC RESOURCES AND ASSOCIATED TRADITIONAL KNOWLEDGE: Document submitted by the Delegations of Canada, Japan, Norway, the Republic of Korea and the United States of America, Twenty-Fourth Session WIPO/GRTKF/IC/24/5. Geneva, Switzerland, World Intellectual Property Organization.

[867] Northern Ireland Assembly (2011). Heritage and Cultural Rights: International Standards. Belfast, Northern Ireland, Research and Library Service, Research Paper.

biological materials; from the original depositor/owner of the material to the recipient/end-user. The basic components of a model MTA should be Definitions of materials, Restrictions and limitations on recipient usage, the Provider's rights to inventions and research results, Confidentiality, access/restrictions on a Provider's access to reports and publications, and a Warranty disclaimer and indemnification. MTAs ensure that fair and equitable access and benefit-sharing results from bioprospecting activities, as advocated by the CBD, while protecting TK. However, there is no international law compelling MTA compliance, no international mechanism for arbitration under the CBD, and a country with limited resources might have difficulties in enforcing MTAs in foreign jurisdictions.[868]

MTAs could be used to complement TK protection. They are widely used by research institutions and the biotechnology industry for the transfer and sharing of biological materials. In developed countries, the use of MTAs has facilitated collaborative research and development in the biotechnology field.[869] At present, transfers of regulated GRs are not handled in a consistent manner or in a comprehensive fashion within countries or at the international level. The Biotechnology Industry Organization developed guidelines for BIO Members Engaging in Bioprospecting (Guidelines) in 2005, and it is recommended that Part V of the Model MTA entitled 'Measures to Protect Interests and Rights of Indigenous and Local Communities' should be applied.[870]

5.7.6.2 Protocols

The word protocol is derived from the Greek *protokollen* - meaning 'table of contents' or 'first sheet.' In this context, Protocols are codes of conduct, guidelines or

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[868] Owiro, D. (2010). "Role of Material Transfer Agreements in Intellectual Property Rights Regimes." Institute of Economic Affairs (IEA) Kenya Trade Notes(26): 1-8.

[869] Kuanpoth, J. (2007). "Legal protection of traditional knowledge: A Thai perspective." Tech Monitor: 34-41.

[870] Biotechnology Industry Organization Suggested Model Material Transfer Agreement, available at http://www.bio.org/sites/default/files/BIO_Model_MTA.pdf

etiquettes explaining how people should behave in certain circumstances. Protocols have become an important tool for changing attitudes and behaviours towards the access, use and management of IK. Protocols make new forms of negotiation possible. They could be written or in any other form, may not be legally binding, but are a source and form of private law.[871]

Indigenous laws, as distinct from international IP law, are localised and contextual. They derive from specific locations and they are not necessarily transferable between communities. The most useful way to incorporate indigenous laws and forms of governance on the access and control of IK might be through agreements or protocols. It may be possible to identify and synthesise the key dimensions of knowledge management across communities, starting with recognising the existence of local knowledge management strategies, and building frameworks that actively support and endorse these even when they offer alternatives to the current IP regime.[872]

Codes and protocols may form the basis of private rights in contracts between indigenous peoples with negotiating power and those interested in paying for their work. However, high-level protocols rarely provide sufficiently detailed guidance on the steps that need to be taken to achieve articulated outcomes, so it may be difficult for participants to determine if they should be complying and how to comply.[873]

5.7.6.3 Licensing/Compulsory licensing

A licensing agreement is a partnership between an IPRs owner (licensor) and another who is authorised to use such rights (licensee) in exchange for an agreed payment (fee or royalty). A variety of such licensing agreements are available: Technology Licence Agreement, Trademark Licensing and Franchising Agreement, and Copyright Licence

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[871] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[872] Ibid.

[873] Mackay, E. (2010). "Regulating Rights: the Case of Indigenous Traditional Knowledge." Indigenous Law Bulletin **7**(21): 12-16.

Agreement.[874] Being partners in the joint venture holding the patent rights and licensing them would benefit indigenous peoples as shareholders.

The grounds for granting compulsory licences are broad and their effects are very uncertain. Compulsory licensing provisions tend to be broader in developing countries because smaller economies are understandably concerned about the economic power of multinational firms. Many of these countries lack the legislation and legal processes to administer antitrust law, so they rely on compulsory licences to curb some possibilities of excessive market power.[875] Cross licensing and patent pooling can offer substantial efficiencies, but they also sometimes present certain competitive risks. Pool licensing provisions that require the licensing of all of the pool's IP do not generally raise competitive concerns if the licensors retain the ability to license their patents individually and the pool's design is otherwise procompetitive.[876]

The Human Development Report of 2001 offers some recommendations for the creation of a legal structure, which includes compulsory licensing suites for developing countries. Firstly, the best option is an administrative approach, which can be streamlined and procedural; overly legalistic and expensive-to-administer systems should be avoided. Secondly, TRIPs gives governments broad powers to authorise the use of patents for public, non-commercial use and this authorisation can be fast-tracked without the usual negotiations. Thirdly, legislation should permit production for export when the lack of competition of a class of drugs has given the producer global market power that impedes access for alternative drugs, or when the legitimate interests of the patent owner are protected in the export market. Fourthly,

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[874] World Intellectual Property Organization. "Licensing of Intellectual Property Rights; a Vital Component of the Business Strategy of Your SME." 2013, from http://www.wipo.int/sme/en/ip_business/licensing/licensing.htm.

[875] Lesser, W. (2000). An Economic Approach to Identifying an 'Effective *sui generis* System' for Plant Variety Protection Under TRIPs. Agriculture and Intellectual Property Rights: Economic, Institutional and Implementation Issues in Biotechnology. V. Santaniello, R. E. Evenson, D. Zilberman and G. A. Carlson, CABI Publishing**:** 53-76.

[876] The U.S. Department of Justice and the Federal Trade Commission (2007). Antitrust Enforcement and Intellectual Property Rights: Promoting Innovation and Competition.

compensation needs to be predictable and easy to administer; and guidelines on royalties reduce uncertainty and speed decisions.[877]

5.7.6.4 Transfer of Technology (TOT)

Stronger IPRs in developing countries may encourage international TOT through market-based channels, particularly licensing, at least in countries with strong technical absorptive capacities, even though many developing countries have benefited from international TOT through non-market-based channels, especially reverse engineering and imitation, thanks to weak IPR regimes.[878] Developing countries see TOT as part of the bargain in which they have agreed to protect IPRs. The TRIPs Agreement requires developed countries' governments to provide incentives for their companies to transfer technology to the least-developed countries.[879]

The TRIPs Agreement includes a number of TOT provisions. Article 7 (its Objectives) states that: 'the protection and enforcement of IPRs should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations'. The obligation for developed countries to provide incentives for TOT is in Article 66.2, which states that: 'Developed country Members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least-developed country Members in order to enable them to create a sound and viable technological base'.

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[877] Balasubramanian, K. (2003). Access to Medicines and Public Policy Safeguards under TRIPS. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 135-142.

[878] Hassan, E., O. Yaqub, et al. (2010). Intellectual Property and Developing Countries: A review of the literature, The RAND Corporation, Europe. Prepared for the UK Intellectual Property Office and the UK Department for International Development.

[879] World Trade Organization. "Technology transfer." 2013, from http://www.wto.org/english/tratop_e/trips_e/techtransfer_e.htm.

However, the least-developed countries wanted this requirement to be made more effective, so the Council for TRIPs then adopted a decision establishing arrangements for the submission by developed country Members of annual reports on their implementation of Article 66.2 and an annual review of these by the Council for TRIPs. [880]

Effective and helpful in spreading knowledge and information, TOT is considered to be the effect of a strong IPR system. The TOT function should consist of an interview with inventors to assess the technology and make an initial decision as to protection of any IP. Then a non-confidential summary should be produced, potential clients/customers identified via database searching and networking and a decision made to licence the technology or form a start-up company. If licensing is chosen, market research should be performed to determine the level of interest in the companies targeted, confidentiality agreements should be executed, and the confidential information supplied. Then contacts should be followed up to ascertain interest and obtain a definite commitment, ideally to the people heading the agreement. After that, a licence should be negotiated and the TOT monitored, including the collection of royalties. If a start-up was chosen, a business plan should be prepared, sources of finance identified, programmes for marketing implemented and a product development plan prepared.[881]

5.7.6.5 Creative Commons

'Commons' is a general term that refers to a resource shared by a group of people. In a commons, the resource can be small and serve a tiny group, it can be at the community-level, or it can extend to international and global levels (deep seas, the atmosphere, the internet, and scientific knowledge). Commons can be well bounded (a

[880] Ibid.

[881] Sullivan, N. F. (1995). Technology Transfer: Making the most of your intellectual property, Cambridge University Press.

community park or library), transboundary (international rivers, migrating wildlife, the internet), or without clear boundaries (knowledge, the ozone layer).[882]

Creative Commons is a licensing framework that seeks to provide an alternative to the copyright regime, and the implied 'all rights reserved' model that copyright upholds. There is a fundamental reworking of the IP paradigm in creating conditions where specific needs, for example, attribution, acknowledgement, non-commercial use, can be incorporated and prioritised. Creative Commons can help to develop a range of IK-specific licenses by considering their local and particular needs.[883] TK Commons offer the user an access and benefit-sharing arrangement, which differs from the conventional model of an ABS agreement. TK Commons would provide indigenous and local communities a half-way-house between providing unregulated access to their knowledge, leaving it open to abuse, and having to negotiate an ABS agreement for every noncommercial use of their TK, which would greatly restrict the sharing of that knowledge. In this system, the customary laws and values of indigenous and local communities are held intact whilst certain restrictions on the use of their knowledge are simultaneously applied.[884]

5.7.6.6 Technology assisted methods

Nowadays technology and digital media can play a significant role in preserving and developing TK. For instance, IPOGEA of Italy and UNESCO, interestingly, have hammered out a methodology for the classification of local values (SITTI-Iconographic System of Traditional and Innovative Techniques) and the creation of readily accessible archives and data banks (TKWB-Traditional Knowledge World

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[882] Hess, C. and E. Ostrom (2006). Introduction: An Overview of the Knowledge Commons. Understanding Knowledge as a Commons: From Theory to Practice. Cambridge, MA, USA, The MIT Press**:** 1-26.

[883] Anderson, J. (2010). Indigenous/Traditional Knowledge & Intellectual Property, Center for the Study of the Public Domain, Duke University School of Law, USA.

[884] Abrell, E., K. S. Bavikatte, et al. (2009). Imagining a Traditional Knowledge Commons: A community approach to sharing traditional knowledge for non-commercial research. Rome, Italy, International Development Law Organization.

Bank) that allow the memory and values of specific places to be preserved, and that provide operational tools for the organisation of territorial parks. This system, based on a GIS (Geographic Information System) platform and on Google Earth, is a powerful tool for planning and permits the creation of an easily accessible interactive database of all available documentation, a numerical chart of archaeological values, compound maps for the organisation of parks, scenarios and future projections for stakeholders and public officials, as well as web-based interactive itineraries for the development and enhancement of tourism.[885]

Globally, some indigenous people are surveying their territories and producing maps using GPS devices. This digital mapping technology will help inhabitants to claim legal ownership of their lands, as well as to protect their lands from logging and other outside development.[886] Traditional communities living across Latin America's mountains possess extraordinarily broad knowledge of their environment and adapting to a changing climate. TK and technologies have been gradually incorporated into adaptation policies and practices on climate change, which is being recognised by governments. In many cases, TK and scientific knowledge/technologies are compatible and complimentary; for example, traditional water management systems, such as amunas, can be implemented alongside modern pressurised irrigation technology to cultivate both native and improved crop varieties, thereby increasing resilience to drought.[887]

5.7.6.7 Combination of existing IPRs

The protection of TK might not be achieved through any single means. Perhaps a combination of some components of a disclosure of source/origin requirement, ABS

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[885] IPOGEA. "About us." 2012, from http://www.ipogea.org/site2/index.php/en/about-us.

[886] Pearce, F. (2012). Digital Defenders: Tribal People Use GPS to Protect Their Lands, Yale Environment 360.

[887] ELLA Evidence and Lessons from Latin America. (2012). "How Traditional Knowledge and Technologies are Contributing to Climate Change Adaptation in Latin America's Mountains." from http://ella.practicalaction.org/sites/default/files/120625_ENV_AdaMouEnv_BRIEF2.pdf.

measures, PIC, promotion of local and domestic innovations, and farmers' rights provisions will cumulatively help towards TK protection and promotion. Additional measures could include having accessible and clear databases and registries containing information on GRs, their distribution, associated TK, and potentially the customary protocols associated with them. The documentation or at least recognition of customary protocols could help strengthen community and indigenous rights.[888]

The use of various forms of IPRs can provide overlapping rights. For example, folklore can have a GI indicating the region of origin. It may also have a trademark as a mark of the tribe, group, or sometimes as a mark owned by the artist. The song, lyrics and tunes can also be protected under moral rights. Attempts to remix a song and other forms of tampering could be brought as violations under moral rights theories or under trade secrets law. One or more of the following can be applied to ensure added protection: 1) Deterrent punitive measures such as sharing a percentage of the profits could be incorporated. These would be mandatory obligations on the infringers to adequately compensate the indigenous community. 2) Unauthorised information holders could be banned from commercialising patents acquired from TK without acknowledging the source. Some conventions could be amended to incorporate such a sanction to deter multinational corporations from obtaining cheap information from indigenous people. 3) Indigenous people could be made joint owners of the IPRs created from their knowledge. However, measures should also include the mandatory sharing of patents as joint inventors. 4) In the case of a legal dispute, the burden of proof should be on the user of the knowledge to show that valid consent was obtained from the community. These obligations must be built into TRIPs to make it effective and operative.[889]

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[888] Robinson, D. (2007). Exploring Components and Elements of *Sui Generis* Systems for Plant Variety Protection and Traditional Knowledge in Asia, International Centre for Trade and Sustainable Development (ICTSD) Programme on IPRs and Sustainable Development, Intellectual Property Rights & Sustainable Development.

[889] Ragavan, S. (2001). "Protection of Traditional Knowledge." 2 Minn. Intell. Prop. Rev.1.

5.7.6.8 Documentation of TK/ TK registries and databases

In general there are two different means by which to protect and preserve TK- defensive and positive ones. Registering knowledge in public databases, or so-called 'defensive protection', is aimed at preventing misappropriation of TK. Databases are an important source of information on prior art for authorities reviewing patent applications to determine whether they achieve the levels of novelty and inventiveness necessary for granting IP protection. However, defensive protection does not in fact amount to the recognition of rights of ownership over TK in favour of indigenous peoples; as such a database will provide increased private sector access to TK, without increasing indigenous people's rights over their knowledge.[890] Third parties would be able to exploit and appropriate TK without having to interact directly with providers of the knowledge. As TK is considered to be collective property, there is no incentive for individuals to register their community knowledge on the database, as the right to the knowledge cannot be privately owned for individual use.[891] Alternatively, private registries can be effectively used as: protection mechanisms for TK in instances where a *sui generis* system is in place; preservation mechanisms when cultural and historic preservation is a goal; and tools for ABS agreements.[892]

It could be said that registers of TK can be termed either declarative or constitutive, depending upon the system under which they are established. A declaratory regime recognises that rights over TK do not arise due to any act of government but are based upon pre-existing rights, which include ancestral, customary, moral and human rights.

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[890] Alexander, M., K. Chamundeeswari, et al. (2004). The role of Registers and Databases in the protection of Traditional Knowledge: A comparative analysis, UNU-IAS Report, United Nations University Institute of Advanced Studies (UNU-IAS).

[891] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

[892] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

Although registration does not affect the existence of such rights, it may be used to assist patent officials in analysing prior art, and to support challenges to patents granted, which may have directly or indirectly made use of TK.[893] Constitutive registers, however, form part of a legal regime aimed at granting rights over TK to the holder as a means of ensuring that their moral, economic and legal interests are protected and recognised. Most model constitutive registers are conceived to be public in nature, run by a national entity and under a law or regulation, which clearly determines how valid registration of TK can take place and be formally recognised and accepted.[894]

5.7.6.8.1 TK prior art databases

It is advisable for developing countries to set up a TK database system to protect informal knowledge from misappropriation by putting the information into the public domain by publishing the details of the knowledge. This will make the knowledge prior art and it becomes unpatentable in the source country and elsewhere. This can help with the maintenance and preservation of TK, as well as enabling patent examiners to check for prior art in the form of native knowledge. However, there are questions remaining: whether the database system should be available to the public, how the use of such a database could be supervised, how the benefits derived from the application of a database would be shared, and what legal rights should be conferred for the protection of databases.[895]

A typical form of registry is a computer database. The internet is an ideal location for public databases containing TK; here they can serve as a vehicle for defensive

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[893] World Intellectual Property Organization. "Glossary." 2013, from http://www.wipo.int/tk/en/resources/glossary.html.

[894] UNU-IAS Report (2004). The Role of Registers & Databases in the Protection of Traditional Knowledge: A Comparative Analysis**:** 32.

[895] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12(**1 spring).

disclosure and are accessible to patent offices worldwide as sourcs of prior art.[896] The register of traditional specialities of the EU is one approach to protecting an agricultural product or foodstuff while valuing elements of traditional know-how and practices, which require the product to be produced from traditional raw materials, have a traditional composition or a traditional production and/or processing method. However, due to the lack of specific information in the publicly accessible database concerning TK registration, its scope for serving as a defensive protection tool for these elements is limited.[897]

5.7.6.8.2 India's Traditional Knowledge Digital Library (TKDL) and People's Biodiversity Registers (PBRs)

India's TKDL, which acts as a digital knowledge repository of TK and TM, has been recognised as one of the most effective tools for protecting TK. As it provides leverage to India for defending itself in cases of attempts to patent products that are indigenous to the country, India could win several international patent/misappropriation claims. Many other countries have shown interest in creating their own TKDL. Digitising TK for TKDL requires painstaking efforts, but it is worthwhile. Information is digitised in various formats: orally, or using video and the gaps in knowledge are filled with the help of science. Even information on TK given by individuals and which can be backed up by scientific evidence is acknowledged.[898]

The development of the concept of PBRs has offered several important lessons. Firstly, much TK can be better protected through publicity and not by keeping it secret, as then there is little danger of misappropriation. Secondly, unique knowledge

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[896] Hansen, S. A. and J. W. VanFleet (2003). Traditional Knowledge and Intellectual Property: A Handbook on Issues and Options for Traditional Knowledge Holders in Protecting their Intellectual Property and Maintaining Biological Diversity. Washington, DC, USA, American Association for the Advancement of Science (AAAS) Science and Human Rights Program.

[897] Kiene, T. (2006). "Traditional Knowledge in the European Context " IDDRI **N° 02/2006**

[898] Shenoy, J. (2011). Digital library to the rescue of traditional patents. The Times of India. Mangalore, India, TNN.

may best be registered in full on refereed databases, while PBRs may be used just to make claims to such knowledge alongside knowledge and resources in the public domain. Thirdly, PBRs help to promote sustainable local use and trade as well as staking claim to prior art to protect TK from misappropriation. Fourth, local teachers and NGOs can help to compile PBRs along with villagers, and also in follow-up activities. Fifth, it is important to recognise the role of PBRs publicly both in target villages and at higher levels. Sixth, registration can be followed up with social incentives to preserve and share knowledge, such as the public acclaim of knowledgeable individuals or conservers. Finally, PBRs need to be computerised as a record of prior art for the scrutiny of IPR claims. Computerised databases also help with recognising and rewarding grassroots innovations and unique TK for further value addition, as well as assisting with decisions on how to allocate shares of the financial or other benefits that may be generated from use of information in the PBRs fairly.[899]

5.7.6.8.3 Global Bio-Collecting Society (GBS)

The idea of creating a Global Bio-Collecting Society (GBS) has been proposed by Professor Peter Drahos. He suggests that, rather than having multiple bio-collecting societies at the national level, it would be better to have one GBS, possibly under the auspices of the World Bank, which has better transparency and is easier to operate and scrutinise. It could act as the repository for registers of community knowledge– TK, IK, TEK, GRs – and be the custodian of a community register under strict obligations of confidentiality, which will help to improve the international enforcement of rights over biodiversity-related TK. It could also provide assistance with any contractual negotiations between a third party and an indigenous group, as well as providing a monitoring service for the use of such knowledge. Having a dispute resolution function as a committee would help to gain the trust of industry and indigenous groups by virtue of its independence and impartiality. Some sort of

[899] Utkarsh, G. (2003). Documentation of Traditional Knowledge: People's Biodiversity Registers. Trading in Knowledge: Development Perspectives on TRIPS, Trade and Sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 190-195.

standard-setting function like developing an authoritative code of conduct for the negotiation of a biodiversity prospecting contract would also be helpful.[900]

5.8 Analysis of the Thai Draft Law on TK

In this section, the author looks into the provisions of the Thai Draft Act on the Protection and Promotion of TK in detail in order to examine its strengths and weaknesses. After that, recommendations will be proposed.

- Definition

Even Asian approaches to defining the subject matter of TK/TCE protection differ at times from both the 'indigenous worldview' and the working definitions of WIPO.[901] In this Thai Draft Act, some important keywords of "Traditional Knowledge (TK)" is defined as indigenous knowledge creating or belonging to, each indigenous area which has been protected, restored, transmitted, developed, disseminated or used in daily life and shall have values being widely recognised by indigenous people. Accordingly, TK is varied in category, e.g., agriculture, language and literature, belief, tradition, rite, work of art, recreation, food and nutrition, handicraft, natural resource management, environment and social relationship systematisation, or other TK, but not including TK that is already protected by other *sui generis* laws. And "Local Community" is defined as a group of people settled down collectively and continuously transmitted cultural system, and has protected, restored, transmitted, developed, disseminated or used TK. Indigenous, local and traditional knowledge are words that have similar meanings depending on the person using. The definitions in this Draft Act look quite comprehensive and flexible; however, when there are disputes regarding TK and related matters in the future, there may be problems of

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[900] Drahos, P. (2000). "Indigenous Knowledge, Intellectual Property and Biopiracy: Is a Global Biocollecting Society the Answer " European Intellectual Property Review **22**(6): 245-250.

[901] Antons, C. (2012). Asian Borderlands and the Legal Protection of Traditional Knowledge and Traditional Cultural Expressions (Asian Borderlands). Modern Asian Studies, Cambridge University Press.

legal interpretation on whether this particular thing should be protected and/or who are the real beneficiaries.

- Criteria for eligibility for protection/ Scope of protection

Thai TK is highly local and specialised, covering a wide range of subject matter. Whether the duration of TK is perpetual so long as the knowledge at issue meets the definition of TK or not should depend on its' value. According to the Draft Act, although it is still unclear what the most suitable scope of TK protection would be, it should recognise the collective right of people, and not be limited by the time provided. It should last as long as TK fulfils the criteria of eligibility for protection.

In order to protect TK, it is stated in the Draft Act that TK can be registered and withdrawn by local communities under the conditions provided. For TK registration, general features and "essential features" of the TK must be described. Therefore, a national TK database registration system,[902] as one of the important processes, must be useful for this purpose. TK database registration system, which indicates essential features of TK in order to set the scope of TK protection, is supposed to be examined by Subcommittee specialised in specific fields. Local community participation should also be encouraged during the processes of identification, collection, registration, and management of TK.

For a collective right of commercialised usage by copying, adapting, making available to the public or manufacturing or producing in order to gain products or services, any third parties who wish to explore or conduct any of those activities must seek permission from the authorities. Permission for TK usage or PIC must be in a form of benefit-sharing agreement under the conditions provided, from which any income will go directly to the fund for TK protection and promotion.

- Right owners/Holders/Beneficiaries

[902] Compared to the project of Inventory-making of Intangible Cultural Heritage (by the Department of Cultural Promotion, Ministry of culture) at the provincial level in four domains: Performing Arts, Traditional Craftsmanship, Folk Literature, and Folk Games and Sports to ensure adequate safeguarding of Thai intangible cultural heritage.

The issue of defining the rightful owners/holders/beneficiaries of TK protection is not easy as this can be local peoples and local communities. This is still a controversial question. Local communities or the population of the region can be the beneficiaries of TK, while the local government is the owner of the rights. Knowledge that has been documented and published is obviously in the public domain. When outsiders document knowledge belonging to a community or an individual, bringing this knowledge into the public domain, they take away the rights of that community or that individual. Once people lose the rights over their knowledge; their chances of obtaining the ensuing benefits are considerably reduced.[903] Moreover, the issue of the requirement for unnecessary disclosure of confidential business information should be carefully considered.

For the Draft Act, as mentioned that it only states that TK can be registered and withdrawn by local communities under the conditions provided, but not clearly states that who is the right owner/holder. It is still controversial on who should be entitled to the right protection, the local community or the nation. Generally, TK is collectively held and shared by communities; therefore, it is difficult to distinguish between new and old knowledge and also to identify exclusive owners, which is a problem of ownership rights. However, it should confer appropriate rights to TK holders which are local communities to preserve and maintain their TK including the artistic expressions and traditional know-how. It will provide the right holders with the clear, fair and equitable legal rights, moral rights, and the ability to enter into contractual agreements to commercially exploit their right.

- Fund

The Fund for Traditional Knowledge Protection and Promotion will be established in the Prime Minister's Office, in order to subsidise any activities relating to TK protection and promotion. As TK usage or PIC must seek permission from the authority in a form of benefit-sharing agreement under the conditions provided, any

[903] Timmermans, K. (2001). Trips, CBD and Traditional Medicines: Concepts and Questions. Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine. Jakarta, Indonesia, National Agency for Drug and Food Control, World Health Organization.

income from the benefit-sharing agreement goes directly to this Fund, which will benefit local communities. This is to ensure that the PIC and reasonable and fair benefit-sharing principles are implemented, as well as preventing others from illegal use of TK. TK holders or local communities must be fully informed and consulted before their knowledge is accessed and used by others, leading to appropriate terms in their contracts, licenses or agreements.

The benefit-sharing agreement as stated in this Draft Act must, at least, stipulate the followings: aim of TK usage, description of TK, obligation of licensee, the right owner/holder, amount-rates-length of benefit-sharing according to the agreement, duration and dismissal of agreement, settlement of dispute including other terms provided by Ministerial Regulations. Furthermore, it may include both monetary benefits such as milestone payments during product development and royalty payment; and non-monetary benefits such as education and training of the local communities as well as any other supports.

- Committee

The "Policy Committee for Traditional Knowledge Protection and Promotion" will be set up. This Committee, chaired by the Prime Miniter or the Deputy Prime Minister, consists of Ministers from differing departments, will be responsible for considering the policy and plan for the protection and promotion of Thai TK, then to propose to the cabinet. There will also be the "Administrative Committee for Traditional Knowledge Protection and Promotion", who will be implementing or turning policy into practice. These committees should be helpful in fostering the protection and promotion of TK.

- Sanctions, Remedies, and Penalties

Both civil and criminal sanctions are imposed in the Draft Act:

Under this Act, TK owners will have the rights to file an application to the court to refrain anyone from infringing their TK provided that the evidence of infringement is clear. Any infringements of registered TK, e.g., researching or exploiting TK

resources without the owner's consent and acknowledgment are considered as legal wrongdoing that will lead to damages being paid to the Fund, issued by court in civil cases. However, there are some exceptions under this Law, i.e., TK usage by members of or the local community itself, government agencies or non-profit organisations, including any studies, experiments, or research for non-commercial purposes only under the conditions provided by the Law.

In criminal cases, there should be a harsh penalty for not complying with the conditions in the Act. Accordingly, violating any provisions in this Act, either by a person or a juristic person, can result in criminal penalties stated in each Section, i.e., up to 400,000 Baht fines, or up to two years imprisonment, or both. It is noted that there are no minimum punishment rates, therefore, the court has complete discretion when sentencing, considering many factors in each case. And any property is prescribed by the Law that any person makes or uses in TK violation shall be forfeited wholly.

This Draft Act has been studied by scholars from different organisations, focus groups and field studies have also been undertaken, but the Bill is still pending for several years. For the current situation, Thailand itself realises that only adaptations of the existing IP rights system are clearly not sufficient to cater to the holistic character of TK subject matter; therefore, it is really urgent that the Country must adopt a modified *sui generis* one so as to properly accommodate the distinct IP system as well as the unique characteristics of Thai people and local communities.

Conclusion

IPRs and TK debates and tensions still exist between competing interests. IP can be a threat to TK, or a potential tool to protect TK. One of the most important questions is how to maintain, transfer and integrate TK into the current situation. It is worth firstly defining what the TK in question is, how this TK could possibly be protected, and then carefully selecting which IP instruments/options would work best in a given situation with least detriment to the local community. The six key justiciations mentioned in this Chapter (Equity, Human Rights, Autonomy, Moral Rights, Protection and Preservation, and Development) would be useful to developing

countries seeking best practice in TK management. Equity will clearly help to smooth out the inequality inherent in the current IPRs system. The Bonn Guidelines should assist parties and governments, overall, in identifying the necessary steps involved and in developing ABS strategies. At the same time, practical codes of conduct/ethics and research guidelines or standards of practice should be developed, as these are considered to be important tools for coping with the increasing ethical issues and new challenges due to biodiversity research, or illegal utilisation of TK and GRs in developing countries.

Human Rights will assure that indigenous people's fundamental rights to use and derive benefit from IK/TK have been acknowledged. Indigenous peoples should be able to express their sovereignty and self-determination through a regime of autonomy. Moral Rights could be additional rights for protecting indigenous people's rights in IK works providing that their works are recognised as legitimate copyright subject matter. Protection & Preservation will be a very important tool to prevent essential TK against loss and misappropriation, and Development will bring about more comprehensive international and domestic TK/TCEs laws, equitable benefit-sharing and effective enforcement mechanisms, as well as finding ways to tackle a number of lingering difficulties and loopholes for TK, TCEs and GRs protection.

Hence, it can be seen that there is still no 'one-size-fits-all' system justifying the granting of IP protection to TK. Each of the varied approaches has their own benefits and drawbacks. The scope of the legal instruments themselves may be insufficient and ineffective to safeguard some unique problems. However, several international organisations have imposed uniform standards for IP protection such as universal model laws and guidelines, as well as some of the most effective IP systems operated in developed countries. Developing countries may use these for their own legal implementation, and practices, and could benefit fully from them. Some countries like Costa Rica, Peru, Panama, Venezuela, South Africa, and the Philippines have already enacted their own *sui generis* laws to protect IK, TK and communities. It is hoped that Thailand and other countries intending to adopt a *sui generis* system, or still undecided, will find an appropriate form of knowledge protection either through IPRs or alternative means proposed in this thesis in the near future.

Since there is still some controversy among legal scholars and experts in other fields on several issues including administrative obstacles, the incoming Thai *sui generis* law on TK has been delayed and not been enacted yet in the expected time. It is best that Thai TK wholly be protected by *sui generis* law or regulations relating to TK protection. This new law will change the concept of individualism for IPR protection into the concept of collectivism in order to better protect Thai local communities' collective rights and interest convergence between the Thai government and such communities. As a consequence, fitting Thai TK law within IP concept requires an appropriate balance of interest considering definition determination, scope and duration of protection, relevant beneficiaries, management system, etc. It is also worthwhile to keep up-to-date with the WIPO IGC negotiations on the recent progress of the draft legal instruments for the protection of GRs, TK and TCEs. Some of their challenges are the diversity of subject matters of protection – the definition and the scope; appropriate legal means of protection; any expections/limitations; the duration of protection; beneficiaries of protection; sanctions or penalties; and international aspects. All of these key elements should be considered as the important developments and guidelines for the Draft of Thai *sui generis* law on TK and TCEs to follow.

Chapter 6

Recommendations and the Way Forward for Thailand

Introduction

As mentioned that Thailand is greatly concerned about IPR protection for TK, TCEs and GRs. Some of the challenges are: Problematic national administration system, burdensome legal procedures, and IP management and institutions; Inefficient legislation, practical IP implementation and continuation; Problems with the justice system and enforcement of IPR; Troublesome financial and personnel administration, lack of knowledge, technology and expertise in IP; Deprivation of farmers' rights and lack of an equitable remuneration system; and Pressure/influences from western countries and people's perspectives and awareness of IP concepts.

After learning of the experiences of some selected countries and reviewing the existing international treaties and concepts, various legal means for protecting TK have been clarified and analysed in Chapter 5. This chapter will propose suggestions, specifically for Thailand, of what policies or solutions would work properly in each circumstance, as well as some potentially comprehensive strategies that should be considered.

Recommendations for Thailand

6.1 Thai Jasmine rice protection

Following a series of misappropriations of Jasmine rice, which may have caused public/world confusion and been misleading regarding the origin and the quality of products, as discussed in Chapter 1, here are some recommendations and possible solutions:

1) As 'Jasmine' or 'Hom Mali is argued that it is a generic name[904] and not a geographical expression *per se*, Thailand has to show that the term has not become generic. Also, it could possibly be an indirect indication expressed via name that does not provide any geographical reference itself. In this case, non-geographical name of Jasmine/Hom Mali could be protected because it is linked or closely connected to the place (Thailand) that it is identified as an inherently product and the majority of consumers perceive Jasmine/Hom Mali as a rice associated with Thailand, like the cases of Feta Cheese from Greece and Basmati rice from India. Another example for the question of whether GIs should only be geographical names, or if non-geographical names could also be protected if they are linked to a particular place,[905] they are indirect indications expressed via names or symbols such as 'Longjing tea', known as Dragon Well tea, which is a variety of roasted green tea from Hangzhou, Zhejiang Province in China, with the name itself not providing any geographical reference.[906]

Therefore, Thailand has to prove and convince other countries that Thai Jasmine rice is clearly different from the ones produced in other regions of the world in terms of its quality. Moreover, it has to ensure worldwide consumers that this kind of rice has a close connection to the Thai local wisdom and heritage as the consumers increasingly make a direct connection between the origin of this Jasmine rice and its quality.

2) Since Thailand has *bona fide* used the name 'Jasmine rice' for quite a long time, it is worth attempting to convince world rice consumers buying Thai Jasmine rice that 'Jasmine rice' can only be produced in Thailand where the quality of genuine rice is clearly different from anywhere else, it is well-known around the world for

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904 In the US, the terms 'basmati' and 'jasmine' are considered as generic terms and companies can apply to rice grown anywhere.

905 European Commission. "Intellectual property: Geographical indications." 2012, from http://ec.europa.eu/trade/creating-opportunities/trade-topics/intellectual-property/geographical-indications/.

906 Banerji, M. (2012). Geographical Indications: Which Way Should ASEAN Go?, Boston College Intellectual Property & Technology Forum.

many years in order to qualify for well-known mark, by associating Jasmine rice with the country of Thailand. It has good reputation as required by Article 22 Paragraph 1 of the TRIPs Agreement.

3) As Thai Jasmine rice was discovered a very long time ago, hence it does not qualify for patentability. Thailand, however, has the alternative option of patenting a new variety of rice produced by gene transfer, or developing hybrids using an original strain. However, there is concern that the patent on genes from Jasmine rice would be more harmful than beneficial for long-term protection, owing to a limited duration of patent protection of up to 20 years. Anyone could put the aromatic genes into any rice variety to make it as aromatic as Thai Jasmine rice after patent protection expires, and foreigners could also apply for patents on other living organisms and genes.[907]

4) Under the name 'Thai Hom Mali Rice', Thai Jasmine rice has successfully been registered the official Thai-language term 'Khao Hom Mali Thai' or 'Kaow Hom Mali Thai' as a certification mark in more than 50 countries. Any other words suggested for trademark/certification mark registration such as 'Thai Aromatic Rice' or 'Thai Fragrant Rice' could possibly be applied, but this may take some time for consumers to develop the recognition of that trademark/certificate mark in the world market. Trademark can, however, only protect the trading names of companies, but would not prevent misuses of the Jasmine rice name.

5) PVP system – Thai Jasmine rice could possibly be protected under the current *sui generis* Plant Varieties Protection Act under certain conditions. It needs to be new plant variety, local domestic plant variety, general domestic plant variety, or wild plant variety that are distinct and homogenous. A plant variety qualified for protection must be new in the sense of marketing or commercialization, and the additional conditions for protecting apart from novelty, distinctness, uniformity and stability, are such as the requirement of the submission of profit-sharing agreement. Therefore, the PVP protection system does not cover the existing variety of rice, but only the new variety one. Moreover, in order to be qualified, it also needs to fulfil the

[907] Ngokkuen, C. and U. Grote (2012). "Challenges and Opportunities for Protecting Geographical Indications in Thailand." Asia-Pacific Development Journal **19**(2): 93-123.

additional requirements as well as complying with the ministerial regulation considered by the Council of Ministers.

6) Consumer protection and unfair competition - Jasmine is often used to qualify fragrant rice from Thailand, using or imitating the names Jasmine/Hom Mali rice or similar names for rice that has not been grown in Thailand due to high competition (so-called passing-off) can cause confusion in the Jasmine rice market. Thailand then has to build recognition of the great quality of Jasmine rice originated from Thailand. Litigation based on consumer protection laws of other countries as part of a system for dealing with unfair competition in trade should be considered if needed.

6.2 Domestic IP legislations to be reviewed and revised

As previously stated, Thailand has problems with the effectiveness and enforcement of IPRs since the legislation remains unclear and inconsistent. General laws and regulations enforced throughout the country are not entirely correct. Some are obsolete and too ineffective to cope with more complicated issues of IPRs. Practical problems remain such as the obscurity of certain specifications and rules in different laws and regulations, applications of many different laws under many authorised offices causing inconvenience to both the responsible offices and the people, and the enforcement of laws and regulations may decrease people's rights.[908] For example, as one of several other Acts to be reviewed and revised, the PVP Act B.E.2542 (1999) has a low eligibility standard for new plant variety protection, the provisions concerning the rights of plant breeders are not consistent with the breeders' best interests, there are insufficient terms of protection, and inadequate protection for the rights of both farmers and breeders.[909] Other laws related to TK, indigenous peoples,

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[908] Phengtako, P. (1998). Laws and Regulations to Support Conservation and Development of Ayutthaya Historic City 7th Seminar on the Conservation of Asian Cultural Heritage. The World Cultural Heritage in Asian Countries: Sustainable Development and Conservation, Tokyo National Research Institute of Cultural Properties.

[909] Lertdhamtewe, P. (2012). Plant Variety Protection in Thailand: The Need for a New Coherent Framework. ASIAN Society of International Law Working Paper 2012/11. Paper presented at the 3rd NUS-ASIANSIL Young Scholars Workshop, NUS Law School, Singapore.

cultural properties, natural resources and enforcement procedures, need to be urgently reviewed and re-examined.

Thailand has realised the shortcomings of its legislations, and so is considering possible amendments to its current IP-associated laws. It is also attempting to enact a specific law for the protection of TK, TCEs, and GRs in order to fully implement international treaties, to effectively establish legislative and administrative measures, and to tackle existing problems more efficiently. Among several changes, legislations that are still in the drafting process or await cabinet and parliament or Council of State approval and are yet to be enacted include namely:

Draft Act on the Protection and Promotion of TK – As Thailand clearly lacks systematic TK protection and promotion, it urgently needs to have a *sui generis* law on this matter. This Draft Act was analysed in detail at the end of Chapter 5. Here the author would like to reiterate the needed things in order to formulate the criteria appropriate for the country.

The new *sui generis* law is expected and should be specifically designed to better protect a variety of Thai TK and cultural properties than currently protected by the existing laws, realising the previously mentioned six important elements, recognising the PIC and ABS principles, as well as imposing harsh criminal penalties as deterrence for violators. There is the need to clarify some unclear, misunderstood and challenging legal concepts in this regard. Clear definitions of terms such as "TK" or "Local Community" are very important in this new *sui generis* legislation, therefore there is a need to accurately define terms wherever possible in accordance with internationally agreed definitions or understandings of the principle or mechanism being implemented in order to solve the problems of terminology, definition and ambiguity. When in dispute, mediators or Courts have to find the context, the real intention of the parties, then interpret these terms in one way, which may affect the interests of the parties and the result of cases. In addition, if necessary things such as clearer provisions of who are the genuine or entitled owners/holders of the TK, how will the funds clearly be used, what and how are the local communities be given back

according to the PIC principle and benefit-sharing agreement are further clarified and well addressed, there would certainly be benefits for Thai local communities and beneficiaries. If the nation is the owner of the registered TK, it would be more practical and convenient to administer and manage such TK as national common heritage property, the local community will be entitled its legal rights and duties and will get involved in many ways such as PIC granting and ABS matters as supervised by the authority.

The new Thai TK Act, therefore, should be clear in giving definitions and in providing "essential features" for TK registration; it should not define TK in too broad term, should not include other policies such as intangible cultural property, healthcare, or plant varieties since Thailand has already had or going to have those laws in issue. It should clearly state who are the rightful owners/holders of the TK, so that dealing with TK administration, management and benefit sharing would be more effective, convenient and practical. It should recognise the collective rights of Thai local communities and should not be constrained by time limitation. Importantly, this Act needs to be consistent with other existing *sui generis* and related laws, i.e. patent law, TM law, GI law and fundamental principles, such as PIC, ABS to ensure that local Thai communities has been provided with needed facilities and been rewarded. In addition, MTAs may be used to lay down the rights and obligations of parties in relation to bioprospecting activity and the transfer of TK, and the publication of TK would make the published information part of the public domain and affect the patentability of such information. The database system would also facilitate equitable benefit-sharing, and improvements in the use and quality of TK.[910] It would also be beneficial if TK could be protected in either oral or other alternative forms.

As TK is not solely private exclusive right like other IP - it is passed on from generation to generation, is often held collectively by communities, rather than by individual owners. Therefore, forming associations or similar legal bodies to be an agent to act on behalf of the community would be helpful in protecting its legal rights

[910] Kuanpoth, J. (2009). "Protection of Traditional Knowledge in the Face of Globalisation: Balancing Mechanism between CBD and TRIPS." Thailand Journal of Law and Policy **12**(1 spring).

and benefits. While protection of certain TK under IPRs may have a time limit, but the duration of TK protection under this *sui generis* law should not be limited; instead, TK should receive perpetual protection as long as the criteria for recognition of knowledge as traditional are maintained. However, TK registration should be renewed every certain year to examine or review the existence and the possibility of TK qualification of the local community. For any income derived from benefit sharing agreement and the fund for TK protection and promotion, it should be shared among local communities who develop, express, hold and maintain the local knowledge and traditions. In practice, there should be clear regulations on how, how much, through what means TK utilisers are going to pay the fund and how the responsible governmental agencies are going to equitably allocate this fund. Ratio and details of benefit sharing should not be exclusive, and be based on a case-by-case basis. Furthermore, the government should encourage local people to negotiate licence agreement or any other forms of agreement for access and use of their TK. There is a need to urge Thai local groups for more active participation and to promote greater use of this future law.

Regarding law enforcement, all TK-related offences should be non-compoundable. The harsh penalty for not complying with this Act as severe criminal penalty already stipulated in this Draft Act will have a deterrent effect for violators, as well as civil sanctions and the rights to claim for determining remedies and damages for entitled TK holders. It should be clear that who will be granted rights and be entitled to claim damages from infringing acts, the local community or recognised individual. There should be specific provisions about claiming for an injunction like other laws in order to restrain any future TK infringement or breach of the TK holders/owners' rights by the defendant and interim relief to recognise and enforce the rights of the rights owners during the court proceedings. The fines received from criminal penalty could be returned to the Fund for TK protection and promotion. As TK related cases involve the diversity from a cultural and economic perspective including the complex legal and cultural dimentions, they should be tried by knowledgeable judges, local people and experts in those fields. ADRs provisions could also be provided for tackling TK disputes in order that the involved parties will have the opportunity to negotiate, solve the conflict, and take into account issues other than legal norms for the best result before formal litigation.

The **Draft Act on Intangible Cultural Heritage –** The Ministry of Culture had public hearings in all regions on this bill, to determine which Thai cultural assets should be nominated for protection, as well as all recommended assets. The Draft Act was then submitted for the cabinet's consideration, who approved it in principle. Currently, it is under the consideration of the Office of the Council of State. This Draft Act has the registration system for intangible cultural heritage[911] and the Committee for protection and promotion of intangible cultural heritage. With penalty of provisions for those who violate, it is expected to help promote, safeguard, protect and preserve Thai intangible heritage in seven areas, including the performing arts, craftsmanship, literature, sports, social rituals and festivals, knowledge and practices about nature and the universe, and language. This will be done by establishing a national committee for safeguarding and promoting intangible heritage treasures/administer the law and a fund to support the work, as well as by allowing Thai provinces to register their local intangible culture/heritage and seek a subsidy from the Cultural Promotion Department. Also, the expansion of cultural networks to encourage the public members to realise the value and significance of culture should be strongly supported to make them proud of their cultural heritage, and to create cooperation between responsible agencies.

IP offenses as a predicate crimes, as well as the possibility of freezing assets related to piracy, will soon be incorporated in the **Money Laundering Prevention and Suppression Act** to help combat IPR infringement. There has been debate on IP infringements online. It is unclear whether offering counterfeit goods for sale on websites can be considered 'forged computer data' and whether those websites selling goods that infringe IP, publicising copyright infringement content, or sharing copyrighted works can be blocked or shut down under the **Computer Crimes Act**. The development of the **Draft Act on Biosafety** has progressed slowly; an initial 2008 draft has been modified substantially to form the final draft. Once enacted, this

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911 Examples of intangible cultural heritage include; Cultural Artistic Performance, Traditional Craftsmanship, Folk Literature, Intelligent Thai Sport, Knowledge and Practices concerning nature and universe, Social Practices, Rituals, and Festive Events, Language, and Others as described in the Ministerial Regulation.

will be Thailand's specific law on biosafety, which is hoped will fill the gaps in existing laws, as well as regulating the use of agricultural/biotechnology in the country. **GMO Draft Act**, which will regulate the use of GMO farming, has been approved by the Cabinet in November 2015 although there are some protesters believing that this Draft Act may harm the agriculture sector, including health and environmental concerns on the produce safety.

Patent Act and Administration – With regard to patent application process where the invention is made of TK and biological resources, there should be a condition that the information thereof must be disclosed in order to protect local communities from undisclosed use of those resources without permission. The information on TK and related matters must be disclosed when the invention is made of TK and those resources. The draft amendments to this Act include the provisions of protection of partial design, the patent prosecution process, and compulsory licensing. A penalty for not complying with the conditions stated in the Act must be imposed.

Thailand has attempted to reduce the backlog and increase the efficiency of the registration system, with measures including increasing the number of examiners and assistant examiners, upgrading IT systems, outsourcing certain administrative functions to private entities, and introducing paperless and telework systems. The new examination guidelines for patent registration have been completed and specific examination guidelines on the registration of pharmaceutical products are under preparation. The patent backlog still comprises about 23,000 patent applications. The EU suggests that Thailand should conduct a benchmark exercise and seriously explore the possibility of fast tracking applications with increased fees. The training of patent examiners knowledgeable about sophisticated technologies is also necessary.[912]

Copyright Act – Some amendments have been added to this Act including anti-camcording provisions, which attempt to address the issue of unauthorised/illegal camcording of motion pictures. There will be provisions on Internet Service Provider

[912] Summary of the Third Thailand-EU IPR Dialogue, Phuket, Thailand, 27 February 2013 Co-chaired by Ms. Pajchima Tanasanti (DIP, Thailand) and Mr. Anders Jessen (DG Trade, EU). (2013). from http://trade.ec.europa.eu/doclib/docs/2013/april/tradoc_151037.doc.pdf.

(ISP)'s liability limitation, providing procedures for notifying and acting on illegitimate content hosted by online intermediaries. The Act also defines 'service provider' in the same terms as the Computer Crimes Act. (Currently, Thai ISPs have voluntarily co-operated with certain groups of copyright holders by taking down infringing materials upon request). If there is reasonable evidence to believe that there is a copyright violation on the ISP computer system, the copyright owners can seek injunctive relief through a court order to block rogue sites or take down illegitimate content. However, the burden of procedures for right holders should not be too heavy.[913]

Trademark Act – The Act provides limited protection for foreign trademarks if they are not registered in Thailand, as the country is not party to international conventions on reciprocal trademark enforcement. Thailand aims to accede to the Madrid System by 2015. Protection for non-traditional marks is also limited. Trademark protection is available for shapes and three-dimensional marks but is difficult to pursue. Registration of a single colour is not possible. Multi-class applications are currently not possible and a separate application must be filed for each class of goods and/or services.[914] Section 27 of the Act is unclear as it does not provide the criteria in determining registration of trademark where each owner has used in good faith or under special circumstances. Concerns about interpretation of the Act not providing adequate protection for refiled products have led to a draft amendment to address the issue of illegal refiling practices, which has been endorsed in principle. In the past affected companies had opted for passing-off provisions contained in the Penal Code, but the penalties for this type of offence are not deterrents. The EU suggests that Thailand should develop guidelines and procedures to determine if the content is illegal. It should clarify an agency or body with delegated powers or accredited laboratories to which rights holders can turn to

[913] Ibid.

[914] Australian Government, IP Australia. (2012). "IP Protection in Thailand." from http://www.ipaustralia.gov.au/understanding-intellectual-property/ip-for-business/doing-business-overseas/ip-protection-in-thailand/.

find out if the content is original. For example, in France and Italy there exist administrative bodies to conduct tests.[915]

Some recommendations from international organisations[916] that Thailand should consider include: provisions on landlord liability, landlord who have knowledge of counterfeiting activities should be held vicariously liable for the illegal activities of their tenants; its definition of Infringement should include the unauthorised use of a genuine trademark with unauthorised products; Trademark Office Practice should adopt multi-class applications, the inclusion of grace periods for renewal, and the abolishment of the requirement for identical/similar marks owned by the same company, as important improvements to trademark office practices; the Act should embrace other non-traditional marks such as single colour marks (in addition to the current registerable combination of colour marks) and touch marks, the DIP should also allow distinctive, non-functional packaging to be registered, and eliminate the mandatory licence recordal system from the trademark law revisions in the interests of economic efficiency and fairness in IPRs. Many significant amendments have been proposed to the Act: smells, sounds, shapes/three-dimensional objects, and marks with secondary meanings will all be registrable; multiple class applications will be allowed, including additional provisions in order to comply with the Madrid system. It is also necessary to amend the section on examination procedure.

GIs Act – The EU expressed some concerns regarding the implementation of TRIPs Article 22.2 in the GIs Act. Section 3 of the Act, which gives a definition of GIs and Sections 27 and 28, which give protection to GIs, do not fully implement the provisions of Article 22.2 of TRIPs because these sections only appear to protect the registered GIs themselves and do not prohibit the use of any item that indicates or suggests the GI. GIs can be marketed in many different ways to suggest a product is a given GI when it is not. The most obvious is using the description of the GI itself. In many cases, local producers use more indirect indications of the GI to suggest to

[915] Summary of the Third Thailand-EU IPR Dialogue, Phuket, Thailand, 27 February 2013 Co-chaired by Ms. Pajchima Tanasanti (DIP, Thailand) and Mr. Anders Jessen (DG Trade, EU). (2013). from http://trade.ec.europa.eu/doclib/docs/2013/april/tradoc_151037.doc.pdf.

[916] For example, the INTA, see details in Chapter 3 under Thai Trademark Act Section.

consumers that their product is a GI. Although Thailand maintained its view that the Thai GI Act fulfils the objectives of Article 22.2 of TRIPs,[917] it is recommended that those particular Sections are reconsidered.

Plant Varieties Protection (PVP) Act – This Act represents a *sui generis* plant protection system, but as the PVP system in Thailand is in its early stages only a small number of applications have been submitted.[918] The Act has been commented on as being ineffective and inadequate for protection since, as it contains outmoded laws that do not meet international standards. In addition provisions concerning the rights of plant breeders seem too narrow and this raises a number of questions. The provisions providing for the rights of farmers and local communities are largely declaratory and do not provide them with any practical means, due to an inability to register their varieties under the current PVP regime. The deficiency of provisions concerning the rights of farmers and local communities has been the subject of substantial government debate and there are proposals for statutory reform to bring them in line with international standards.[919] Also, the permit holder or the grantee has to enter into a profit-sharing agreement with the Department of Agriculture (DOE), yet the related Ministerial Regulations providing guidance on the commercialisation of plant varieties are still unclear as to how profits (the rate and amount) will be shared.[920] Whether the term of protection should be extended to increase the incentive to invest in new plant varieties, is to be reconsidered. The provisions regarding protection of extant varieties should be more practical to serve best farmers' rights. The scope of the PVP Commission's roles and obligations, as the institutional

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[917] Summary of the Third Thailand-EU IPR Dialogue, Phuket, Thailand, 27 February 2013 Co-chaired by Ms. Pajchima Tanasanti (DIP, Thailand) and Mr. Anders Jessen (DG Trade, EU). (2013). from http://trade.ec.europa.eu/doclib/docs/2013/april/tradoc_151037.doc.pdf.

[918] Naboriboon, P. (2007). "Plant Variety Protection in Thailand ", from http://www.tillekeandgibbins.com/Publications/Articles/IP/plant_variety_protection.pdf.

[919] Lertdhamtewe, P. (2010). "Effective Plant Variety Protection as Development Policy: A Perspective for Thailand " Thailand Journal of Law and Policy **13**(1).

[920] Naboriboon, P. (2013). "Thailand – Plant Variety Protection: New Announcement Impacts IP Rights and Profit Sharing." from http://www.conventuslaw.com/thailand-plant-variety-protection-new-announcement-impacts-ip-rights-and-profit-sharing.

body, could be enlarged in order better to incorporate important functions.[921]

Trade Competition Act – This Act has not been successfully prosecuted. The term 'fair and free trade' has been criticised for being vague or ambiguous, and Section 29 seems insufficient to cover inappropriate or unfair acts by retail stores, thus it needs interpretation and clarification. The law has also been criticised for its ineffectiveness, as it plays no role and has no impact on the trade practices of business operators, for the lack of due process and transparency in administering and enforcing the law, for its broad discretionary authority, for its ineffective structure and non-independent Commission, as well as for unclear rules and guidelines for its implementation. The proposed amendments focus on changing the structure and composition of the Commission by including representatives from public or consumer organisations to solve the conflict of interest issue, upgrading the status of the Office of Trade Commission to an independent body, increasing transparency in administering and enforcing the law, strengthening the penalties imposed on business operators, and expanding the scope of the law to apply to state-owned enterprises operating businesses that compete with the private sector. There is a need to establish guidelines as well as definitions of the technical terms specified in Trade Competition Law, such as: merger, market dominance, monopoly and price discrimination.[922]

Guidelines and Model Laws - In addition, Thailand could look into and benefit from adopting and/or adapting some useful provisions in various Model laws/Guidelines (as stated in Chapter 5): TBKIP Model Law, the Model Law of the Organisation of African Unity on Community Rights and on the Control of Access to Biological Resources (OAU Model Law), Model MTAs and MATs, the Pacific Regional Framework for the Protection of Traditional Knowledge and Expressions of Culture, Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of

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[921] Lertdhamtewe, P. (2012). Plant Variety Protection in Thailand: The Need for a New Coherent Framework. ASIAN Society of International Law Working Paper 2012/11. Paper presented at the 3rd NUS-ASIANSIL Young Scholars Workshop, NUS Law School, Singapore.

[922] Poomipark, C., M. Intaranont, et al. (2010). Thailand to Overhaul Trade Competition Law. Bangkok, Thailand, Mayer Brown JSM.

the Benefits Arising out of Their Utilisation, and Joint Recommendation on Genetic Resources and Associated Traditional Knowledge, including the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) Draft Articles in three areas of GRs, TK, and TCEs (folklore). It should do this as it sees fit according to national needs, its legal system, and local communities, to ensure that national legislations in these matters are clear, coherent, and provide best practice. All requirements, procedures and conditions in the laws should also be kept simple and unambiguous.

6.3 The need to re-examine and renovate IP management/administration, institutions, and for judicial reform

Whether the enforcement of Thai IPR laws is efficient or not can be partially evaluated from the US 2013 and 2014 Special 301 Report. Remaining on the Office of the US Trade Representative's Special 301 Watch List for more than ten years running, the most recent reports state that Thailand still remains on the Priority Watch Lists in 2013 and 2014 consecutively. Although Thailand has committed to improving its IPR protection and enforcement, it has been urged to make significant progress in passing key legislative initiatives and to establish improved legal mechanisms for IP protection. It should impose deterrent-level sentences, in order to provide an effective system to protect against unfair commercial use, as well as unauthorised disclosure, of test or other data generated to obtain marketing approval for pharmaceutical and agricultural chemical products, which can be done by engaging in a meaningful and transparent manner with all relevant stakeholders, including IPR owners. It is considered that challenges to Thailand's public health while maintaining a patent system promotes innovation.[923]

IP enforcement is falling under the Royal Thai Police Bureau, which plays a vital role in dealing with all kinds of IP infringement. They may consider IP issues less important and do not treat them seriously or as their primary task. The number of

[923] See Acting United States Trade Representative Demetrios Marantis, Office of the United States Trade Representative. (2013). "2013 Special 301 Report." from http://www.ustr.gov/sites/default/files/05012013%202013%20Special%20301%20Report.pdf .

people assigned to taking care of IP issues is quite small, the budget provided is tight and the tools given very limited.[924] The Royal Thai Police Bureau has long been criticised for basic problems such as: the excessive power of the police and the police's abuse of power; the lack of co-operation and co-ordination among agencies in the criminal justice system, the passive and limited role played in the criminal investigation of the prosecutor; delays in criminal processes; the unnecessary detention of the accused during trials; and the lack of compensation for those accused who are later acquitted.[925]

The country needs substantial domestic reforms and possible action from governmental agencies and also from the private sector to safeguard national treasures and community knowledge. Any costly and burdensome governmental procedures or activities should be decreased. All necessary IP printed media and databases should be made available to the public, easily accessible, and facilitated by the government.

As the country's patent office, the DIP needs patent examiners to possess the technical background, expertise, skill and vision necessary which results from extensive experience of making sure the system functions according to the ultimate principle of stimulating inventive activities, TOT, and technological progress for the benefit of society. The DIP needs a more transparent process of examining patent applications in order to restore trust in the system. All patent applicants should feel that they are treated equally with respect to the rapidity and quality of the examination.[926] On the issue of delays in patent examination, as the time required to

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[924] Chiyasak, P. (2010). Copyright of Thailand. Bangkok, Thailand, Thai Entertainment Content Trade Association (TECA).

[925] Sookying, S. (2005). The Department of Special Investigation (DSI): Countermeasures in regard to the Investigation of Economic Crimes and Special Crimes in Thailand. Work Product of the 126th International Senior Seminar on "Economic Crime in a Globalizing Society - Its Impact on the Sound Development of the State", United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (UNAFEI), Tokyo, Japan

[926] Tanasugarn, L. (1999). "When patent rights may not be enforceable: The case of Kwao Krua patent." Intellectual Property and International Trade Law Forum (Special Issue 1999), Central Intellectual Property and International Trade Court. Bangkok, Thailand.

complete an application varies from case to case depending on its complexity, Thailand has been trying to build up the capacity of its institutions to bring its examination procedures in line with international standards. The government has provided a budget to upgrade the patent system.[927] Importantly, complete and detailed online databases and examination manuals would be very helpful.

As for historic and cultural property, the Fine Arts Department's measures for the monitoring of all historical parks should include: providing a security system to prevent looting, illegal land use, and any other actions which will violate the regulations of the site; assigning archaeologists and technicians to inspect and take action when there are threats to the site; and conserve the monuments and their decorative elements.[928]

There are many government agencies, institutes and universities involved in biotechnological development and the regulation of biotechnology; for example, BIOTEC, Department of Agriculture, FDA, Ministry of Public Health, Department of Trade Negotiations and Department of Foreign Trade, Ministry of Commerce, Ministry of Natural Resources and Environment, and Ministry of Agriculture and Cooperatives. Thailand has been one of the largest hubs for seed production in the world. Yet due to the lack of progress on approving agricultural technology and the generally unfavourable public perception, several academics are concerned that some multi-national seed companies may relocate their seed production from Thailand to other countries. Agricultural biotechnology outreach in Thailand is challenging, with support coming primarily from industry and academic stakeholders. Greater engagement with government officials and politicians is needed. Thai policy-makers have to realise that other countries in the region are assisting agricultural development

[927] Department of Intellectual Property, Ministry of Commerce, Kingdom of Thailand (2010). Thailand's Implementation on Intellectual Property Rights (March 2009 - February 2010)

[928] The 6th Regional Office of Fine Arts, Sukhothai Province, Bureau of Archaeology, Fine Arts Department (2003). Thailand National Periodic Report: Section II State of Conservation of Specific World Heritage Properties UNESCO World Heritage Center.

with the introduction of these technologies. If Thailand does not quickly adopt biotechnology it will find itself uncompetitive in many areas of agriculture.[929]

The judicial sector is an autonomous entity of the Court of Justice. Prior to the TRIPs Agreement and the establishment of the IPITC that followed, enforcement of IPRs in Thailand was problematic as the country lacked the tools and expertise necessary to tackle IP matters. Despite a specialised court (IPITC), the content of many IP cases involving complex technology is very complicated, which may require the assistance of an associate judge/expert. More transparent enforcement of judgments and the whole justice system is also a problem. Although the IPITC has significantly helped to develop IP laws and concepts, Thai judges, however, could be independent and play a more active role in IP trials, adjudication and judgment delivery by adjusting themselves to this new legal concept and having open mind. To get over the problems of the low levels of IP expertise in the judiciary as well as the more complex technological issues emerging, the IPITC could be supported by expert evidence and experimental evidence. There should be more comprehensive IP training to help judicial systems improve the administration of justice. Both parties should not experience unreasonable time limits, or unnecessarily complicated, costly or burdensome processes to ensure that they have equal access to information and equal possibilities to present their case.[930]

To enforce IPR, all the main law enforcement agencies and IP related institutes should work cordially and maintain a close dialogue, i.e. the DSI, the Office of the Attorney-General, the DIP, the IPITC, the Customs Department, the Ministry of Finance, the Technological Crime Suppression Division (TCSD) under the Central Investigation Bureau, and the Economic Crimes Division (ECD) of the Royal Thai Police. The Customs Department has created an Intellectual Property Rights Coordination Centre in the Investigation and Suppression Bureau to enhance coordination amongst various law enforcement agencies. It is also seeking co-operation with IP rights holders in

[929] Preechajarn, S. (2012). Thailand Agricultural Biotechnology Annual 2012, USDA Foreign Agricultural Service, GAIN Report Number: TH2069.

[930] See World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

order to identify counterfeit trademarks or pirated copyrighted goods. Amendments giving the Thai Customs authority to take enforcement action *ex-officio* are in progress. Thailand should improve its efforts to enforce and provide for, and impose, deterrent-level sentences. It should also provide an effective system, in a meaningful and transparent manner with all relevant stakeholders and IPR owners, for protecting against the unfair commercial use of test or generated data to obtain marketing approval for pharmaceutical and agricultural chemical products.[931]

In 2013, the Government established the National Intellectual Property Centre of Enforcement (NICE), in which all relevant agencies in the field of IPR enforcement participate, and which will be responsible for cases requiring a high-level of inter-agency co-operation and concern large scale offenders involved in organised crimes. Also, a database linking the project, launched in 2013, is aimed at increasing the flow of information, strengthening the enforcement network and facilitating the co-ordination of enforcement activities. The system helps with tracing historical cases, and, in the future, will systematically collect and link key information and provide status updates on a real time basis. This will be accessible by all participating enforcement agencies to keep track of the status of infringement cases and retrieve relevant information on court decisions and repeat offences.[932] It is also necessary for the government to curb corruption in all government services, and to provide efficient enforcement measures, whereas national legislation provides general safeguards to ensure due IP procedures in keeping with the principles of justice, fairness, transparency, expedition and efficacy.[933]

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[931] Kirk, R. (2012). 2012 Special 301 Report, Office of the United States Trade Representative, USA.

[932] Summary of the Third Thailand-EU IPR Dialogue, Phuket, Thailand, 27 February 2013 Co-chaired by Ms. Pajchima Tanasanti (DIP, Thailand) and Mr. Anders Jessen (DG Trade, EU). (2013). from http://trade.ec.europa.eu/doclib/docs/2013/april/tradoc_151037.doc.pdf.

[933] See World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

6.4 Systematic TK register, appropriate listing and monument grading system

Besides the *sui generis* laws, Thailand needs systematic promotion and specific protection of TK, and benefit-sharing with the local communities who own the TK. Although TK and TCEs databases have been created by several communities and government agencies, Thailand still has no integrated, central and up-to-date online TK and TCEs databases. By far, the Thai cultural icon listings, as part of the Thai Ministry of Culture's attempts to preserve Thai culture and local wisdom, have covered numerous items such as *tom yum kung*, the *Songkran* and *Loy Krathong* festivals, *likay* musical folk drama, *som tam* (papaya salad), *pla ra* (fermented fish) and the children's game *mak keb* (jackstones). The listings of Thailand's national heritage in seven areas, including the performing arts, craftsmanship, literature, sports, social rituals and festivals, knowledge and practices about nature and the universe, and language, will prepare the country for the ratification of UNESCO's Intangible Heritage Convention, after which, Thailand can seek world heritage status for local wisdom.[934]

Thailand could use the Databases of Official Insignia of Native American Tribes, which prevent others from registering these insignia as trademarks in the USA, or INDIA's TKDL and its structured classification system, one of the most comprehensive databases, as well as PBRs as prominent examples of integrating various TK-related documents. These would allow it to compile and establish its own TK information as prior art, which would be very helpful in protecting the rights of TK holders and also misappropriation. All databases should be easily accessible/retrievable online, and be digitised in various flexible formats with technological assistance, such as orally, photographically or with video.

Thailand needs to urgently improve accessible and updated documentation and registration of IP databases, including investigating into any cultural artefacts and establishing efficient system of documentation and registration of them. Effective registers and database systems are essential for protecting all viable TK, TCEs and

[934] Bangkok Post. (2012). '70 Items Added to Culture List', published on 15 December 2012, from http://www.bangkokpost.com/breakingnews/326317/70-items-added-to-culture-list

TEK. Accordingly, they can be documented by local Thai people themselves as the 'inside' perspective is essential and information will be interpreted accurately,[935] as well as by appropriate government agencies. The Thai government must assist their local people in this matter, and could take advantage of the benefits of the digital era by using new technology for accumulating, classifying, and disseminating information, and organising all IP materials. Documenting TK and TCEs may include recording, writing down, taking pictures of them or filming them in a way that preserves them and could make them available for others.[936] Increasing efforts to create an inventory of and monitor the world's biota, as well as empirical information for the assessment of a wide range of threatened species, as recognised by numerous international and national bodies, will provide a clear view of the magnitude of diversity on Earth and its rate of loss, leading to effective biological diversity conservation and equitable ABS systems[937] for the country in the future. Furthermore, both international and domestic law should allow local people to provide oral evidence of TK.

The use of digital networks and databases for disclosed TK in Thailand should be aimed at the defensive protection of the knowledge by preventing the acquisition of IPRs over TK by parties other than the customary TK holders themselves, which will improve the availability, searchability and exchange of TK as prior art. For undisclosed Thai TK, the databases could facilitate the use of existing IP or contractual rights, or the development of *sui generis* rights, to enable the affirmative protection of TK by and for TK holders themselves. Registration may give rise to specific rights of the TK holders to restrict the way the TK is used by others, or to

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[935] Johnson, M. (1992). Research on Traditional Environmental Knowledge: Its Development and Its Role. Lore: Capturing Traditional Environmental Knowledge. M. Johnson. Northwest Territories, Canada, Dene Cultural Institute, International Development Research Centre**:** 3-22.

[936] World Intellectual Property Organization. "Glossary." 2013, from http://www.wipo.int/tk/en/resources/glossary.html.

[937] See Jermy, Long, Sands, Stork, Winser (Eds.) (1995). Biodiversity assessment: a guide to good practice., Department of the Environment/HMSO, London.

claim compensation for its use.[938] However, TK databases may pre-empt others from securing rights over TK since they disclose the TK to the public, nevertheless they provide some protection.[939]

Religious property and sites like Buddhist temples are predominantly declared to be 'National Monuments'. Most of them are inhabited and used by monks, it is, therefore, difficult for state officials and local people to propose and implement any conservation-related actions for temples. Awareness and understanding of religious heritage among monks, abbots and lay persons are important to its conservation and management.[940] Monument grading systems, like those operating in other countries, should be applied by surveying many cultural properties throughout the country, then legally declaring or classifying a wide range of places, structures, and buildings to be protected using broad categories. Once listed, these premises will not be allowed to be demolished, extended, or altered without permission from the authority responsible. In order to cover broader areas and aspects, systematic monitoring systems such as habitat mapping and satellite detection could also be utilised. These may be among the most practical methods to help preserve important national sites.

6.5 The need to acknowledge the principle of fair and equitable benefit-sharing and put it into practice

Thailand needs to provide the accessibility, fair and practical equitable benefit-sharing system in order to better protect the rightful local communities. In doing so, first of all, the country's biodiversity and TK should be valued, although there may be some access difficulties as local communities maintain a high level of secrecy or facing

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[938] World Intellectual Property Organization. "Issues for Developing Countries in the Digital Environment." 2013, from http://www.wipo.int/copyright/en/ecommerce/ip_survey/chap5.html.

[939] Wekundah, J. M. (2012). Why Protect Traditional Knowledge?, The African Technology Policy Studies Network, Biotechnology Trust Africa, Nairobi, Kenya. Special Paper Series No. 44.

[940] Ruktae-Ngan, K. (2003). Monument Grading System as a Means for Local Management of Cultural Heritage in Thailand. Faculty of Architecture, Civil Engineering and Urban Planning. Cottbus, Germany, Brandenburg University of Technology. Master of Arts in World Heritage Studies: 152.

problems of identification, collection or cooperation. Adequately conserving and protecting Thailand biodiversity resources could be done through fair and equitable resource-sharing agreements, national programmes to promote inventories and conservation of naturally occurring biological materials, and international and commercial support of and collaboration with national biological management organisations.[941] An appropriate financial mechanism like a bioprospecting fund could be created in Thailand. Tailored IP laws for Thai people are a prerequisite for knowledge protection systems to allow a wider range of people to access and share the benefits of knowledge. In isolation, PVP could impede diversity in ABS, but several measures could be combined with provisions for farmers' rights so as to promote diversity in knowledge systems in agriculture.[942]

Users of plant material in Thailand should have easy access to information on what is protected and who holds the rights. This alleviates the considerable burden of having to ascertain this individually.[943] The origin of cultivated plant varieties is, however, often hard to identify, a finding that has implications for ABS regulation, particularly if based on the notion that the country of origin should decide over the resources, as set out in the CBD.[944] Also, ethnobotanical research and conservation in Thailand should be carried out to meet the expressed needs of the local communities from which plant resources have been derived. The benefits of research, and of the discovery of unique sources of resistance in germplasm, should be delivered to communities in the long run using a variety of media, especially culturally adapted educational materials intelligible to the layperson. Outsiders may initiate the process

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[941] Mays, T. D., K. Mazan, et al. (1996). Quid Pro Quo: Alternatives for Equity and Conservation. Valuing Local Knowledge: Indigenous People and Intellectual Property Rights. S. B. Brush and D. Stabinsky, Island Press.

[942] Hassan, E., O. Yaqub, et al. (2010). Intellectual Property and Developing Countries: A review of the literature, The RAND Corporation, Europe. Prepared for the UK Intellectual Property Office and the UK Department for International Development.

[943] Llewelyn, M. and M. Adcock (2006). European plant intellectual property. Oxford, Hart.

[944] Andersen, R. (2008). Governing Agrobiodiversity: Plant Genetics and Developing Countries, Ashgate Plublishing.

of sharing the benefits, but communities themselves must be involved in defining the appropriate means to sustain these efforts.[945]

Thailand has many laws and regulations governing access to GRs, but only the Plant Varieties Protection Act B.E. 2542 (1999) makes a provision for benefit-sharing. Lack of a specific policy/legislation on and a clear mechanism of ABS are challenges to implementing ABS at national level. As a member country of the CBD, The Thai ABS Regulation called the Prime Minister Office's Regulation on the Conservation and Utilisation of Biodiversity (PMO-RCUB) aims to closely link biodiversity and IPR related-laws and a new autonomous government body was established. Even though it entails all the ABS principles necessary under the CBD and the Nagoya Protocol, is still limited in its scope and not enforceable for the private sector and other entities apart from governmental agencies and institutions. The questions of how to determine the types and amounts of benefit to be shared through the ABS agreement and of the development of an ABS clearing-house are other challenges that the country would be faced with.[946]

In order to balance the rights of farmers (especially in terms of equitable benefit-sharing schemes) and breeders, the development of specific national policies and legislation on ABS as well as a more comprehensive framework for PVP are needed. Farmers should take part in decision-making processes and have been adequately informed of their rights. Their right to PIC must be reflected in any ABS arrangements, in accordance with the regulations on ABS in the CBD and the Nagoya Protocol, which Thailand signed in 2012. As Thailand is working towards ratification and implementation of the Nagoya Protocol, the Thai ABS Regulation, which set up the criteria and procedures for gaining permission to access biological resources and

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[945] Nabhan, G. P., A. J. Jr, et al. (1996). Sharing the Benefits of Plant Resources and Indigenous Scientific Knowledge. Valuing local knowledge: indigenous people and intellectual property rights. S. B.Brush and D. Stabinsky. Washington D.C., Covelo, California, Island Press**:** 186-208.

[946] ASEAN Centre for Biodiversity. "Southeast Asia Regional Capacity Building on Access and Benefit Sharing: Thailand." 2013, from http://abs.aseanbiodiversity.org/index.php?option=com_content&view=article&id=13:thailand&catid=9&Itemid=101.

associated knowledge, should be reviewed in detail to be enforceable for non-governmental institutions or any private sector body, together with the development of future ABS laws and regulations, including a comprehensive ABS agreement and an effective ABS clearing-house. Working groups and relevant authorities could all work together, in order to strengthen ABS national policy, institutions and mechanisms. The government could provide legal assistance if needed, and also seek further practical IP protection methods that suit the Thai agricultural sector and its own culture.

6.6 The need to consider being a member of certain international treaties and multi/bilateral agreements

Joining various international IP and TK-related agreements would assist the country in effectively enforcing its *sui generis* laws, protecting and promoting its TK, cultural heritage properties and products. It would bring about some benefits, but may also have some disadvantages for the country. Considering the usefulness of joining certain international treaties and multi/bilateral agreements has been mainly done through the Ministry of Foreign Affairs, taking a leading role in strengthening regional and international co-operation between Thailand and its neighbouring countries and other continents. As the main regional co-operative, ASEAN member countries have worked together to help accelerate the pace and scope of IP asset creation, protection, the regional framework of policies and institutions relating to IP and IPRs, including the development and harmonisation of enabling IPR registration systems,[947] aimed at uniting the countries in AEC by the end of 2015 through the RCEP and TPP. However, ASEAN has been criticised for its lack of an effective dispute resolution mechanism, and the AEC for being too slow and for its leadership as the role of ASEAN chairman is a rotating position. English speaking countries in

[947] Association of Southeast Asian Nations. "Intellectual Property." 2013, from http://www.asean.org/communities/asean-economic-community/category/intellectual-property.

ASEAN will have an advantage over Thailand for soft infrastructure.[948]

The ASEAN Patent Examination Co-operation (ASPEC) programme allows applicants in participating countries to search for and obtain corresponding patents effectively. Following integration, a single agency with direct responsibility for IP matters should be established, and IP-related laws should be developed and improved. In addition, the East Asia Plant Variety Protection Forum (EAPVPF) can be useful for East Asian (ASEAN + China, Japan and the Republic of Korea) organisations to exchange information and to facilitate and improve the PVP system, leading to more co-operative activities and harmonisation of the PVP system in this region.

ASEAN nations have agreed to accede to the Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks by 2015. Under the centralised, simplified and cost-saving Madrid system, Thai trademark owners will be able to obtain multiple trademark protection for their products in all member states once they have been filed in any jurisdiction. It has to be aware, however, of the risks of central attack and the mirror effect.

Thailand is currently in the preparatory process of joining the UN Convention for the Safeguarding of Intangible Cultural Heritage. Becoming party to this Convention will allow access to funding from UNESCO. The government can submit an assistance request, for which developing countries are given special attention, for funds to finance programmes, projects and other activities, including the List of Intangible Cultural Heritage in Need of Urgent Safeguarding and the creation of inventories. UNESCO can also assist Thailand in the preparation of requests for reinstitution of stolen or illegally exported cultural objects which have been seized in other countries.

Thailand should also think carefully about joining UPOV; this could provide Thailand with more access to new and improved varieties, as it appears that a number of developing countries join UPOV due to political and economic pressures, with

[948] Charumanee, K. (2012). ASEAN Economic Community (AEC) 2015 and its implication on APEC. The paper for the annual conference for the APEC Study Center Consortium. Kazan, Russia.

insufficient consideration of whether its membership would contribute long-term to the country's policy objectives in a range of key areas, including economic development, food security and biological diversity.[949] The UPOV would have a negative effect on Thailand's traditional agriculture system if farmers were not allowed to use saved seed, which would also legally restrict Thai farmers' rights to manage and benefit from biodiversity. Consequently, the UPOV system may not be suitable for Thailand. It is important, therefore, to implement and promote Thai farmers' rights at the national level by supporting farmers in their maintenance and further enhancement of TK pertaining to crops. [950]

Thailand is currently considering the potential positive and negative impact of joining the TPP agreement. On one hand, it would increase trade opportunity, develop and enhance closer cooperation with other countries. On the other hand, it may have a directly negative effect upon the affordability of medicines and access to health care. It would expand the scope of pharmaceutical patents and create new drug monopolies by lowering patentability standards and requiring that patents be available for surgical and treatment methods; it would lengthen drug monopolies by requiring countries to extend patent terms and eliminate safeguards against patent abuse, including the rights of those with third-party status (patent linkage), under which even spurious patents may function as barriers to generic drug registration; it would extend the commercial control of regulatory information or data exclusivity by providing at least five years' exclusivity for information related to new products and three or more in cases of new uses for old medicines, even when information is in the public domain.[951]

Thailand has to be aware that while stronger IPR protection can ultimately reap rewards in terms of greater domestic innovation and increased diffusion of technology

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[949] Dutfield, G. (2011). "Food, Biological Diversity and Intellectual Property: The Role of the International Union for the Protection of New Varieties of Plants (UPOV)." Intellectual Property Issue Paper 9

[950] Andersen, R. (2008). Governing Agrobiodiversity: Plant Genetics and Developing Countries, Ashgate Plublishing.

[951] According to the FTA Watch Group, see Business Reporters (2012). Long Road to Joining TPP Negotiations. The Nation. Bangkok, Thailand.

in developing countries with sufficient capacity to innovate, it has little impact on innovation and diffusion in those without such capacity and may impose additional costs. Instead, developing countries can take different approaches at different stages of development, using the flexibilities in the TRIPs Agreement to maximise the net benefit for their development.[952]

Thailand should take advantage of newly created bilateral and multilateral FTAs to obtain lower duty, etc, in international trade and IP collaboration. Several FTA negotiations have been on hold while there is still no clear linkage between the FTAs and national policies and supporting institutions. Also the FTA provisions may harm certain sectors of the Thai economy, like generic drug manufacturing, in the short term as well as some industries and services with low capacity. However, FTAs have proved to be a driving force in the development and growth of the Thai economy as a whole. Trade has increased with several countries or regions as a result of FTAs, and foreign investors are less apprehensive about making IP investments in the country if Thailand increases its IP protection.[953]

6.7 The need to seek assistance from various sources and to participate in IP activities

Thailand needs educational, legal, technical and social assistance such as grants, loans or expertise from various sources since generally, the cost of acquisitions, registration and enforcement of IPRs and relevant TK rights are high. Thailand's only main and limited budgetary source for IP administration is from the government; therefore, it is necessary to manage wisely the costs for IP holders to use the IP system. Expertise in IP can help advance public interest in a wide range of endeavours, including: health care - obtaining access to patented medicines; agriculture - licensing of improved crop varieties; biodiversity - entering into biodiversity prospecting agreements and

[952] Falvey, R., N. Foster, et al. (2006). The Role of Intellectual Property Rights in Technology Transfer and Economic Growth: Theory and Evidence. Vienna, Austria, United Nations Industrial Development Organization (UNIDO).

[953] Arnold, C. M. (2006). "PROTECTING INTELLECTUAL PROPERTY IN THE DEVELOPING WORLD: NEXT STOP--THAILAND." Duke L. & Tech. (Rev. 0010).

challenging the misappropriation of biological resources; environmental protection - entering into contracts for technology transfer for renewable energy sources; TK/IK - agricultural and health practices, and protecting traditional designs, handiwork, art, music; scientific research-obtaining patents or other protection on inventions; and the licensing of software and technology-dealing with internet access and related issues/disputes.[954] Also, a number of activities related to respect for cultural identity could be undertaken by organisations, promoting intercultural dialogue, and fostering forms of cultural expression of local communities by the government.

Thailand needs to be alert and actively seek assistance with respect to expertise, academic and financial support and use of new technology. Associations, community corporations or similar legal bodies in Thailand could be formed to act on behalf of the community. Multilateral developmental institutions should also be encouraged to help the country to improve their biotechnology capabilities by providing financial assistance for research and development projects, and in obtaining and defending IPRs at home and abroad.[955] Thai Ethnobotanists, who have special relationships between both local and scientific cultures, can introduce appropriate new techniques, convey scientific knowledge about plant uses to local communities and help revive fading traditions.[956]

It should also follow IP-related activity in various countries and in the international arena. The FAO, for instance, has successfully contributed to strengthening the safety and quality of fresh and processed fruit and vegetables produced in Thailand and to

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[954] Gollin, M. A. (2003). Answering the Call: Public Interest Intellectual Property Advisors. Discussion paper, Biodiversity and Biotechnology and the Protection of Traditional Knowledge Conference. Washington University School of Law, St. Louis, Missouri, USA.

[955] Watal, J. (2001). Intellectual Property Rights in the WTO and Developing Countries. The Hague/London/Boston, Kluwer Law International.

[956] Given, D. R. (1994). Principles and Practice of Plant Conservation. London, Chapman & Hall.

improving the potential for export of these products.[957] WIPO offers, particularly for developing countries, national IP information by providing expert assistance, training, and collections of patent documents. Its unique Patent Information Services for Developing Countries (WPIS) are free of charge and operated by a number of industrial property offices world-wide and the EPO.[958]

Furthermore, the country could seek technical legal assistance such as in legislative drafting and training in specialist areas, for example, from the INTA the expertise of an IP professional who has significant experience of trademark law revision; from ICOMOS for improving conservation and protection of places of cultural heritage by the interdisciplinary exchange of its experts - architects, historians, archaeologists, art historians, geographers, anthropologists, engineers and town planners; from GHF for funding to protect and preserve significant and endangered cultural heritage sites; learning about law enforcement tools and technology from INTERPOL and Europol. Under the *IP Dialogue* between Thailand and the EU, discussions on topics including GIs, the backlog in patent registration, pharmaceutical issues and enforcement issues have been taking place. The EU carries out technical assistance programmes for Thailand and work on re-launching the technical assistance programme such as ECAP. An ASEAN IPR SME Helpdesk has also been set up to provide a free-of-charge helpline, training, and web-based self-help materials.[959]

An intergovernmental IP organisation is also recommended, as IPRs are limited territorially; they exist and can be exercised only within the jurisdiction of the country or countries under whose laws they are granted. But works of the mind and inventive ideas should simply cross international frontiers, and practice through international

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[957] Thai Affairs Section, FAO Regional Office for Asia and the Pacific,. (2011). "Thailand and FAO: Achievements and success stories." from http://www.fao.org/fileadmin/templates/rap/files/epublications/ThailandedocFINAL.pdf.

[958] See World Intellectual Property Organization. "WIPO Patent Information Services for Developing Countries." 2013, from http://www.wipo.int/export/sites/www/freepublications/en/patents/493/wipo_pub_493.pdf.

[959] European Commission (2013). Commission Staff Working Document: Report on the protection and enforcement of intellectual property rights in third countries. Brussels, Belgium.

standardisation and mutual recognition of rights and duties among nations should be simplified. Therefore, governments should try to negotiate and adopt multilateral treaties in the various fields of IP and TK.[960] These above-mentioned international organisations and their projects could be of great assistance in shaping and developing the country's IP legal system as well as its unique *sui generis* system on TK and TCEs. Thailand should benefit from these services.

6.8 The need to educate, raise general public awareness, and provide IPR training

Being prepared for the Thai *sui generis* laws on TK and TCEs in the near future, there is the need to raise Thai people's public awareness and incentives for Thai cultural heritage property and TK protection, which can be done by educating the public, non-IP administrations, as well as experts. Special assistance should go to the least concerned groups, for example, the poor, minorities and indigenous peoples. Policy-makers must adopt a wide view, encompassing the need to provide incentives for education, research, industrial and scientific and technological development, as well as encouraging public sector research so that the technology and input needed by the people are available.[961]

TK may be used for conservation education. It may benefit developmental agencies in providing more realistic evaluations of production systems, natural resources and the environment. The spiritual acquisition and explanation of TEK is a fundamental component of it, which must be promoted if the knowledge system is to survive.[962] Efforts to preserve both plant populations and the knowledge of how to use them for medicinal purposes are needed to sustain TM. Many people believe that because

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[960] World Intellectual Property Organization (2004, Reprinted 2008). WIPO Intellectual Property Handbook: Policy, Law and Use, WIPO Publication No. 489 (E).

[961] Salazar, S. (2003). The World of Biotechnology Patents. Trading in knowledge : development perspectives on TRIPS, trade, and sustainability. Christophe Bellmann, Graham Dutfield and Ricardo Meléndez-Ortiz. London ; Sterling, VA, Earthscan Publications Ltd**:** 117-126.

[962] Johnson, M. (1992). Research on Traditional Environmental Knowledge: Its Development and Its Role. Lore: Capturing Traditional Environmental Knowledge. M. Johnson. Northwest Territories, Canada, Dene Cultural Institute, International Development Research Centre**:** 3-22.

medicines are herbal, natural or traditional they are safe or carry no risks. However, they can actually cause harmful, adverse reactions if the product or therapy is of poor quality, or if it is taken inappropriately or in conjunction with certain other medicines. Patient awareness of safe usage should be increased. In addition, TM could be formally integrated into national health and primary health care systems to increase access to care and preserve knowledge and resources. Patient safety could be ensured by upgrading the skills and knowledge of TM providers.[963]

The promotion and protection of IP have become central to Thailand's economic policy-making. It is believed that protecting the interests of local and foreign rights holders would promote investor confidence, and stimulate invention, innovation and the creation of original works.[964] However, there are greatly differing attitudes amongst Thai people towards IP concepts. It must be accepted that some groups of Thai people do not think positively about, or have a good understanding of, complicated IPR issues and how they affect their livelihoods. Some still oppose the western notion/idea of an IPRs scheme, as they think their rights will be deprived and they will never benefit from complying with their international obligations. Many Thai consumers view IP as only relating to a certain group of people, and not to the population at large. Misappropriation affects only the right-owning group. They feel that the government's spending of resources to curb IP misappropriation is a waste of time and money, and see misappropriation instead as helping people with low incomes to get access to human intellectual creativity at an affordable price. Unfortunately misappropriation seems to have more beneficial effects for people than harmful ones.[965] Their attitudes could probably be gradually changed.

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[963] World Health Organization. (2008). "Traditional medicine." Fact sheet N°134 from http://www.who.int/mediacentre/factsheets/fs134/en/.

[964] Department of Intellectual Property, Ministry of Commerce, Kingdom of Thailand (2010). Thailand's Implementation on Intellectual Property Rights (March 2009 - February 2010)

[965] Chiyasak, P. (2010). Copyright of Thailand. Bangkok, Thailand, Thai Entertainment Content Trade Association (TECA).

To help improve IPR especially TK, cultural property and GR protection and enforcement throughout the country, a number of initiatives should be created: the government could provide knowledge, legal training, technical assistance, exchange of best practice, collaborative activities and growing awareness in the appropriate way by allowing people to participate at all levels in IP decision-making; it could increase IPR funding with an appropriate budget allocation; and provide personnel and legal training. It is recommended that public relations should be emphasised to raise awareness of the content of international treaties/agreements with respect to local peoples, communities and their TK, and that a campaign is launched aimed at attitudinal change among government officials and the public.[966]

Educational and awareness programmes can create opportunities for the transmission of TK and relevant practices by expanding the knowledge and experiences of knowledgeable community members.[967] It is necessary to educate locals, the relevant organisations and the general public including art and antiques dealers and owners about the preservation and management of cultural property and TK, and especially about preventing the looting of cultural heritage and the illicit trading of cultural artefacts. Practically, for example, GI should be prevented from becoming generic by opposing improper use, advertising and educating the public to know that Jasmine rice is a premium product from Thailand. This will avoid global confusion and consumers being misled, and maintain its worldwide reputation. IP education and awareness campaigns including integrating useful principles, as well as ethical issues, should be incorporated into the education curriculum, any training curricula and on-line distance learning courses, from the school level up until university. This will encourage students and people to realise both the commercial and non-commercial benefits of IP and the added value of western IPRs concepts that respect individual property rights. The ongoing campaigns include activities against the use of pirated

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[966] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

[967] Cetinkaya, G. (2009). "Challenges for the Maintenance of Traditional Knowledge in the Satoyama and Satoumi Ecosystems, Noto Peninsula, Japan." Human Ecology Review, Society for Human Ecology **16**(No.1): 27-40.

software targeted at Thai manufacturers and exporters, and comics on IPR uploaded onto tablets and distributed by the Government targeted at students.[968]

Thai lawyers, especially IP litigators and IP judges, should also be trained in new and complicated technical knowledge and different traditional cultures in order to deal efficiently with the increase in IP cases as well as TK-related cases, and to understand the uniqueness of TK character, social and political dimensions of the parties' claims in order to provide remedies that are culturally appropriate. Raising public interest and awareness and expert training may take a lot of time and effort; however, it will certainly be worth it in the long term.

6.9 The need for Thai TM, TK and products to have appropriate legal protection and promotion domestically

Within the country, important TK and agricultural products, collective ownership of indigenous/local people's property and knowledge should be officially acknowledged and recognised. In order to harness TK for trade and development in Thailand, it is necessary to combine the *sui generis* and alternative legal protection of TK with investment and entrepreneurship. To do this there should be documentation and dissemination of TK by linking innovators from the private and public sectors and the formal and informal sectors; dissemination of TK to link TK holders with investors and entrepreneurs; and promotion of lateral learning among TK holders. Then the conversion of TK into products and services requires facilitating access to venture capital; facilitating access to micro-credit; scaling up innovations; establishing research and development partnerships between formal and informal innovators; commercialising TK-based products and services with market research, market development and by generating consumer demand for TK-based products; and with incentives within trade policies for TK-based products.[969] These would help Thai

[968] Summary of the Third Thailand-EU IPR Dialogue, Phuket, Thailand, 27 February 2013 Co-chaired by Ms. Pajchima Tanasanti (DIP, Thailand) and Mr. Anders Jessen (DG Trade, EU). (2013). from http://trade.ec.europa.eu/doclib/docs/2013/april/tradoc_151037.doc.pdf.

[969] Bhatti, S. (2000). Intellectual Property and Traditional Knowledge: The Work and Role of the World Intellectual Property Organization. UNCTAD Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practices.

people to participate in their local communities, as well as conservation of their TK and proudness.

The utilisation and categorisation of TM, traditional massage, herbal plants and GRs should be widely encouraged alongside modern medicine. The government has a policy to integrate it into the mainstream health-care system to foster its use for health promotion. Although TM is available in many modern hospitals in Thailand, there have been difficulties in integrating it, particularly the practice of using herbal medicines, into modern healthcare services.[970] Also, healing arts practitioners across the country are different and varied. To reach the government's goal requires: a national policy and financial support, as well as commitment and good governmental administration; the strengthening of the body of knowledge on TM; development of human resources; research and development; the development of quality standards for herbal products and services; the dissemination of TM knowledge to the public; a certified educational system and training curriculum; good collaboration between communities, and the institutes and organisations concerned at both the national and international level.[971] TM practices have been codified by the Ministry of Public Health, and it is hoped that the establishment of the 'Thai Traditional Medicine Research Institute' will accelerate clinical research projects in TM, as well as the number of TM providers and services.

One considerable project representing Thai local wisdom is the OTOP,[972] designed to promote indigenous entrepreneurship for locally made and marketed products of each

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Geneva, Switzerland, The United Nations Conference on Trade and Development (UNCTAD).

[970] Chotchoungchatchai, S., P. Saralamp, et al. (2012). "Medicinal plants used with Thai Traditional Medicine in modern healthcare services: a case study in Kabchoeng Hospital, Surin Province, Thailand." Journal of Ethnopharmacol **141**(1): 193-205.

[971] Chokevivat, V. and A. Chuthaputti (2005). The Role of Thai Traditional Medicine in Health Promotion 6 GC H P Bangkok Thailand 2005 Bangkok, Thailand, Department for the Development of Thai Traditional and Alternative Medicine, Ministry of Public Health, Thailand

[972] Thailand aims to complete its GI products registration with the DIP by 2017.

Thai sub-district which has benefitted village communities. The entire OTOP product cycle comes under the supervision of a National OTOP Committee. There are issues about production capacity, quality control, and challenges in marketing, yet the project receives strong governmental support.[973] For example, the OTOP Task Force of the Department of Export Promotion (DEP), Ministry of Commerce, develops activities that assist in exporting OTOP products, as well as employing teams of designers to work with villagers to create marketable designs and packages for their products; the Interior Ministry's Department of Community Development works directly with the villages to fine tune their products; and the Industry Ministry's Department of Industrial Promotion plays a key role in product development, skills training and quality control.[974] However, some say that this project does not represent a real achievement because its purposes are all economic, like making money, hence it lacks appropriate development. As this is a top-down project and not one of local initiatives, it is necessary to promote a true understanding of its concepts and to have sustainable development and self reliance for local people and their communities.

6.10 The need for Thai TM, TK and products to have appropriate legal protection and promotion internationally

Globally Thailand is seeking GI protection globally including in the EU for several Thai products, such as Sweet Tamarind from Petchabun Province and Pulae Pineapple from Chiangrai Province. Receiving a certificate from the EU would guarantee that the products are premium and would add value to them. To achieve GI as an IPR recognised in over 150 countries, Thailand should have the products packed only in their production location to make sure that they meet quality standards.[975] In this regard, the involved Thai authorities have to perform GI control, validate the specifications and approve throughout the system. By far, the registration of Khao

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[973] In 2015, Thai government will revive the OTOP and village fund scheme to stimulate the grassroots economy while boosting multiple business and industrial clusters with new incentives.

[974] Royal Thai Embassy, Singapore. "What is OTOP?" 2013, from http://www.thaiembassy.sg/friends-of-thailand/p/what-is-otop.

[975] Ngamsaithong, N. (2012). Thailand hopes EU accredits 'Khao Hom Mali Thung Kula Ronghai' rice. National News Bureau of Thailand, Public Relations Department. Bangkok.

Hom Mali Thung Kula Rong-Hai in the EU has already been successful, and the following GIs on the two coffees, Kafae Doi Tung and Kafae Doi Chaang, have also been granted in 2015. Also, Khao Sang Yhode as a type of Thai rice is being assessed by the EU. Thai-Isan Indigenous Silk Yarn has been registered as GI in Vietnam since September 2014. Thailand still has many more products potentially to be registered as GIs abroad. Most consumers attach great importance to products with GI mark as reflecting reliable uniqueness and quality. GI protection can help add value to Thai traditional products produced within the delimited area, and ultimately benefit local producers and operators as the price of GI products will be higher than non-GI products.

As the Thai economy depends mainly on the export sector accounting for as much as 70% of GDP, it is recommended that all product packages produced in Thailand be labeled with the weight, the date of packing, the name of the mill or the name of the cooperative bearing the words/logo required by the importers/regions. Also, to encourage greater quantity and quality of exported fruit, a Thai fruit brand needs to be established around three key components: Thailand's core values; the competitive position of Thai fruits; and global consumer trends. The development of a brand for Thai fruits that emphasises their uniqueness would help the country's fruit exports penetrate world markets.[976] Two approaches could be used to protect Thai brands: the adoption of passive measures by compromising on international disputes over trademarks of Thai TK, such as creating new and unknown trademarks to replace long well-known ones; or the government must adopt proactive measures to defend the nation's trade interests and to retain their widely recognised TK names as these famous names are of high commercial value to the nation.[977] The Thai Food and Drug Administration (FDA) can certify that Thai food products for export meet international ISO standards. Thai enterprises need to adapt their export strategies to

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[976] Pongpanich, C. and P. Phitya-Isarakul (2008). "Enhancing the Competitiveness of Thai Fruit Exports: an Empirical Study in China." Contemporary Management Research **Vol 4** (No 1): 15-28.

[977] Tiranutti, V. (2007). "Trademarking traditional knowledge: Lessons from the Rusie Dutton case " Asia Pacific Tech Monitor(Special Feature : Traditional Knowledge vis-a-vis Modern IPR): 42-49.

focus on emerging economic markets. Alongside this the government potentially could provide various export promotion activities.

As to the legal protection for Thai cultural properties and cultural heritage sites, besides the international Conventions and Agreements previously mentioned, Thailand should consider about becoming party to the UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property 1970 Convention and the UNIDROIT Convention on Stolen or Illegal Exported Cultural Objects 1995 since these two international instruments will be essential tools to help combat the trade in illicit exported cultural artefacts of the country, as well as forcing possessors of a stolen cultural object to return them to the rightful owners, and also being able to bring a claim for the recovery of a cultural object before the courts of another contracting party where the cultural object is located. Thailand has to tackle the smuggling of illegally exported antiquities by cooperating with other nations by increasing bilateral agreements, seeking funds, sharing useful information and strategies, imposing international sanctions, law enforcement and measurement for returning illegally experted cultural property. All state parties can join together to tackle any cultural property misappropriation and other useful activities.

Considering all proposed recommendations, in spite of the inadequacy and limited use of the conventional IP system, effective protection of Thai TK and TCEs can be carried out through *sui generis* system, together with a variety of approaches, i.e. adaptation of its existing laws, recognised fundamental rights, and alternative means to achieve the goals.

Conclusion

As various useful IP platforms and instruments relating to TK and TCEs have been developed at the international level, positive steps in Thailand have also been taken towards TK and cultural property protection. However, the problems of misappropriation and high demand for the commercialisation of biodiversity, TK and TCEs, among others, in Thailand have yet to be resolved. It is necessary for the country to balance the benefits for the developed countries and developing countries

involved, while being able to obtain some economic advantage. The use of existing flexibility should be applied in every case. Since knowledge in the public domain has no special status or protection and there is no legal duty to acknowledge/share benefits with its holders, IPRs could be strengthened or lost when documenting TK because such knowledge may be misused by third parties. The principle of equitable benefit-sharing should be used in situations where exclusive IPRs are considered to be inappropriate. Some useful lessons can be drawn from a variety of worldwide studies for many cases in Thailand. Importantly, great efforts of the Thai government and the people should be applied to harmonising and creating a comprehensive *sui generis* legislative framework, implementing more effective judicial mechanisms, raising public awareness, as well as to encouraging innovation and creativity, while preserving equity and basic human rights.

Although some kinds of TK can be protected as IP, some others cannot. Finding the appropriate manner of protection for TK and cultural property from the existing laws of the Country (e.g., the Law on Thai Traditional Medicine Intelligence, the Law on Plant Varieties Protection, and the Law on Archaeological Sites, Artifacts) is still controversial and has been difficult throughout as Thailand lacks unified law for protecting TK and TCEs in all aspects; there is no harmonised approach and specific governmental units in charge of TK and TCEs; and there is no central efficient TK and TCEs database. Furthermore, there is still undisclosed use of TK and biological resources without permission from local communities, and also no disclosure on TK and biological resources use during the process of patent application. Therefore, any provisions in TK or patent laws requiring the disclosure of the information on TK and biological resources when the invention is made of those TK and biological resources would be useful. Since the core objective for the protection of IP and TK is different and incompatible, the current IP system on the TK and TCEs is limited to the desire and expect of right holders; it is recommended that *sui generis* law on TK and intangible cultural expressions urgently enacted as they will be especially designed to protect national TK and cultural properties, the rights of local communities against illegal utilisation of their knowledge and artefacts without respect and appropriate compensation. Accordingly, the author is sure that these *sui generis* laws, together with alternative approches within and outside IP such as law enforcement, coopertation among government and private sector, as proposed in this thesis, will

provide the right holders with the clear legal rights over TK and TCEs and the ability to enter into contractual agreements to commercially exploit their rights, and will definitely be a real safeguard of legitimate interests as well as having direct/indirect benefits and strong affects to local communities. Thailand has to learn from other countries lessons, keep up with and get involved in international progresses and updates on the protection of TK and TCEs either under IP law or alternative means such as IGC's draft texts and other model laws, which will assist the Country in effectively enacting its *sui generis* laws.

Summary

Thai TK and cultural heritage has developed over centuries and some TK is closely associated with GRs. They are all linked together and are of considerable significance in Thai culture. Given that TK generally includes a wide range of subject matter and is holistic and dynamic, it is not likely that the protection of TK can be implemented through one single method. Accordingly, the study in this thesis obviously shows that the traditional existing IP law system of Thailand fails to stop misappropriations; IPRs, which are private or individual rights, have no real concept of communal rights as they only protect individual interests; it is quite difficult to identify who is the real owner/holder of TK; IP laws often set too high standards of protection; the granting criteria are too difficult to satisfy, the subject matters of what to protect are often too specific, the duration of protection is also limited; and the enforcement mechanisms are always complicated and expensive. Therefore, options for TK protection in Thailand using both legal and non-legal approaches, either through the existing IP legal systems, or by extended or adapted forms of the existing IPRs, or by developing a newly designed *sui generis* system, are all required. The previously-mentioned six key justifications: Equity, Human Rights, Autonomy, Moral Rights, Protection & Preservation, and Development, are fundamental elements that Thai government should also be taken into consideration for an effective and coherent TK regime.

Human Rights can serve as the minimum standards to protect the underlying rights of Thai people over their cultural heritage, TK and GRs through a number of recognised international institutions and instruments. Accordingly, Thai legislation must be consistent with international human rights law. Thai people and local communities have rights to autonomy over TK and any relevant matters; FPIC should be obtained from local communities for access to GRs and associated TK to secure their rights and interests. Moral Rights, which are additional to standard rights, could protect the rights of Thai individuals particularly for a copyrighted work derived from TK. Thai legislation governing this matter should ensure that Moral Rights are inalienable and in perpetuity.

Considering Thailand's unique characteristics and legal environment of IP, becoming party to any international agreements such as the Convention for the Safeguarding of the Intangible Cultural Heritage of which Thailand is in the preparatory process, or establishing FTAs would provide benefits on the one hand, but it may also hold potential negative implications on the other hand. Thailand should resist becoming bound by any legal instruments that impose too strict or unacceptable IP standards, for instance, Thai government should be very cautious about adopting any plant variety protection scheme that may put Thai farmers and plantbreeders at a disadvantage. Equity would help to tackle some exceptions/limitations of western IP regimes for Thailand and to mitigate the unequal bargaining powers of the North and the South due to the greater demand for higher level of IP protection. Since TK has significant value for community development, Thailand needs to urgently protect and preserve Thai TK against loss and misappropriation through appropriate forms of IPRs to ensure sustainable future use and access, along with the development of practical ABS system for more equitable relationship between TK holders, the government and the private sector. Promotion of TK-based products and registration of GI products both domestically and internationally should be fostered. Well-organised TK databases and documentation mechanisms should also be created. Among the important governmental agencies responsible for the protection and preservation of TK including the enforcement of IPRs, the Ministry of Culture, the Ministry of Education, the Ministry of Commerce, the Ministry of Agriculture and Cooperatives, the Ministry of Science and Technology, the Ministry of Public Health, the Ministry of Foreign Affairs, as well as the justice entities should all work coordinately and make every effort to take a major step forward. One of the useful and practical projects that the Thai government has launched to promote famous commodities of local communities is OTOP Project, which has been proved over the years to be quite a successful government initiative as this helps preserve the TK and know-how of the local people. Again, the author would like to reiterate the importance and urgency of having a *sui generis* system of TK and cultural property recognising a concept of access and benefit-sharing for Thai people by following the the international legal instrument on the protection of TK negotiated by the WIPO IGC that would embody a *sui generis* approach.

Also, as a country whose economy largely depends upon agriculture, Thailand must make agriculture its top priority and focus more on the development of agricultural science and technology, principally to increase agricultural production and crop yields in a sustainable way, as well as improve agricultural research and strategies. With respect to this, farmers' rights over the use of their traditional agricultural knowledge and related PGRs should be respected and recognised to ensure their preservation and protection. Traditional agricultural approaches and practices refined over generations could potentially be of use in the future. Campaigns and raising awareness among the general public concerning the importance of IPRs, TK and TCEs in particular, as key elements in reducing the knowledge gap can be undertaken through education and training tailored specifically to the protection of cultural heritage and local knowledge. However, Thailand might not be able to achieve all these things on its own. Overseas aid could take the form of both monetary and non-monetary supports, such as IP legal advice, experts and technical assistance. In addition to overseas aid, fostering stronger ties and integration between ASEAN nations as well as greater international collaboration in the cross-border aspects of IP will certainly pave the way for Thailand to achieve its IP capacity, building in economic, social and cultural development.

Thailand needs to implement several effective instruments for IP law making and administration, including practical strategies for future negotiations, as clarified in this thesis. The transparency and the accountability of the IP authorities and the judiciary as well as the IPRs' enforcement should all be incorporated into comprehensive national policies, laws and regulations. Last but not least, it is apparent that the current Thai legislation related to TK and cultural properties is still inefficient and unclear; using existing IP related laws is not successful in covering all aspects of the country's TK and cultural heritage. Even amendments and adaptations of the existing IP rights system are not sufficient to cater to the unique character of TK subject-matter, leading to the Country's decision to protect its TK and intangible cultural heritage through *sui generis* laws. And as the rights to TK are subject to national legislation; it is essential that any future *sui generis* legislation and system in relation to TK, TCEs, GRs and the harmonisation of all IP instruments as a whole must meet the requirements of these six important elements in ways which would accord well with customary law and a combination of other fields of law or even other disciplines

of knowledge. It is vital that all laws maintain a balance between the interests of TK holders and the public, as well as reflecting their ethical concerns.

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