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INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL**

Cooperation Stream: IP/Patent Processes and Procedures

Subtopic: Classification – Traditional Knowledge (TK)

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1. Introduction

In the Cooperation Stream IP/Patent Processes and Procedures led by the Brazilian PTO (INPI), it was agreed by the BRICS Offices that a project regarding traditional knowledge (TK) would be addressed. A project execution plan (PEP) was implemented, where a final report was foreseen in the present date. The project scope included a study of the subject matter of TK, including traditional medicine and traditional agriculture. Besides, it was aimed drafting a scheme in the TK area using the International Patent Classification (IPC) rules and guidelines. This final report is addressed as follows.

In Section 2 we reproduce the harmonized understanding about TK among the BRICS Offices presenting the literature about this matter and a common definition about TK. Besides, current legislation regarding TK is shown in general, giving an idea of the background in this matter. This is a repetition of the conclusions reached during the first period of the project related to traditional medicine. We included here as matter of clarity.

In Section 3, first we define traditional medicine for a common understanding. Secondly, a study including patent documents related to traditional medicine is presented, using as a base the International Patent Classification (IPC) classification A61K and A61P. BRICS family documents, i.e. patent documents with the same priority, in this area are investigated.

In Section 4 we define what is included in traditional agriculture. This area is unclear how to find patent documents. Nevertheless, classifications in the International



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Patent Classification (IPC) which could include files related to traditional agriculture are researched.

In Section 5 a scheme in traditional knowledge is proposed, called A61T. Common technical points among documents found in the research together with the expertise gathered within the year of this project were fundamental to create this classification scheme about TK.

Finally, Section 6 concludes this final report.

2. Traditional Knowledge

2.1. Definition

Traditional knowledge (TK) is knowledge which has been developed within an indigenous community and has been assimilated into the cultural make-up or essential character of that community. It encompasses knowledge, know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity, according to the World Intellectual Property Organization (WIPO)¹. These include:

- (a) knowledge of a scientific or technical nature;
- (b) knowledge of natural resources; and
- (c) indigenous cultural expressions.

Traditional Knowledge is sometimes referred to as Indigenous Knowledge (IK), due to the fact that both knowledge are inextricably linked. However, not all traditional knowledge is part of indigenous knowledge, but all of the indigenous knowledge is a subset within traditional knowledge. The distinction, then between traditional knowledge and indigenous knowledge relates to the *holders* rather than the knowledge

¹ WIPO website of TK can be found at <http://www.wipo.int/tk/en/tk/>



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per se. The creator of traditional knowledge may be any individual or a group, regardless of their origin, i.e. whether the creator is indigenous or not.

Among important issues brought by the Convention on Biological Diversity, Article 8 (j) states that “Traditional knowledge refers to the knowledge, innovations and practices of indigenous and local communities around the world. Developed from experience gained over the centuries and adapted to the local culture and environment, traditional knowledge is transmitted orally from generation to generation. It tends to be collectively owned and takes the form of stories, songs, folklore, proverbs, cultural values, beliefs, rituals, community laws, local language, and agricultural practices, including the development of plant species and animal breeds. Traditional knowledge is mainly of a practical nature, particularly in such fields as agriculture, fisheries, health, horticulture, and forestry”².

Nowadays, the appreciation of traditional knowledge is enhancing. There are known examples of patent applications which are concerned on traditional medicine, for instance, using medicinal plants as base for development in medical field³.

This knowledge is valuable not only to those who depend on it in their daily lives, but also to modern industry and agriculture. Many widely used products, such as plant-based medicines and cosmetics, are derived from traditional knowledge. Other valuable products based on traditional knowledge include agricultural and non-wood forest products as well as handicraft.

Traditional knowledge can make a significant contribution to sustainable development. Most indigenous and local communities are situated in areas where the vast majority of the world’s plant genetic resources are found. Many of them have cultivated using biological diversity in a sustainable way for thousands of years. However, the contribution of indigenous and local communities to the conservation and

² Introduction of the Convention on Biological Diversity, see <<https://www.cbd.int/traditional>>

³ <http://www.wipo.int/edocs/mdocs/tk/en/wipo_tkdl_del_11/wipo_tkdl_del_11_ref_t3_1.pdf>



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sustainable use of biological diversity goes far beyond their role as natural resource managers. Indigenous and local communities' skills and techniques provide valuable information to the global community and a useful model for biodiversity policies. Furthermore, as on-site communities with extensive knowledge of local environments, indigenous and local communities are most directly involved with conservation and sustainable use.

2.2. TK in terms of law⁴

In recent years traditional knowledge has grown tremendously in significance in view of its value to biotechnology, particularly the pharmaceutical, phytomedicinal, nutraceutical, and herbal sectors. Three-fourths of the biologically active plant-derived compounds currently in use have been discovered through follow-up research to verify authenticity of data derived from traditional sources. More recent research continues to validate the importance of an ethnobotanically targeted approach to the initial discovery of therapeutics. Such research draws on the traditional knowledge of local and indigenous communities who have custody of such resources, thereby allowing a targeted testing of specific plants for specific purposes.

The following legal frameworks can be adapted to protect traditional knowledge:

- International protection through treaties and conventions;
- National protection through national legislations controlling access to genetic material enacted in various countries, and national intellectual property legislations;
- Local protection through private contractual measures.

⁴ In this topic we reproduced the renamed article written by Lewis, W. H.; Ramani, V.: "ETHICS AND PRACTICE IN ETHNOBIOLOGY: ANALYSIS OF THE INTERNATIONAL COOPERATIVE BIODIVERSITY GROUP PROJECT IN PERU". Wash. U. (2003), which can be found in at least one of this two references: <https://law.wustl.edu/centeris/Papers/Biodiversity/PDFWrdDoc/lewisramani.pdf>
<https://perma.cc/A428-RQ22>.



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2.2.1. International Protection

The Convention on Biological Diversity (CBD) was drafted at the end of the UN Conference on Environment and Development held in Rio de Janeiro in 1992. It deals with issues relating to environmental law and policy making in the context of sustainable development. The objectives of the CBD are the conservation of biological diversity, the sustainable use of its components, the fair and equitable sharing of the benefits arising out of the utilization of genetic resources including appropriate access to genetic resources, the appropriate transfer of relevant technologies, the consideration of all rights over these resources and technologies, and the availability of appropriate funding to develop these issues.

Art. 8(j) of the CBD calls on the signatories of the Convention to respect, preserve, and maintain the knowledge, innovations, and practices of the indigenous communities. Read with other provisions of the Convention, Art. 8(j) implies that researchers should pay for the traditional knowledge made available to them, and that they have to maintain the confidentiality of such knowledge if so required. Art. 8(j) is supported by Art. 18.4 that encourages countries to develop models of cooperation for the development and use of technology, particularly indigenous or traditional technology.

However, the CBD has no enforcement mechanisms of any sort. The principles espoused by the CBD can be enforced only when they are incorporated into the national access legislation of the signatory countries, should they choose to institute them.

Therefore, the scope of international measures that have been developed merely recognizes the rights of indigenous people to their traditional knowledge. None of these instruments specify a regime to protect such knowledge. Also, none of the instruments specify mechanisms to enforce this recognition of the rights of indigenous peoples to their traditional knowledge – they are merely persuasive in nature.



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The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way. It entered into force on 12 October 2014, 90 days after the date of deposit of the fiftieth instrument of ratification. The Protocol aim is the implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity. The Protocol also covers traditional knowledge associated with genetic resources that are covered by the CBD and the benefits arising from its utilization. South Africa ratified the Protocol in 2014.

Furthermore, the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Tradition Knowledge and Folklore (IGC) was established by the WIPO General Assembly in October 2000 as an international forum for debate and dialogue concerning the interplay between intellectual property (IP), and Traditional Knowledge (TK), genetic resource, and traditional culture expressions (TCEs)/(folklore) (GRTKF). Regarding the GR text, which is the subject to much discussion, it is believed that the main objective should be the prevention of misappropriation of genetic resources and that this can best be achieved by the introduction of a mandatory disclosure of origin obligation. South Africa has established a mandatory disclosure obligation in its Patent Act of 1975; however, the provision at national level is largely ineffective because of the absence of an internationally binding obligation. Hence, without mandatory obligations, national disclosure of origin requirements will not be recognised and enforced by other countries in which intellectual property is applied for.

Another international instrument is the International Labour Organization (ILO), which is the only Tripartite UN agency, since 1919, which aims to promote rights at work, encourage decent employment opportunities, enhance social protection and



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strengthen dialogue on work-related issues. In 1989, ILO established Convention on Indigenous and Tribal Peoples, 1989 (NO 169), the only international treaty open for ratification that deals exclusively with the rights of indigenous and tribal peoples. In addition, the UN adopted the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2007. Together, the ILO Convention and the UNDRIP, are the two most important international instruments pertaining to the recognition, promotion and protection of the rights of indigenous communities of the world. However, the ILO Convention is the only binding international instrument on States that have formally ratified the Convention. The UNDRIP is not a binding instrument. It is not a treaty that is binding on the United Nations Member States. An optional instrument working on the moral conscience of member States.

2.2.2. Regional and National Measures

There are many regional initiatives that govern the access to genetic resources of countries. Further, many countries – particularly developing countries – are in the process of initiating national access legislation to declare their sovereignty over the natural resources within their jurisdiction and to control access to these resources. Frequently such legislation covers the protection of traditional knowledge.

Kate and Laird used a system of classification that divides national access legislation into five categories:

- Environmental framework laws that simply charge a national government to provide specific guidelines on access and benefit sharing (Gambia, Kenya, Malawi, Korea, and Uganda);
- Sustainable development or biodiversity laws provide more details than the first group. These laws also establish the principles for prior informed consent and mutually agreed terms (Costa Rica, Eritrea, Fiji, and India);
- Dedicated laws on access to genetic resources (Philippines and Brazil);



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- Modifications of existing laws and regulations (Nigeria, U.S.A., and Malaysia);
- Regional measures.

National access legislation has attempted to protect traditional knowledge in two ways. Some countries attempt to protect traditional knowledge as a form of property in itself. Other countries attempt to protect traditional knowledge of communities in practice.

Beyond the national level in African countries, there are strides at the regional level to protect traditional knowledge, particularly for those countries relying on African regional organisations for the administration of intellectual property law. *Organisation Africaine de la Propriete Intellectuelle* (OAPI) and African Regional Industrial Property Organisation (ARIPO), established in 1977 and 1976 respectively, are the two recognised and functioning intellectual property bodies in Africa. South Africa is not a member state of either organisation; however, it has observer status under ARIPO.

To meet international obligations, South Africa has enacted domestic legislation as follows:

- a) The National Environmental Management: Biodiversity Act (NEMBA), which stipulates that any person/s exporting genetic resources out of South Africa, must be in possession of an export permit granted by the Minister.

The National Environmental Management Biodiversity Act which incorporates the provisions of the Convention on Biological Diversity and the Bonn Guidelines regarding benefit-sharing schemes in relation to genetic resources and traditional knowledge used in patent inventions.

- b) Developed bio-prospecting regulations which requires disclosure of the origin of indigenous knowledge, and evidence of benefit sharing agreements for any permits to be issued.

The South African Patents Act as amended in 2005 includes a disclosure provision



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for indigenous biological resources/genetic resources, and indigenous knowledge. However, this amendment does not include traditional culture expressions. These (TCEs) are protected under the proposed IK Bill (see (d) below).

Intellectual Property Laws Amendment Act which provides for the recognition of traditional works in trademarks, copyright and designs (not yet in force as awaiting regulations).

Specific provisions in Patent Act

"Non-disclosure or wrongful non-disclosure"

25(A) (1) The Registrar of Patents shall treat non-disclosure or wrongful non-disclosure of origin of genetic or biological resource or knowledge in the patent application, and non-disclosure or wrongful non- disclosure of prior knowledge, traditional knowledge oral or otherwise, as grounds for rejection or revocation of the patent application;

25A (2) Patent applicants must disclose in their patent applications the origin of the biological or genetic material used in the invention:

25(A)(3) The Registrar shall deny to any person or applicant or corporation the right to obtain patent protection for any element of indigenous knowledge/heritage without adequate documentation of the prior and informed consent of traditional knowledge owners or holders for the sharing of ownership, control, use and benefits;

25(A) (4) any interested persons, may institute a legal action with a view of rescinding the patent, based on the above-mentioned grounds.

Section 25(A) is also consistent on procedural triggers in so far as penalties for non-disclosure or incorrect disclosure.

- c) The Protection, Promotion, Development and Management of Indigenous Knowledge Bill (IK Bill). The key and fundamental aim of the Bill is to ensure fair



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and equitable sharing of benefits with the holders of IK and GRs associated with IK as well as TCEs. Disclosure is the key element in the Bill which is was recently passed by the National Assembly for concurrency.

2.2.3. Private Contractual Measures

Contractual arrangements have traditionally been used as a means to arrive at a consensus in transactions involving the access to genetic resources and benefit sharing therefrom. They catapulted into importance following the much publicized Merck-INBio agreement, and have since continually been cited as a mechanism that can be used to resolve the contentious positions adopted by the developed nations on one hand and the biodiversity rich nations on the other hand regarding the protection of traditional knowledge among other questions. Various committees, including the expert panels of the CBD and the WIPO have released several reports that comment on the importance of such contractual arrangements. These reports also contain model clauses that the parties to the agreement could use, so that the interests of the provider of biodiversity and/or traditional knowledge, the recipient of the same, and the local community involved are all protected.

2.3. Data bases about TK

Nowadays, TK information is at different levels of development in each of the BRICS countries. India has its well-known Traditional Knowledge Digital Library – [TKDL](http://www.tkdlib.org/)⁵ – mapping the subject in a very detailed classification called Traditional Knowledge Resource Classification – [TKRC](http://www.tkdlib.org/tkdlib/langdefault/common/tkdlibtkrcsearch.asp?GL=Eng)⁶ – with more than 2.000 groups. China

⁵ The Traditional Knowledge Digital Library (TKDL) can be found at <http://www.tkdlib.org/>

⁶ The Traditional Knowledge Resource Classification (TKRC) can be found at <http://www.tkdlib.org/tkdlib/langdefault/common/tkdlibtkrcsearch.asp?GL=Eng>



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has also developed a system called [Traditional Chinese Medicine Database System](#)⁷ with two databases, Traditional Chinese Medical Literature Analysis and Retrieval System (TCMLARS) and Traditional Chinese Drug Database (TCDBASE), but mostly in Chinese. In Brazil, a project called [Biota-FAPESP](#)⁸ program regarding knowledge and sustainable use of Brazilian biodiversity is under development.

South Africa is in the process of completing the development of a database for the identification, documentation and record of Indigenous Knowledge (IK) and Indigenous Biological Resources (IBR) through the Department of Science and Technology, and in particular, the Council for Scientific and Industrial Research (CSIR). South Africa has also developed a National Recordal System (NRS) to unlock the use of indigenous knowledge for research, development and innovation purposes by collating selected databases which hold information on IK. South African NRS supports both a defensive and positive mechanism of protection of IK. The NRS initiative is designed to find IK holders and practitioners within communities who hold indigenous knowledge associated with plant resources in South Africa. It documents their knowledge for the purposes of protection, promotion, management and product development. The identification of IK holders and practitioners within communities and documentation of their IK is a crucial input into research, development and innovation. The NRS initiative supports the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity.

In support of the NRS initiative, South Africa has developed a National Indigenous Knowledge Management System (NIKMAS), which is a semantic digital repository,

⁷ The Traditional Chinese Medicine Database System can be found at
<<http://cowork.cintcm.com/engine/windex1.jsp>>

⁸ The Biota-FAPESP Program, knowledge and sustainable use of Brazilian biodiversity, can be found at
<<http://www.fapesp.br/en/5034>>



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which, among others, manage prior art declaration. The prior art database draws on published resources to provide information, cross-referencing and research outputs for use by researchers, community members, traditional healers and a wide scope of global users. It has links to, and is harmonized with international standards such as the International Classification of Diseases (ICD-10) and the IPC referencing system. Each plant is linked to the South African National Biodiversity Institute (SANBI) website to provide current information on the conservation status of each plant. The chemical composition for each plant is linked to internationally maintained databases such as PubChem, ChemSpider, CAS and others. The prior art database comprises botanical and chemical information and currently stands at 185 commonly used South African plants including fynbos including monographs, 1536 journals articles, 269 South African theses, and conference papers. This prior art database is linked to the oral IK that is documented in NIKMAS. The entries include claims and full recordings on indigenous food and African traditional medicines. The CSIR (Meraka Institute) are providing the maintenance and technical support of the system at both central and distributed levels. The distributive levels refer to the systems at IKSDC levels. SANBI implements the classification of the plants that are associated with IK. The NRS will be operational and open to the public on completing legal prescripts once the IK Bill is finalised and written into law.

Russia has no study in this area yet.

3. Patent documents related to traditional medicine

3.1. Historical background

The first time the topic TK was presented for the IPC community was in February 2001, when a task force was created proposing to expand four IPC groups



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(A61K35/78, A61K35/80, A61K35/82 and A61K35/84), work done under project [C425](#)⁹.

The project [C425](#), named “Traditional Medicines”, was completed creating the main group A61K36/00 with 204 subgroups, in force since IPC 2006.01, titled as:

A61K36/00 Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicines

The Committee of Experts in its 34th Session and 35th Session discussed in deep this subject; comments and more detailed information can be found in documents [IPC/CE/34/8](#)¹⁰ and [IPC/CE/35/7](#)¹¹,

In 2011, during the International Conference on the Utilization of the Traditional Knowledge Digital Library (TKDL) as a Model for Protection of Traditional Knowledge, the coordinator of the TKDL Unit exposed that it would be meaningful for the Committee of Experts IPC Union to consider enhancing from the current 204 subgroups to 2.600 subgroups for medicinal plants used in Indian TM systems. We could not find in details which were those 2.600 groups suggested; if CGPD TM could provide us this information it could be fruitful for this project.

Nevertheless, since IPC 2006.01 nothing was added to the classification scheme related to this subject matter of traditional knowledge.

3.2. Documents classified in A61K36/00 in more than one BRICS Office

A research was carried out using the EPOQUE system in order to find patent documents related to TK filed in more than one of the BRICS Offices. The most evident sign that a patent document is related to TK is when it is classified in A61K36/00 or its

⁹ Project C425 can be found at <<https://www3.wipo.int/ipc-ief/public/ipc/en/project/1144/C425>>

¹⁰ IPC/CE/34/8 Report, regarding development of classification tools for TK, can be found at <http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=21312>

¹¹ IPC/CE/35/7 Report, regarding classification tools relating to TK and biodiversity, can be found at <http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=32445>



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subgroups, being this the strategy used. It was investigated how many patent documents (using the field PN – Patent Number) each BRICS Office had in the main group A61K36/00 or its subgroups. For each country, priority numbers (using the field PR – Priority) of every patent number were memorized and other documents of the BRICS Offices were located with the same set of priorities, i.e. families were identified belonging to one or more of the BRICS Offices. The result is shown in the following table. The research was done in 24 March 2017.

A61K36	BR	RU	IN	CN	ZA
BR	1.702	312	14	829	188
RU	310	5.016	17	588	95
IN	14	16	173	59	26
CN	813	581	59	186.596	238
ZA	185	94	25	240	499

The diagonal line, with yellow background, shows the number of documents filed in each country. Meaning that in India there are 173 documents filed in A61K36/00, whereas in China there are 186.596 documents. This is the minimum number of documents in TK in each country, but it is clear that there is more than that.

Each other cell shows the number of families composed by the two countries represented by the column/row title. The reason for column M row N not being the same value of column N row M (e.g. BR-RU is 312 while RU-BR is 310) is because some priorities can be used for many patent applications, which can be different for each Office. Hence, amounts may not be the same for column M/N row N/M, although they are always close values. Brazil and China are the countries with the biggest amount of families, above 800 families.

A list of six documents within the same family is presented below, exemplifying documents found in our search. We noticed that some of those documents are not



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reclassified in EPOQUE, being the IPC classification symbols presented still the ones deleted in IPC 2006.01 under A61K35/00. The IPC classification symbols shown below are the ones given by Brazilian examiners, present in the Brazilian database. On the other hand, every document is classified in CPC, also shown in the list below. Last but not least, the list below shows just symbols under classification A61K36/00, even if the document is classified also in other areas.

1) PN: BR0116589 / RU2310466 / CN1520307 / ZA200305603

Title: Herbal composition for angina pectoris, method to prepare same and uses thereof

IPC: A61K 36/185, A61K 36/537, A61K 36/258

CPC: A61K36/537, A61K36/258

2) PN: BR0215792 / RU2320359 N/A / CN1463735 / ZA200500556

Title: The pharmaceutical formulation of traditional Chinese medicine for abstinence of drug and preparation method and use thereof

IPC: A61K 36/25

CPC: A61K36/79, A61K36/8905, A61K36/9064, A61K36/232, A61K36/258, A61K36/484, A61K36/505, A61K36/537, A61K36/65, A61K36/714, A61K36/725

3) PN: BR0302589 / RU2328300 / ZA200305860

Title: Composition for heart disease, method to prepare same and uses thereof

IPC: A61K 36/185, A61K 36/258, A61K 36/537

CPC: A61K36/185, A61K36/258, A61K36/537, A61K36/54

4) PN: BR0309467 / RU2319500 / CN1671404 / ZA200408323

Title: Compositions for preventing or treating pollenosis, allergic nephritis, atopic dermatitis, asthma or urticaria

IPC: A61K 36/42, A61K 36/286

CPC: A61K36/8994, A61K36/282, A61K36/286, A61K36/355, A61K36/42,



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A61K36/48, A61K36/535, A61K36/68

5) **PN:** BR0313983 / RU2317821 / CN1678333 / ZA200501666

Title: Composition comprising the extract of *Actinidia arguta* and related species for the prevention and treatment of allergic disease and non-allergic inflammatory disease

IPC: A61K 36/18

CPC: A61K36/185

6) **Patent number:** BRPI0508936 / RU2366274 / CN1933739 / ZA200608626

Title: Compositions and methods for reducing or preventing obesity

IPC: A61K 36/48

CPC: A61K36/48

On this basis, one conclusion is that in every BRICS Office patents related to TK are being applied. The main group A61K36/00 is the most evident group containing documents related to TK, but we are secure that there are other documents spread all through the IPC scheme in general. On the other hand, there might be documents related to TK which are not classified in A61K36/00.

3.3. TK at INPI/Brazil

At INPI Brazil, the applicant should indicate when the genetic heritage was accessed while developing an invention, presenting the authorization number of the access. However, unfortunately, sometimes the applicant omit that the genetic heritage was indeed accessed, prohibiting to identify in a straightforward way when an application is related to TK. When an examiner identifies that an application had to have the genetic heritage accessed he/she can request the related information.

Using this information, a study was conducted to identify Brazilian applications related to TK. Twenty five documents were selected where 95 symbols were applied to classify all documents. The number of classification symbols per document varied



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between one and eight. The table below shows all subclasses applied and how many times they were used.

Subclass	Repetitions
A01N	4
A01P	4
A61K	41
A61P	32
A61Q	4
C07C	1
C07D	2
C08K	1
C11B	2
C12N	1
C12P	2
F26B	1
Total	95

As expected, A61K was the most frequent subclass, followed by A61P; those two subclasses together represented 77% (73/95) of all symbols used. Looking deep into those two subclasses, the main groups used are presented next.

Subclass/Main group	Repetitions
A61K	41
A61K 127	3
A61K 135	6
A61K 31	2
A61K 35	1
A61K 36	27
A61K 8	2
A61P	32
A61P 1	2
A61P 15	1
A61P 17	2
A61P 23	3
A61P 25	3
A61P 29	7
A61P 31	8
A61P 33	1
A61P 35	1
A61P 37	2



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A61P 9	2
Total	73

While for subclass A61K we have a concentration of symbols in the main group A61K36/00, for subclass A61P different symbols were applied in general.

We concluded that using the strategy of searching documents by combining the main group A61K36/00 with any A61P symbol, the result would be most likely patent documents related to traditional medicine. It should be noted, however, that subclass A61P is not present in the CPC scheme, i.e. in CPC A61P does not exist.

4. Patent documents related to traditional agriculture

4.1. Background

Agriculture, in general, is the cultivation and breeding of animals, plants and fungi to sustain and enhance human life. For traditional agriculture, we expect permaculture or cultivation in to be used. As Russia defined, currently, there exist the following definitions of permaculture:

- a system for organization of ecosystems consisting of edible plants;
- an approach to engineering of environment and a system for agriculture based on correlations between natural ecosystems.

For an easier approach to all areas related to this subject matter, in the present study we split agriculture into four general areas: **soil working, planting, cultivation and harvesting**.

When talking about traditional agriculture related to **soil working**, we expect tools and methods that do no harm in the soil, maintaining as much as possible the soil structure. For example, polyculture (when multiple crops coexist in the same space) is considered part of the traditional agriculture having specific tools and methods. Hand tools used in soil working is covered by A01B1/00 whereas methods for working the



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soil are included in A01B79/00. We believe that files related to traditional agriculture can be found within those groups, although it would be a hard work to find them.

It will also be complicated to find documents related to **planting** used only in traditional agriculture. This subject matter is covered by A01C. Although machines are, in principle, not used in traditional agriculture, this subclass is broad and documents related to TK might be spread around.

Regarding **cultivation**, horticulture and forestry are main subjects. In the year of 2017, project C486 related to A01G1/00 was discussed in the IPC community where permaculture was cited, but at the end not adopted. It was the first time this subject matter attempted to be a group but it was not approved. We expect documents related to traditional agriculture are classified in groups A01G2/00, A01G7/00, A01G7/00 and A01G 23/00 (IPC 2018).

By **cultivation** we also mean how to maintain the culture during lifetime, therefore we would like to include more groups in this area. Catching, trapping or scaring of animals is covered by A01M, e.g. for weed control, could contain some documents related to TK. Biocides, pest repellants or attractants or plant growth regulators are covered by A01N65/00; for example, neem (*azadirachta indica*) and Tabaco are used in traditional agriculture. We believe that this is the easiest subject matter that documents related to TK could be found.

Harvesting related to traditional agriculture is included in A01D1/00 – A01D9/00, for hand implements, and might also have something in A01D13/00, due to potato cultivation being a very traditional cultivation type. In this area we also include threshing covered by A01F1/00 – A01F5/00 and A01F13/00, for hand implements, and A01F25/00, since storing is unique in traditional agriculture.

5. Scheme about traditional knowledge

While studying this subject matter, we concluded that traditional knowledge



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could have a subclass in IPC by its own, being an independent subclass replacing existing classification schemes.

We also concluded that preparations used in TK could be used for medicine or agriculture. Therefore, we propose a general scheme where the classification scope includes traditional medicine and agriculture, being easier and more efficient for search in TK. A deeper hierarchy could emphasize raw materials used therefore. On this way, we propose creating a new IPC subclass with the following main groups:

A61T Preparations provided with traditional knowledge; Agriculture methods, processes or products provided with traditional knowledge

Note:

- 1. This subclass covers preparations used to medical, pharmaceutical, cosmetic, agricultural, horticultural or the like purposes, e.g. plant-based medicines, plant-based cosmetics, plant-derived compounds and plant-derived biocides.**

A61T10/00 Preparations containing material from algae
A61T15/00 Preparations containing material from fungi, e.g. yeasts
A61T20/00 Preparations containing material from lichens
A61T25/00 Preparations containing material from plants
A61T30/00 Preparations containing material of animal origin
A61T35/00 Preparations containing material not covered by A61T10/00-A61T30/00, e.g. protozoa or bacteria
A61T40/00 Preparations of undetermined constitution
A61T45/00 Preparations of determined constitution, e.g. terpenoids, flavonoids, steroids and alkaloids
A61T50/00 Agriculture methods or processes, e.g. permaculture and cultivation in association; Products therefore, e.g. non-wood forest products, handicraft and manual agriculture tools

We expect that no matter a document is related to medical preparation or agriculture preparation against unwanted organism, this document might receive one symbol from A61T10/00-A61T35/00 and one symbol from A61T40/00-A61T45/00 for



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a complete description of the subject matter. We foresee subgroups in five of the main-groups, A61T10/00, A61T15/00, A61T25/00, A61T45/00 and A61T50/00.

Subgroups are not presented in this proposal for a matter of clarity of the report. All groups under A61K36/00 are foreseen in this new subclass A61T. Once agreed the main structure, a more technical discussion can be initiated with a detailed scheme.

We understand that the proposed scheme overlaps with existing groups, mainly the main group A61K36/00. We propose deleting A61K36/00 and all documents transferred automatically to the new groups in A61T. Regarding the other groups that might overlap, we would make a maximum effort to identify which groups could also be automatically transferred. When it is not possible, manual classification should be done, maintaining the rule of multi-aspect classification.

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7. Conclusion

With this report we conclude the project regarding traditional knowledge (TK) in the Cooperation Stream IP/Patent Processes and Procedures led by the Brazilian PTO (INPI).

First, TK was defined to guarantee that the understanding of the term is homogeneous among BRICS offices. Common relevant information about TK legislation in the international scenario is shown.

After that, traditional medicine was studied and related patent documents retrieved using as a base the IPC classification A61K. It was concluded that using the strategy of searching documents by combining the main group A61K36/00 with any A61P symbol, the result would be most likely patent documents related to traditional medicine.

Then, traditional agriculture was studied, present in the human being life since sedentary human civilization. Therefore, it is difficult to identify patent documents related to this matter in particular cases. For example, manual tools that were filed as simple agriculture tools could be nowadays identified as traditional agriculture tools. On the other hand, biocide is an easier subject matter to be searched that can be related to traditional agriculture. Nevertheless, technical points which could be used for a classification scheme in this area were identified.



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Finally, we concluded that it is possible to create a classification scheme in TK. A scheme named A61T was presented. A concrete scheme in this area can now be proposed in higher level to be discussed in international forums.