

**IMPLEMENTING A SUI GENERIS REGIME FOR GRANTING COLLECTIVE RIGHTS TO
LEGITIMATE HOLDERS OF TRADITIONAL KNOWLEDGE IN ECUADOR**

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I. Introduction

Ecuador has one of the most diverse biological and ecological regions of the world containing a variety of special ecosystems, microclimates, biodiversity and Traditional Knowledge systems ('TK').¹ However, the protection of this TK was scarcely known and there were clearly no defined guidelines for the same.² This resulted in problems in assigning property rights, which in turn created a loss of that biodiversity and its associated traditional practices.³

Indigenous communities and small-scale farmers were not as aware as other agents of the potential and real value of their knowledge in relation to the use of the biodiversity. When analyzing the protection of TK, due consideration must be given to understanding this economic phenomenon as information asymmetry.⁴

This lack of awareness resulted in high profile cases of bio-piracy in Ecuador, as the *Ayahuasca* case. The Amazonian plant *Ayahuasca* or *Yagé*, (*Banisteriopsis caapi*), has been used by

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¹ World Intellectual Property Organization affirms that there is not yet an accepted definition of TK, but in international debate, "traditional knowledge" in the narrow sense refers to knowledge as such, in particular the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations. Traditional knowledge can be found in a wide variety of contexts, including: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge, including related medicines and remedies; and biodiversity-related knowledge, etc.

² Manuel Ruiz Muller, *Regulating Bioprospecting and Protecting Indigenous Peoples' Knowledge in the Andean Community: Decision 391 and Its Overall Impacts in The Region*, Protecting and Promoting Traditional Knowledge: Systems, National Experiences and International Dimensions (eds. Sophia Twarog and Promila Kapoor) pp.241 (November 2004).

³ Ramon L. Espinel, *Multifunctionality in peasant agriculture: a means of insertion into globalization* (2015), available at http://www.agter.asso.fr/IMG/pdf/Espinel_2008_Multifunctionality_in_Peasant_Agriculture.pdf.

⁴ In economics and contract theory, information asymmetry deals with the study of decisions in transactions where one party has more or better information than the other.

Shamans to prepare a traditional drink during their healing ceremonies and as a part of religious and spiritual ceremonies to achieve trance states. In November 1986, the United States Patent and Trademark Office (USPTO) granted the plant patent No. 5751 to Mr. Loren Miller, representative of the International Plant Medicine Corporation who claimed rights over a variety of *B. caapi* that he dubbed Da Vine.

By March 1999, the Coalition for Amazonian Peoples and their Environment ('Amazon Coalition') and the Coordinating Body of Indigenous Organizations of the Amazon Basin ('COICA') filed for re-examination of the patent. The patent was removed as the same variety was found in a Museum, but in 2001 Mr. Miller, who provided new evidence, was granted the patent back. Amazonian peoples unsuccessfully pursued legal efforts till 2003, when the patent protection expired. This case highlights the importance of searching for strategies to address the status quo i.e. information asymmetry and to protect such knowledge from unauthorized use.

On 9th December 2016, the Ecuadorian National Assembly approved the *Código Orgánico de Economía Social del Conocimiento e Innovación – Código INGENIOS*- draft by the *Secretaría de Educación Superior, Ciencia, Tecnología e Innovación* (SENESCYT).⁵ This Code includes the mandate for the protection of TK constituting the implementation of a Sui Generis Regime.

II. Legal Background

In a broader context, Ecuador forms part of the Andean Community,⁶ which has full and up-to-date provisions⁸ on Intellectual Property ('IP') including:

- Decision No. 345- Establishing the Common Regime on the Protection of the Rights of Breeders of New Plant Varieties, which constituted the first legal

⁵ *Código orgánico de la economía social de los conocimientos, creatividad e innovación*, Asamblea De Nacional, Republica Del Ecuador, WIPO Suplemento 2006, available at <http://www.wipo.int/edocs/lexdocs/laws/es/ec/ec075es.pdf>.

⁶ Comunidad Andina (in English: Andean Community) is an organization of trade, economic, social and cultural integration which gathers four countries: Bolivia, Colombia, Ecuador and Peru. The Andean integration process began with the signing of the Cartagena Agreement on May in 1969. The objectives of this agreement are "to promote the balanced and harmonious development of the Member Countries under equitable conditions, through economic and social integration and cooperation; to accelerate their growth and the rate of creation of employment; to facilitate their participation in the process of regional integration, looking ahead toward the gradual formation of a Latin American Common Market" as is stated in the Article 1 of the Acuerdo de Integracion Subregional Andino.

reference to protect breeders' creations in accordance with the UPOV convention and Bio Diversity Convention.

- Decision No. 351 Establishing the Common Provisions on Copyright and Neighboring Rights in accordance with Berne Convention.
- Decision No. 391- Establishing the Common Regime on Access to Genetic Resources, adopted in 1996, which was one of the first access and benefit-sharing laws recognizing indigenous and local communities' rights to decide about their know-how, innovations and the traditional practices associated with their genetic resources, and;
- Decision No. 486 -Establishing the Common Industrial Property Regime, adopted in 2000, which recognizes the safeguarding and respecting to protection that should be granted to the biological and genetic heritage, together with the traditional knowledge of indigenous, African American, or local communities in the process of granting patents or inventions.

In accordance with this framework, a law of IP (consolidated in 2006) was implemented in Ecuador from 1998 until 9 December 2016. This IP law contained a brief and explicit reference related to Plant Variety Protection whereby the rights of farmers to preserve their traditional practices are defined (Art. 258).⁷

As there were no clearly defined guidelines pertaining to the protection of TK rights in Ecuador, during the last ten years one of the priorities of the Ecuadorian Government was the preservation and protection of their TK.⁸ In 2007, a new Constitution⁹ was written which is considered as one of the most important precedents towards the recognition of the rights of nature, the protection of biodiversity and the enshrinement of the importance of TK as part of strategy of a shared knowledge economy. This Constitution, accepted by Ecuadorians through a Referendum in September 2008, establishes the rights of individuals to enjoy the benefits and applications of scientific progress and ancestral knowledge (Art. 25). Of particular importance is an entire chapter devoted to the recognition of the rights of communities, individuals and nations whereby their right to freely uphold develop and strengthen their TK in accordance

⁷ *Ley de Propiedad Intelectual (Codificación N° 2006-013)*, Ecuador, WIPO Lex, available at http://www.wipo.int/wipolex/es/text.jsp?file_id=195678.

⁸ *Supra* note 2.

⁹ CONSTITUCIÓN DEL ECUADOR, available at http://www.asambleanacional.gov.ec/documentos/constitucion_de_bolsillo.pdf.

with the Convention on Biological Diversity ('CBD'), but also mandates that all forms of appropriation of their knowledge, innovations, and practices is forbidden as well as the granting of rights to byproducts or synthetics obtained from collective knowledge associated with national biodiversity (Art. 402).

III. Protection and Recuperation of TK in Ecuador

The World Intellectual Property Organization ('WIPO') has recognized that there exists a need to clearly assess how IP interfaces with development in different socio-economic contexts.¹⁰ It is against this background that the need to examine the efficacy of IP legislation and its use in best serving the people who's TK it seeks to protect should be examined.

a) Theoretical Framework About TK and IP Tools

Extensive literature (Correa, 2001; Cottier and Panizzon, 2004; Caldas, 2004; Hansen, 2007) can be found about recommended approaches (i.e. use of standard forms of IP, unfair competition or Sui Generis Systems) as solutions for the protection of TK in the developing world.¹¹ However, the effectiveness of these systems has hardly been tested and the determinant of success or failure of them has arisen from prior experiences in the developed world.¹²

García-Bermejo advocates for the recognition of the effectiveness of protection through the voluntary and direct commercial exchange between the TK holders and outsiders of their community.¹³ In this scenario, the holders of the TK will be involved in the productive and commercial processes and the effectiveness – in an economic sense – will be given by the market conditions and the capacity of the holders to satisfy such conditions.

¹⁰ *The Economics of Intellectual Property: Suggestions for Further Research in Developing Countries and Countries with Economies in Transition*, WIPO (2009), available at http://www.wipo.int/edocs/pubdocs/en/economics/1012/wipo_pub_1012.pdf.

¹¹ Carlos M Correa, *Traditional Knowledge and Intellectual Property: Issues and options surrounding the protection of traditional knowledge* (2001), A discussion Paper QUNO, Geneva; Thomas Cottier & Marion Panizzon, *Legal Perspectives on Traditional Knowledge: The Case for Intellectual Property Protection*, 2004 Vol. 7 Issue 2 J. Int'l Econ. L., pp. 371; Andressa Caldas, *La regulación jurídica del conocimiento tradicional: La conquista de los saberes* (2004), ILSA, available at http://www.ilsa.org.co/biblioteca/EnClaveSur/EnclaveSur_5/En_clave_sur_5.pdf; Hansen, S. And VanFleet, J. (2007), *Issues and Options for Traditional Knowledge Holders in Protecting Their Intellectual Property* in *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practices*, MIHR and PIPRA, Oxford and Davis, p. 1523.

¹² J. Janewa OseiTitu, *A Sui Generis Regime For Traditional Knowledge: The Cultural Divide in Intellectual Property Law*, 15 Marq. Intell. Prop. L. Rev., 147 (2011).

¹³ García-Bermejo, J. (2011), *La Protección de los Conocimientos Tradicionales desde una Perspectiva Económica*, *Cuadernos de Economía*, 34 (96), pp. 107.

Due to the characteristics of the products and services that are usually offered by the TK holders, the recommendations to use distinctive signs such as Collective Marks, Certification Marks and, in particular, Geographical Indications ('GIs')¹⁴ is not new (Panizzon, 2006; Gopalakrishnan, 2007; Bramley, 2011).¹⁵ The well-known and primary objective of Geographical Indications is to create, in the mind of the consumer, a direct relationship between the origin of a product and a particular quality according to the standards established by the producers and controlled by the entities created for this purpose. As Escobar et al (2012) concludes, these standards are often traditional practices that contribute to the conservation of the diversity of the local resources, preserving the traditions, strengthening the local organization, fighting against rural exodus and offering a wider range of products to consumers.¹⁶ However, there is a lack of evidence relating to the extent of the actual benefits of these distinctive signs when protecting and preserving TK in developing countries.¹⁷

b) Previous Interactions with Intellectual Property System for Protection and Recuperation of TK

Some of the initiatives in which the Ecuadorian government – under the umbrella of a Constitution – was involved and relate to the protection and recuperation of TK are:

¹⁴ I will use the expression "Geographical Indications" to refer both to Appellations of Origin and Indications of Source; Several researches explain the rationale for the legal protection of GIs; Dr Dwijen Rangnekar in 2004 analyses clearly how consumers protect themselves from information asymmetry using various distinctive signs as markers of quality and reputation. These distinctive signs can acquire a high reputation and commercial value.

¹⁵ Marion Panizzon & Thomas Cottier, *Traditional Knowledge and Geographical Indications: Foundations, Interests and Negotiating Positions* (NCCR Trade Regulation, Working Paper No. 2005/01, 2006); Ernst-Ulrich Petersmann, *Developing Countries in the Doha Round: WTO Decision-Making Procedures and WTO Negotiations on Trade in Agricultural Goods and Services* (2005), Robert Schuman Centre for Advanced Studies, European University Institute, available at <http://cadmus.eui.eu/bitstream/handle/1814/2855/200510-eWTO-Petersmann.pdf>; N.S. Gopalakrishnan et al., *Exploring the Relationship between GIs and TK: An Analysis of the Legal Tools for the Protection of GIs in Asia* (2007), ICTSD Programme on Intellectual Property Rights and Sustainable Development, International Centre for Trade and Sustainable Development; Cerka Bramley, *A Review of the Socio-economic Impact of Geographical Indications: Considerations for the Developing World* (2011), WIPO Worldwide Symposium on Geographical Indications: WIPO, pp. 22-24.

¹⁶ Lily Aurora Escobar, Juan Carlos Torres et al., *Geographical Indications under the Andean Community as a Proposal for an Inclusive Business Model in the Region* (2012), available at <http://ip-masters.com/research/escobarebell-torrescortez-veramoscoso-2012.pdf>.

¹⁷ Michael Blakeney, *Protection of Traditional Knowledge by Geographical Indications*, 2009 Vol. 3 Issue 4 Int. J. of Intell. Property Management, p. 357-374; Mahua Zahur, in *The Geographical Indication Act 2013: Protection of Traditional Knowledge in Bangladesh with Special Reference to Jamdani*, Geographical Indications at the Crossroads of Trade, Development, and Culture: Focus on Asia-Pacific, Calboli, I. and Ng-Loy, W. (2017) Cambridge University Press, pp. 439-460.

- The Co-ordination of Traditional Knowledge by the National Secretary of Science and Technology ('SENESCYT') ran four programs for the recuperation and development of TK; one of them focused on health practices among the rainforest communities packaged in the form of a series of books. It was also foreseen the uses of local flora and availability of ancestral medicine in the public health system as an alternative to the medicine procured through the pharmaceutical industry, a project that has not been implemented.¹⁸
- In the Coastal region, a recent case has been the use of the Appellation of Origin "Sombrero de Montecristi" for the protection of the straw and the ancestral knowledge involved in the production of straw hats (incorrectly recognized worldwide as "Panama Hats") which will be explained in further detail.
- In the Ecuadorian highlands, *Instituto Ecuatoriano de la Propiedad Intelectual* ('IEPI') was involved in a pilot project to register genetic resources associated with traditional knowledge of the *Tsáchila* tribe and plans to commence the same work with other indigenous communities as well as the registration of Trademarks and Appellations of Origin of traditional clothing styles, cultural expressions, dances, and crafts of several indigenous groups.¹⁹
- As ALMEIDA (2005) asserts, Amazonian Indigenous communities have been reluctant to share their knowledge due to a lack of mechanisms of economic compensation and for the extractive approaches involved with that "sharing" process.²⁰ In keeping with this position, various indigenous and local groups participated in an experimental project to protect their traditional knowledge as trade secret, in conjunction with the assessment of an NGO.²¹
- The *I Cumbre Regional Amazónica Saberes Ancestrales, Pueblos y Vida Plena en Armonía con los Bosques* and the Mandate of Manaus in 2011²² stressed again the

¹⁸ Herrera, R. And Inés, M. (2014), SENESCYT.

¹⁹ Diario El Comercio, *490 plantas medicinales de la comunidad Tsáchila fueron registrados en el IEPI*, EL COMERCIO (Dec. 17, 2017), <http://www.elcomercio.com/actualidad/ecuador/490-plantas-medicinales-de-comunidad.html>.

²⁰ Esther Almeida, *Traditional Knowledge: An analysis of the current international debate applied to the Ecuadorian Amazon context* (2005) (Ph.D. dissertation, Lund University) (on file with author).

²¹ Joseph Henry Vogel, *El cártel de la biodiversidad: transformación de los conocimientos tradicionales en secretos comerciales* (2000), CARE, available at <http://www.flacsoandes.edu.ec/libros/digital/43913.pdf>.

²² *Declaración De La I Cumbre Regional Amazónica Saberes Ancestrales, Pueblos Y Vida Plena En Armonía Con Los Bosques* (2011), REDUNITAS, available at <http://redunitas.org/boletin/08agosto11/22declaracionIcumbre.php>.

demands of indigenous people of the Amazonas River Basin to demarcate and guarantee the legal security of indigenous territories and protection, respect and no commercialization of their traditional knowledge which makes clear their position in favour of the secrecy of their TK.

c) The Case of the Use of the Appellation of Origin “Sombreros de Montecristi” to Protect TK in Ecuador

Under the threshold of the Agreement on Trade-Related Aspects of Intellectual Property Rights (‘TRIPS’) and Decision No. 486 of the *Comunidad Andina* (‘CAN’).²³ Ecuadorian Law grants the use of “Apellation of Origin” as a special kind of GI. GIs, as defined under Article 22.1 of the TRIPS Agreement, are indications that identify goods as originating in the territory of a particular country, or a region or a locality in that country, where a given quality, reputation or characteristic of the goods are essentially attributable to its geographical origin. It means that the main objective of these indications is to create in the mind of the consumer a direct relationship between the origin of a product and a particular quality.²⁴

Ecuador has four Appellations of Origin (‘A.O.’) which are: *Maní de Transkutukú* granted in 2016,²⁵ *Café de Galápagos* granted in 2016, *Cacao Arriba* granted in 2009²⁶ and *Sombreros de Montecristi* filed in 2005 after the establishment of the *Unión de Artesanos de Paja Toquilla de Montecristi* in 1995.²⁷

Sombrero de Montecristi has its origin from the *Toquilla* palm leaf that grows in the warm coastal lowlands of Ecuador. It was discovered that this palm specie only grows in the coast of Ecuador, between 100 and 400 meters above sea level in soil rich in salt and calcium, with the rains, humidity, cool air and in the shadows generated by other plants. The palms are shredded into fibre straws, sun dried, woven by hand, trimmed and shaped during at least two months

²³ *Decisión 486: Régimen Común Sobre Propiedad Industrial*, LA COMISION DE LA COMUNIDAD ANDINA, available at <http://www.wipo.int/edocs/lexdocs/laws/es/can/can012es.pdf>.

²⁴ *Supra* note 16.

²⁵ K. Medina, *Maní de Transtukutú, una denominación de origen con identidad ancestral* (2017), GACETA # 631, INSTITUTO ECUATORIANO DE PROPIEDAD INTELECTUAL, available at <http://gaceta.propiedadintelectual.gob.ec:8180/Gacetitas/631/#p=9>, pp. 8-11.

²⁶ Eugina Quingaisa and Hernando Riveros, *Estudio de Caso: Denominación de Origen “Cacao Arriba”* (2007), IICA, available at http://www.fao.org/fileadmin/templates/olq/documents/Santiago/Documentos/Estudios%20de%20caso/Cacao_Ecuador.pdf.

²⁷ *Identidad Ecuatoriana en productos propios* (2017), Instituto Ecuatoriano de la Propiedad Intelectual, available at <https://www.propiedadintelectual.gob.ec/denominacion-de-origen/>.

into what is arguably the finest handmade hat with its origins dating back to the sixteenth century (Toko, 2009; Escobar et al, 2012).²⁸

Since its registration in 2009 until 2011, there were no records of requests made for authorizations of its use, IEPI, in conjunction with Ministry of Productivity and United Nations Industrial Development Organization (UNIDO) were implementing several projects with the aim of strengthening the associative practices and innovation amongst artisans. Currently, 91 artisans have requested for authorization to use the TK, but the impact of IP for the creation of benefits for the TK holders or the preservation of the knowledge has not been highlighted or measured yet. Nevertheless, the Ecuadorian government has expressed its intention to use the same IP tool to protect 10 to 15 products of which, at least two of them are related with TK.

IV. Developing a Sui Generis System to Protect Collective Rights in Ecuador

The development of a specific protection system for TK was considered a priority for a long time not only in Ecuador, but in the whole Andean region. The Andean Community through the Development Bank of Latin America (CAF) became the fora for the indigenous groups to raise the discussion about the protection needed after the gaps found in the Andean Community Decisions.

After 6 years of negotiations, and following the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore recommendations,²⁹ Perú was the first country of the region to adopt it in 2002, a Sui Generis Regime with Law No. 27811³⁰ for the protection of collective indigenous knowledge related to biological resources.³¹

This regime to promote the fair and equitable benefit-sharing and recognition of knowledge holders is based on five main strategies as BENGGOA (2013) summarizes:

²⁸ Catalina Toko Arias, *Denomination Of Origin Montecristi Ecuador*, SLIDEPLAYER, <http://slideplayer.com/slide/751448/>; *Supra* note 16.

²⁹ *Traditional Knowledge and the Need to Give it Adequate Intellectual Property Protection* (2001), WIPO Committee on the Relationship between Intellectual Property, Genetic Resources and Traditional Knowledge, Intergovernmental committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, First Session, WIPO/GRTKF/IC/1/5, available at http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_1/wipo_grtkf_ic_1_5.pdf.

³⁰ Alvarez Núñez R G (2008), *Intellectual Property and the Protection of Traditional Knowledge, Genetic Resources and Folklore: The Peruvian Experience*, Max Planck Yearbook of United Nations Law 12: 485.

³¹ *Id.*

- a) Implementation of license agreements between indigenous peoples' holders of the TK intended to be accessed, and the users;
- b) Granting of Prior Informed Consent by the indigenous holders, as an essential requirement for access to TK;
- c) Registration of TK in public, confidential and local registries;
- d) Implementation of a fund (*Fondo para el Desarrollo de los Pueblos Indígenas*) for the financing of projects and activities that contribute to the integral development of indigenous holders of TK and;
- e) Development of compliance and awareness tools.³²

With this regional experience and as was mentioned previously, SENESCYT in 2014 presented a new legal framework that was in line with the Constitution accepted by Ecuadorians in 2008: the Organic Code for Social Economy of Knowledge, Creativity and Innovation known as INGENIOS Code (*Código Orgánico de Economía Social del Conocimiento, Creatividad e Innovación – Código INGENIOS*). The main objective of INGENIOS Code is to regulate the National System of Science, Technology, Innovation and Ancestral Knowledge provided for in the Constitution of the Republic of Ecuador and its articulation mainly with the National Education System, the Higher Education System and the National Culture System, with the aim of establishing a legal framework in which the social economy of knowledge, creativity and innovation is structured.

The INGENIOS Code was approved by the National Assembly on 9 December 2016, aiming for an open knowledge economy that will enhance entrepreneurship and research, granting the rights of creators and the collective rights to the holders of TK.

INGENIOS Code aims for the preservation, further development, and protection against commercial misappropriation of methods, practices, experiences, and tangible as well as intangible cultural expressions that have been developed, updates and transmitted from generation to generation. Those recognized as legitimate holders of this knowledge, i.e.

³² Carla Bengoa Rojas, *El régimen peruano de protección de conocimientos tradicionales: logros obtenidos y retos pendientes* (2013), XII Taller de Derecho Ambiental, Sociedad Peruana de Derecho Ambiental, Lima.

indigenous communities, peoples and nationalities, the Afro-Ecuadorian people, the *Montubio* people and the communes legally recognized in the Ecuadorian State.

Adopting the principles of free, prior, informed consent and benefit-sharing, the legitimate holders of TK are granted the rights to authorize the access, use or exploitation of their TK. Once a prior informed consent statement was provided, contracts should be subscribed to establish the terms and conditions, potential uses, fair benefit-sharing terms as well as a sustainability plan for the TK.

In general terms with this code, the Ecuadorian State pursues the application of positive and effective protection of the TK through prevention, monitoring and penalty mechanisms. Moreover, funding is granted with this regime, to promote community controlled registers and to enhance the capabilities to maintain and to do research and development with the TK.

V. Critiques to the Efficacy of a Sui Generis Regime to Protect TK: Lessons Learnt

The regional experience has clearly demonstrated the important role of the State to capture the expectations, interests and conditions of TK holders in the process to draft the terms of protection to be stated through a *sui generis* regime.

In light of the Peruvian case, the main challenge to overcome is the shared nature of collective knowledge and the complexity to determine the legitimate holders when potential benefits could arise. Scientists have expressed their concerns about how a lack of staff and funds from the regulatory office i.e. INDECOPI has constituted a barrier for research, additionally INDECOPI as a safe keeper of IP in PERU has not increased its capacity in accordance with the responsibilities recommended under Law 27811 which represents a massive challenge yet to be overcome for Peru.³³

One of the enabling instruments for the protection with the mentioned Law was the implementation of the Indigenous Peoples Development Fund (*Fondo para el Desarrollo de los Pueblos Indígenas*)³⁴ financed with 0.5% of the royalties in the event of an agreement with an

³³ *Id.*

³⁴ Manuel Ruiz Muller, *Experiences in the Protection of Traditional Knowledge: the Case of Peru (Law 27811)*, Presentation of Sociedad Peruana de Derecho Ambiental, available at http://www.wipo.int/edocs/mdocs/tk/en/wipo_ipTk_ge_15/wipo_ipTk_ge_15_presentations_mr_manuel_ruiz.pdf; According to Muller: 'Trust fund destined to support development projects for indigenous peoples, receiving monies from the public treasury, international cooperation, projects, and set percentage (10% of sales) and benefits negotiated in the case of sale of products derived from TK in the public domain since 1982'.

indigenous community for the commercialization of their TK. Nevertheless, up until July 2016 there was no registry of licenses granted according to reports presented by staff of INDECOPI.³⁵

For the Ecuadorian government, the main challenges to overcome is the lack of a proper structure, budget and expertise; as well as to fix the clash between the Constitution in Article 402: The granting of rights, including intellectual property rights, to byproducts or synthetics obtained from collective knowledge associated with national biodiversity is forbidden and Article 352, which is the open possibility in INGENIOS Code to grant contracts, which means rights, over the access, use and benefiting from the TK.

The Ecuadorian government should analyze the effectiveness of its current strategies and its regime in general in order to rigorously protect and preserve TK while creating benefits for the holders of that knowledge. Specifically, the economic impact directly received by TK holders when IP tools or contracts have been applied must be measured. If this has been done, the next step would be to ascertain whether the use of IP tools or the Sui Generis Regime have enhanced the preservation and transmission of the TK amongst the community of TK holders. Finally, it must be determined whether the entrepreneurial intentions (or the lack thereof) in TK holders and an understanding of the market have had a significant impact to create benefits for them by means of the legal protection of their TK.

VI. Concluding with a Proposal for Policy Makers

In order to meet the expectations of the TK holders and to define a clear path to follow for policy makers, I would like to present some approaches recommended by the experts to develop actions as part of a national strategy:

- Determine the benefits of using IP tools as GIs (Argument for TK holders):

The Ecuadorian government has expressed its intention to keep using Appellation of Origin to protect products related with TK, in this sense, private companies have traditionally used valuation methods to value trademarks and brands, but policymakers could also use it to determine the market importance and economic

³⁵ Maritsabel Antonio Lastra, *La Protección de los Conocimientos Colectivos* (2016), INDECOPI, available at <https://www.indecopi.gob.pe/documents/51783/578333/Protecci%C3%B3n+Conocimientos+Colectivos.pdf/4f78798d-f812-431e-9093-845c7aabf8c2>.

impact for stakeholders considering GIs as any other intangible asset, which means that it can be valued and consequently analyzed.

A possible solution when determining the efficacy of IP tools, and specifically GIs, in bringing economic benefits to the TK holders is the adaptation of models to estimate the distribution of benefits among the different stakeholders when using GIs. Xiao et al (2008) modified and applied a two-factor model of agricultural policy to estimate the distribution of benefits from using GIs in a developing country. They used Oolong and Darjeeling teas as examples of application showing that the least elastic element (less sensitive to price changes) in the supply/demand equilibrium received the greatest share of benefits.

Grote points out that evidence on the actual cost of GIs being lesser than net benefits,³⁶ which Bramley further develops explaining that this lack of information impedes the measure of the increase in the welfare of producer and the impact around rural development. Besides, the later reinforces the fact that the distribution of rents in GI supply chains is a void in empirical studies.³⁷ According to this situation, the use of the methodology developed by Salazar and Van der Heyden for the Dutch Development Organization (SNV) would be recommended. The methodology allows the analysis of supply chains oriented to the local development.³⁸ If economic modelling (e.g.: Monte Carlo probabilistic analysis) is not possible due to the lack of data, it will be possible to infer how the benefits are distributed among the stakeholders by the methodology

³⁶ Grote, U. (2009), Environmental Labelling: Protected Geographical Indications and the Interests of Developing Countries, *Estey Centre Journal of International Law and Trade Policy*, 10(1), pp. 94-110.

³⁷ *Supra* note 15.

³⁸ The guide proposes to analyze the productive chains in three major phases: (i) The preliminary phase consists of the preparation carried out by the team. It allows to define the objective of the analysis, select the product of interest, and define the scope of the work; (ii) The central phase includes the gathering, systematization and ordering of information. The team could use several participatory methods to collect information applying tools detailed in the guide to classify this information. The central phase is divided into six thematic blocks (history, environment, actors, relationships / organizations, market, economic and financial analysis) to help organize the information; (iii) The final phase provides the team with practical tools to analyse the information systematized in the previous phase, identify critical points and competitive advantages of the chain and propose concerted strategies promoting the competitiveness of the actors in the productive chains.

indicated above. As the authors of the methodology concluded, visualizing the costs and sales margins, allows analyzing the economic inequities that exist in a supply chain.³⁹

- Determine the Preservation of TK when using IP tools or the *sui generis* regime:

Teuber, after reviewing extensive economic literature related to GIs, asserts that protecting biodiversity, traditional knowhow and authenticity have not been included in theoretical models, and, the empirical evidence from GI case studies is rather inconclusive because of the following reasons:

“...To what extent GI regulation supports issues surrounding the protecting of biodiversity, traditional knowledge, or authenticity still needs to be further analyzed to address the efficiency of GI policy instruments in supporting these goals.”⁴⁰

Bramley points out that according to some researchers, the impact of GIs on TK could be ambiguous and in some instances, has had a negative effect on the preservation of TK due to the pressure for massive production or disclosing details of the practices for control and legal provisions,

“GIs however do not protect TK as such but rather, as explained earlier, the collective reputation of an origin based product. It cannot prevent the appropriation of TK embedded in the GI. It does however, by valorising the products which draw on TK in its production, allow for the TK to be recognized and for the knowledge holders to benefit from its commercialization.”⁴¹

Anthropology studies realize that indigenous values and practices are based on sharing, in the scenario that the TK holders consent the adoption of an IP tool such as the GI would mean that this form of sharing produces no interference with communities’ own values and customary laws and protocols. Therefore, preservation in this context will measure whether the new generation of the community where the knowledge originated is actively promoting and maintaining the vitality of such knowledge.

³⁹ Damien Van Der Heyden and Patricia Camacho, *Guía metodológica para el análisis de cadenas productivas* (2004), Agronomes And Veterinaires Sans Frontieres, available at <https://www.avsf.org/es/posts/554/full/guia-metodologica-para-el-analisis-de-cadenas-productivas>.

⁴⁰ Ramona Teuber, *Protecting Geographical Indications: Lessons Learned from the Economic Literature* (2011), EAAE, available at <https://core.ac.uk/download/pdf/6699343.pdf>.

⁴¹ *Supra* note 15.

Methodologies that measure the vitality of the TK through different generations of a community based on interviews and observation could be adapted and used to assess the impact of the IP tool with the aim to preserve the TK. One example of such methodologies is VITEK, as explained by its developers, Stanford & Eglee Zent, VITEK (acronym for 'Vitality Index of Traditional Environmental Knowledge'), rates the vitality status of TEK (i.e. inferable trends of retention or loss over time) within selected groups and allow for relative comparisons of that status among groups at various levels of inclusiveness.⁴²

- Establish the structures to develop Inclusive Business Models:

One of the most important advances in the development of business models is the recognition of the empowerment of low-income communities (base of Pyramid) and their need to benefit from market conditions and activities. In this context, several organizations enhanced a model, which is called 'INCLUSIVE BUSINESS' that refers to the 'inclusion of people living in poverty into business process along the value chain'. This new model of doing business has been used by the alliance between the World Business Council for Sustainable Development ('WBCSD'), the Dutch Development Organization ('SNV') and the United Nations Development Programme ('UNDP') within the "Growing Inclusive Markets Initiative".⁴³

Inclusive Business Models could be draft for products or services related / based on TK with the aim to create benefits for the holders of that knowledge. The Inclusive Business Model proposal aims to develop a tool to be used by policymakers in making decisions to optimize scarce resources and reduce poverty referred to as a lack of access to productive resources, markets, employment opportunities and basic services.

Evidence has shown that the inclusive business can make a significant contribution to the fight against poverty. Local populations could benefit as basic needs are provided,

⁴² Stanford Zent and Luisa Maffi, *Final report on Indicator No. 2: methodology for developing a vitality index of traditional environmental knowledge (VITEK) for the project Global Indicators of the Status and Trends of Linguistic Diversity and Traditional Knowledge* (2009), TERRALINGUA, available at http://terralingua.org/wp-content/uploads/2015/07/VITEK_Report.pdf.

⁴³ Christina C. Gradl and Claudia Knobloch, *Inclusive Business Guide: How to Develop Business and Fight Poverty* (2010), ENDEVA, available at <http://www.endeva.org/publication/inclusive-business-guide-how-to-develop-business-and-fight-poverty>.

the access to services makes life more efficient, jobs are created, income increases and new business opportunities are built.

In light of the above, Ecuadorian government has a duty to establish a proper administrative structure (human and physical) to implement the operation of as *Sui generis* Regime that enhances the use of contract agreements to create benefits from the collective knowledge or IP tools. When this happens, a system based on the entrepreneurial intentions of the TK holders in the context of a market driven economy will be implemented.