Working paper 3

Intellectual Property Rights (IPR)

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1. Introduction

This paper has been prepared during the TeleSupport 2006 project to arrive at a common understanding of how the TeleSupport project can addresses Intellectual Property Rights (IPR) issues. It is meant to enable communication between partners, beneficiaries and other groups. It is a working paper that will be adapted to incorporate new experiences and views in the follow-up activities.

The paper has benefited from interaction with experts in this area, especially Ms Shalini Bhutani of GRAIN and Prof. Anirban Mazumder of the National University of Juridical Sciences, Calcutta.

Intellectual Property Rights (IPR) with related claims and disputes for exclusive use or economic rights will become increasingly important in the future. Thisd is explains the strong views on IPRs and the plea to abandon IPR all together (see annex1).

A distinction in IPR claims and protection can be made between:

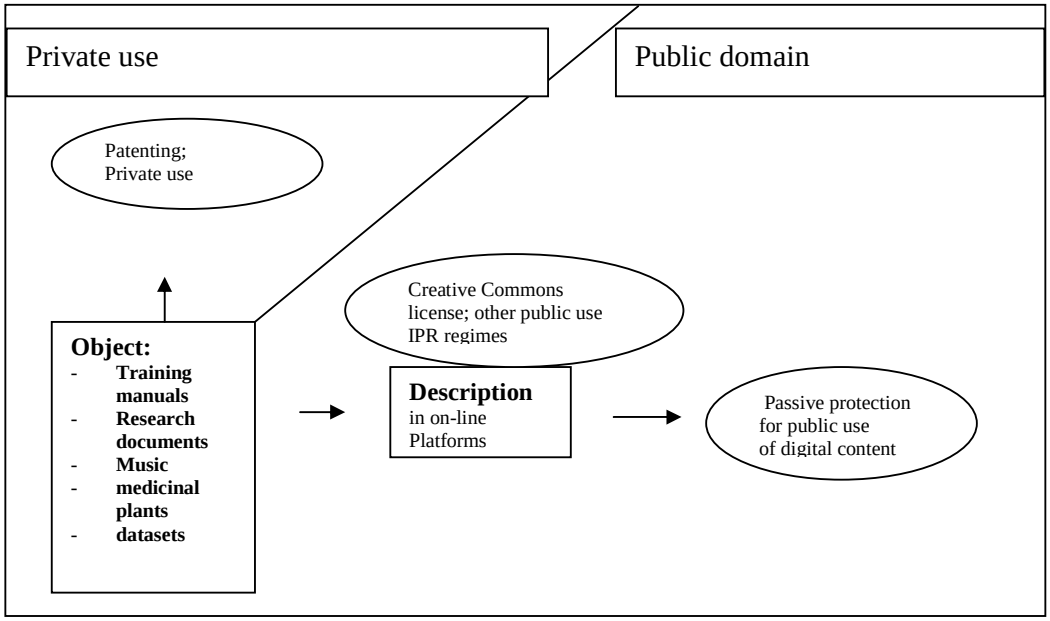
- the object (genetic resources, technical innovations, local medicinal applications, music, documents).
- the description of the object which involves the time and resources for documenting or describing the object

There are various types of IPR and there foe it is important to used the appropriate definition. (Annex 2)

As TeleSupport partners emphasise information sharing among partners, it is important that 1) information remains publicly accessible and 2) that public domain innovations are not 'hijacked' but preserved for use by local communities. Examples of claims by companies on objects that fall in the category of indigenous knowledge are many. They range from claims on basmati rice in India, medicinal plants in Uganda, databases in USA.

An important way to prevent later claims on an object in a pro-active way is by publishing it on-line with a detailed description of authors and producers/ innovators. Describing objects in a recognised system is to ensure that no IPR claims on the object will be obtained. This is called **'passive patenting'**. Only future modifications top the object can than be patented, not the original object. The World Intellectual Property Rights Institute (WIPO) is mandated to support regulation on these issues, including indigenous knowledge.

In order to ensure that digital information (music, documents, database systems etc.) remains freely accessible to the public, it is practical to use a platform that applies a public domain oriented IPR regime, like Creative Commons. They have various types of licenses, depending in the type of digital content, which is explained in detail in annex 3, 4 and 5.



Scheme indicating various IPR options for private and public domain

2. IPR of the originators or guardian communities of the GPs

In recent years, IPRs on indigenous knowledge and technologies have been in the news regularly. Occasionally, large establishments or commercial enterprises claim IPRs on commodities that have been developed and are in use by local communities. The turmeric claim by US companies in 1996 is but one. Cases of recent interest have included medicinal plants and 'brand' names such 'basmati' rice etc. There are reports that firms even prohibited use by the originators.

The TeleSupport project focuses on methods and technologies that reside in the public domain such as technologies to conserve natural resources e.g. methods to harvest water in hilly regions. Since there are no direct commercial benefits, IPR claims are not expected. Generally, claims appear in cases of easily patentable commodities such as high value plants and technological innovations. For these issues there is a clear need to ensure availability in the public domain.

In order to claim IPRs and put a patent , the innovation must in general fulfill the following conditions :

(a). It must show an element of novelty, that is, some new characteristics which are not known in the body of existing knowledge in its technical field. This body of existing knowledge is called 'Prior art'.
(b). It must have a commercial potential.
(c). The invention must show an inventive step, which could not be deduced by a person with average knowledge of the technical field.
(d). The subject matter must be accepted as patentable under law.
Source: TKDL, http://203.200.90.6/tkdl/LangDefault/common/Faq.asp?GL=Eng

There are 2 ways of protecting Traditional Knowledge:

Defensive protection of TK, or measures which ensure that IP rights over TK are not given to parties other than the customary TK holders. These measures have included the amendment of WIPO-administered patent systems (the International Patent Classification system and the Patent Cooperation Treaty Minimum Documentation). Some countries and communities are also developing TK databases that may be used as evidence of prior art to defeat a claim to a patent on such TK; and

Positive protection of TK, or the creation of positive rights in TK that empower TK holders to protect and promote their TK. In some countries, *sui generis* legislation has been developed specifically to address the positive protection of TK. Providers and users may also enter into contractual agreements and/or use existing IP systems of protection. Source WIPO www.wipo.int/tk/en/tk

In summary, various options exist to address this issue e.g. via

1. Considering TK as 'prior art'
2. Disclosing TK in databases
    - Defensive publications
    - Positive legal protection
3. Using Public Registries
    a. Designate community members to collect and document the knowledge
    b. Select a database or design a new database
    c. Inform the various national parent office(s) about the database
4. Protection
    a. No infringement possible 'prior informed consent'
    b. Sharing of benefits

The TeleSupport database allows defensive publication by registering the originators of GPs. This can be a person, a community or an organisation. In addition, the database will be registered at recognised legal bodies.

The WIPO has national branches that ensure protection of traditional knowledge. In India, the Traditional Knowledge Digital Library (TKDL) ensures documenting of traditional knowledge in a database (Annex 6).

In suitable cases the project may encourage originators of GPs to register their GPs with the Indian National Innovation Foundation (NIF) which covers 'Technical Innovation and Ideas' and 'Traditional Knowledge'. Further information is available at www.nifindia.org.

Reinforcement of passive protection and breaches of the protection would need follow-up. Whereas this is not likely, one needs to anticipate possible breaches of the law. Contact will be sought with lawyer networks "lawyer without boundaries" (to be researched.) and NGOs that specialize in IPR issues and are willing to assist claimants in the unlikely event of a dispute.

3. IPR on the descript of the Good Practice

Collection of information about GPs, describing them and uploading related information requires time and effort. It is therefore important that this task is acknowledged. In addition, the person managing the information must ensure that the GP owner(s) is correctly stated.

The responsibility for managing and updating the information lies with the organisation of the person who has entered the information. The TeleSupport platform automatically registers this person, whose name will be stored together with the related organisation. In case information is not entered correctly, the feedback mechanism on the platform will allow comments by other users.

During the TeleSupport project, information on various kinds of outputs will be produced. In addition to GPs, meta-information and full text documents will be entered on organisations, experts, project and publications and videos. These remain the property of the organisation that has entered the data or has developed the outputs.

Organisations can appoint their own data-manager and apply to IBF to have this person registered so that they can manage, complement and update their information. The same holds for the information on experts entered by organisations. When experts themselves want to complement and manage their own details, they can apply for a log-in to do so. Information on projects remains the responsibility of the entering organisations

4. IPR on the web-based technologies developed under the TeleSupport project

The InfoBridge Platform will be adapted to accommodate the needs of partners in the TeleSupport project. This will involve upgrading or additions to functionality. IPRs for the main Platform already reside with IBF. It is a partnership tool and new developments of the software will follow the same regime but will remain available for TeleSupport partners.

Dialogue and other tool that are not linked to the IBF platform and which are based on open-source software can be freely used by all partners.

Annexes:

1. Software and seeds: lessons in community sharing - Roberto Verzola- Grain.
2. Definitions relating to IPR
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4. Databases and Creative Common Licenses: FAQ
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7. Traditional Knowledge Digital Library (TKDL)
8. Sources of information on IPR

Annex 1 Software and seeds: lessons in community sharing - Roberto Verzola

Source Grain *http://www.grain.org/seedling/?id=409*

In the fields of information, knowledge and culture, exclusionary and monopolistic approaches which rely on state enforcement mechanisms to implement exclusionary provisions should be considered "worst practice". Our long-term goal should be to phase them out in favor of non-monopolistic rewards for intellectual work. On the opposite side of the spectrum, free sharing of source code, seeds, knowledge and culture are "best practice". Copyrights and patents are doubly-bad not only because they create monopolies through force or the threat to use force, but also because they ban the "best practice" activity of free sharing.

A rich selection of policy options is available to society for discouraging bad practices and encouraging good ones. The challenge is to find the policy option that is most appropriate for each practice, balancing the considerations of freedom and responsibility, enforcement and encouragement, and commerce and culture, while ensuring that each policy option works in harmony with the intangible, non-material, non-rivalrous nature of information.

Annex 2 Definitions relating to IPR

Normal copyright

- Asserts ownership and identification of the author
- Prevents the use of the authors name as author of a distorted version of the work
- Prevents intentional distortion of the work by others, etc.
- It implies other restrictions- such as restricting the reproduction or modification of a work

Copyleft is a legal tool that gives users the freedom to redistribute software and alter/ improve its codes as long as the freedom to copy and change is passed on it every user.. More specifically it

- Contains the normal copyright statement, asserting ownership and identification of the author
- It gives away some of the other rights implicit in the normal copyright; it says that not only are you free to redistribute this work, but you are also free to change the work
- However, you cannot claim to have written the originally work, nor can you claim that these changes were created by someone else
- Finally all derivates works must also be placed under these terms.

FOSS (Free and Open Source Software, also F/OSS), is software which is liberally licensed to grant the right of users to study, change, and improve its design through the availability of its source code's

The General Public License (GPL) grants the user of a computer program the freedoms to run, study and modify the program; distribute copies; improve the program and release it to the public. The primary difference between the GPL and more 'permissive' free software licenses is that the GPL seeks to ensure that the above freedoms are preserved in copies and in derivative works using copyleft (see below).

The BSD license (Berkeley Software Division license agreement) is one of the most widely used licenses for free software. It has fewer restrictions than the GPL, putting it relatively close to the public domain.

A peer-to-peer (P2P) computer network relies on the computing power and bandwidth of the participants in the network rather than concentrating it in a few servers. P2P networks are typically used for connecting nodes via largely *ad hoc* connections and are used for sharing content files containing anything in digital format, such as audio, video or data.

BitTorrent is both the protocol and the name of the P2P file distribution application that makes it possible to massively distribute files without the corresponding massive consumption in server/bandwidth resources.

Fair Use is the right to use a copyrighted work for educational, academic, or research purposes. The Fair Use doctrine has come under serious threat in the USA as a result of the Digital Millennium Copyright Act (2000), which includes a swathe of restrictive clauses related to the use of copyrighted material with major consequences for public libraries, educational institutions and home use.

The *Creative Commons* is a non-profit organization devoted to expanding the range of creative work available for others to legally build upon and share.

Annex 3 Creative commons licensing - *http://creativecommons.org*

Creative Commons offers a flexible range of protections and freedoms for authors and artists. We have built upon the "all rights reserved" of traditional copyright to create a voluntary "some rights reserved" copyright. We're a nonprofit. All of our tools are free.

Creative Commons began in 2001 with the aim of establishing a fair middle way between the extremes of copyright-control, and the uncontrolled exploitation, of intellectual property. Its primary tool is the use of a range of copyright licences, freely available for public use, which allow creators to fine-tune control over their work, so enabling as wide a distribution as possible. Originally those licences were, although written for worldwide use, grounded in American law and practice. International Creative Commons works to establish national projects. By 2005, over fifteen million web pages, and many other works, had come to use these licences.

Our licensing model includes three levels: the human-readable Commons Deed, the lawyer-readable Legal Code, and the machine-readable Digital Code or metadata. The International Commons project will port the Legal Code to accommodate a specific jurisdiction's legal background rules, while the Commons Deed and Digital Code will remain the same.

Our generic licenses are jurisdiction-agnostic: they do not mention any particular jurisdiction's laws or statutes or contain any sort of choice-of-law provision. The licenses are, however, based on the U.S. Copyright Act in many respects. This means that, though we have no reason to believe that the licenses would not function in legal systems across the world, it is at least conceivable that some aspect of our licenses does not jibe with a particular jurisdiction's laws.

Annex 4 Databases and Creative Commons: FAQ

Can a Creative Commons license be applied to a database?
In short, yes—a Creative Commons license can probably be applied to a database, or at least, to some aspects of a database.

Databases usually are comprised of at least four elements: (1) a set of field names identifying the data; (2) a structure (or model), which includes the organization of fields and relations among them; (3) data sheets; and (4) data. All of the Creative Commons licenses can be applied to these elements to the extent that copyright applies to them (and the Dutch and Belgium licenses can also be applied to the data, for reasons discussed in greater detail below. Copyright applies to minimally creative works expressed in a fixed form. In most databases, items (2) and (3) - the structure and the data sheet - will reflect sufficient creativity for copyright to apply. A Creative Commons license applied to these elements will permit copying of these elements under the conditions of the license selected. Field names, such as “Address” for the name of the field for street address information, are less likely to be protected by copyright because they often do not reflect creativity.

In the United States, data will be protected by copyright only if they express creativity. Some

databases will satisfy this condition, such as a database containing poetry or a wiki containing prose. Many databases, however, contain factual information that may have taken a great deal of effort to gather, such as the results of a series of complicated and creative experiments. Nonetheless, that information is not protected by copyright and cannot be licensed under the terms of a Creative Commons license.

Note - for databases subject to the laws of members of the European Union and certain other countries, the law supplies a special right for databases. Except in the Netherlands and Belgium Creative Commons Licenses, Creative Commons licenses do not apply to this right (for more detail, see below).

There are three things to keep in mind when considering whether to apply a Creative Commons license to a database: (1) that the necessary rights or permissions have been obtained to make a database and any copyrightable elements available under a Creative Commons license; (2) that only those parts of the database that the database provider wants to make available under a Creative Commons license are so licensed; and (3) if not all aspects of the database are protected by copyright, there should be a clear statement to this effect to indicate to users which aspects are subject to the license and which are not.

This FAQ explains each of these issues in a little more detail for database providers (and users). Please read all of this FAQ before deciding whether to apply a Creative Commons license to your database so that you understand how to make your database available using a Creative Commons license in a way that matches your preferences. Please also note that there may be other legal rights and obligations that arise in relation to a database that are beyond the scope of this FAQ.

What kinds of things can be licensed under a Creative Commons license?
Creative Commons licenses only apply to materials that are protected by copyright. This means that they can be applied to protect things like articles, text, websites, blogs and other publications; music, artwork video and other audio and visual materials; and also more "utilitarian" items such as software, tables and compilations.

As a general rule, copyright is said to protect "expressive, creative works" that are fixed in a tangible medium. The requirement that a work be expressive and/or creative to attract copyright protection means that it has to be the product of someone's effort and ingenuity. Mere facts and ideas are not protectable. This has particular importance for databases because databases often contain compilations of factual information.

So, a Creative Commons license can be applied to a database?
Yes, a Creative Commons license can be applied to the structure or model of a database provided that is protected by copyright. The extent to which a database is protected by copyright law will vary depending on the jurisdiction in which the database is located. In general, however, the entire database as well as some elements of the database are likely to be copyrighted; some elements may not be protected by copyright.

Essentially, those parts of the database that consist of expressive, creative effort will be protected by copyright. For example, subject to some exceptions, the database model is likely to be protected by copyright. The extent to which the database model is copyright-protected will depend on the jurisdiction. In the US, for example, the "white pages" telephone directories are not protected by copyright because they contain names and address in unoriginal, alphabetical ordering. By contrast, a directory of Chinese businesses is protected by copyright because of the effort, selection and arrangement that went into creating the directory. In Australia, however, even "white pages" telephone directories are protected because the courts there consider the effort and "sweat of the brow" in compiling data, even if it is ordered unoriginally, to be sufficient to warrant copyright protection.

Which database components are likely to be protected by copyright?
In general, there are likely to be four main components of a database:

(i) The database model: this is a specification describing how a database is structured and organized. Parts of the database model, or schema, include database tables and table indexes. In general, as discussed above, it is likely that the overall structure and organization of the database is protected by copyright. There may be exceptions to this depending on the jurisdiction in which the database is

located. In the United States, for example, unoriginal and obvious orderings of factual information have been held to not be protected by copyright.

(ii) The data entry & output sheet: these contain questions and the answers to these questions are stored in a database. For example, a web page asking a scientist to enter a gene's name, its pathway information, and its ontology would constitute a data entry sheet. In general, the format and layout of these sheets will be protected by copyright. This protection may not extend to the information (the data) contained within these sheets, however, as discussed below.

(iii) Field names: field names described data sets, for example "Address" for the name of the field for street address information. These are less likely to be protected by copyright because they often do not reflect creativity.

(iv) The data: - whether the data itself is copyrightable, depends on what it is. To the extent it consists of factual information, it will not be copyrightable. For example, the contents of NCBI's Entrez Gene database include gene names, descriptions, pathways, protein products, and other facts. However, to the extent the data is creative and expressive works, such as papers or photographs, the database content itself is likely to be protected by copyright. Even if copyright protection extends to a paper or photograph contained in a database, that copyright will not extend to the information and ideas expressed in these materials.

Database providers need to think carefully about which elements of the database they want people to be able to use and reuse and ensure that they only make available these elements available under the Creative Commons license.

What about the software that runs the database?
In general, the software that runs the database will be protected by copyright but that copyright will be owned and controlled by the third party software provider who creates that software and licenses it to a database provider to use. Thus, a database provider needs to be clear that it is applying the Creative Commons license only to the database elements, not the software.

Creative Commons licenses are designed to apply to content such as documentation, articles, music, videos and the like. For software, we recommend that it is licensed under the CC-GNU-GPL license. Obviously, this license cannot be applied to software that is obtained from a third party under their own license conditions.

How will people know that they can use the factual information in a database?
We recommend that database providers make it clear that only some elements of their database are protected by copyright (and subject to a Creative Commons license) and some elements are free to be used & reused outside of the license.

As you know, Creative Commons and Science Commons work to promote freely available content and information. Our preference is that people do not overstate their copyright or other legal rights. Consequently, we adopt the position that "facts are free" and people should be educated so that they are aware of this. Database providers may want to think about including a statement where you include your Creative Commons "Some Rights Reserved" button that acknowledges that the database is only under a Creative Commons license "to the extent that copyright protects the database" and then give some examples of the elements in the database that are likely to be factual and excluded from the scope of copyright and the Creative Commons license.

If I apply a Creative Commons license to my database, does this mean people can replicate the database?
Yes, if a Creative Commons licenses is applied to an entire database or most of a database, then the Creative Commons licenses will give people the right to copy and distribute the entire database and/or the database elements to the Creative Commons license has been applied. However, if the database is hosted in Europe (or a jurisdiction with a similar law), a different type of right—a sui generis (i.e. copyright-like) database right—may give the database provider an additional layer of protection against someone copying the entire database or database elements that are under a Creative Commons license.

To briefly explain, the database right applies to databases that have been created with considerable investment and protects against unauthorized extraction and re-utilization of the data. In general, it is an infringement of this database right to appropriate and distribute to the public the whole or part of the contents of the database without the database owner's permission.

With two exceptions, a Creative Commons license will not impact the existence of this database right. This means that, because the Creative Commons licenses apply only to copyright protected works (and not sui generis protected works), a database owner will still be able to enforce their database right even if the copyright-protected elements of the database have been licensed under a Creative Commons license. The two exceptions are the Creative Commons Netherlands and the Creative Commons Belgium licenses, which include the database right in the license and, thus, these licenses will enable people to appropriate and distribute database contents to the public.

How does a database provider make sure it has the necessary authority to apply a Creative Commons license to a database?
Creative Commons licenses can be applied to a copyright-protected work by either the original creator of that work or by a person who has the express permission from the original creator (the licensor of the work).

In the case of a database and its many different elements, database providers need to think about how they obtained each element because this will assist in identifying whether they have the necessary rights and permissions. Essentially, the database elements can only be made available under a Creative Commons license: (1) if the database provider is the owner of the copyright in those elements; or (2), where the database providers does not own the copyright but it has the express and explicit permission (a license) from the owner of copyright to do this.

The original creator of a work will generally be the first owner of copyright in that work. A person can also become the copyright owner by an express written agreement, signed by a creator or copyright owner, transferring ownership of the copyright. In some circumstances, an employer becomes the first owner of copyright in anything created by their employees. In the US, there is an additional category of works in respect of which ownership of copyright will be transferred from the creator to another party—works made for hire. To qualify as a work for hire, the work must come within one of nine categories of works, be specially commissioned and be the subject of a written and signed agreement that the work is a work for hire. For more information about works for hire under United States law, check out this information circular from the United States Copyright Office.

Before database providers make a database or database elements available under a Creative Commons license they need to make sure they own the rights or have the necessary licenses. This process is known as "rights clearance."

Often databases are generated by a network of individuals contributing and editing data. Many contributors often do this without any legal agreements in place. If contributed data are sufficiently creative for copyright to apply, then each contributor likely owns the copyright to his or her submission. To offer these data under a Creative Commons license, each contributor must agree to do so. If, however, the contributions are factual, then rights need to be cleared only if the law that applies to the database protects such information. Database providers can include a condition in the "Terms of Submission" (or something similar) that expressly provides that any person who submits information agrees to make their submission available under a Creative Commons license and any other terms set out in the "Terms of Use" or other legal notices section.

What legal issues do Creative Commons licenses not cover?
Creative Commons licenses only apply to copyrightable works. There may be many other legal issues that arise in relation to copyrighted materials that Creative Commons licenses do not cover and that database providers need to consider. For example, Creative Commons licenses do not affect patent rights. Although copyright does not protect factual information, patent law does protect ideas, inventions, processes and methods. Database owners should think about the extent to which they need to make their database users aware of the fact that patent rights may restrict the use that can be made of the factual information contained in a database.

I understand everything above and want to apply a Creative Commons license to my database. How do I go about doing that?
Visit our "Publish" page to select the license that suits your preferences via our license generator. Remember that before applying a Creative Commons license, database providers need to make sure that they own the necessary rights, or have the necessary permissions from the people who do own the rights, to make the database available under a Creative Commons license. Also, database providers should remember to think about exactly which components of their database they want to be used and reused in accordance with a Creative Commons license and make sure that this is clearly marked on the database.

Questions for Database Users:
I am a database user, does this mean I can just use & copy anything from a Creative Commons-licensed database?

Which parts can I use under the Creative Commons license?
Under a Creative Commons license a database user can use all of those parts of a database that the database owner makes available under the Creative Commons license—consistent with the terms of that license. Because databases are complex, database users should carefully check which elements are under the Creative Commons license and which are not. They should also carefully the terms of the applicable Creative Commons license to under what uses are permitted and which are not. This page provides an overview of the Creative Commons licenses.

Facts are (generally) free (as in freedom)
In general, "facts are free" so database users should be able to use factual information contained in a database without restriction. Database users should, however, check any "Terms of Use" or other legal notices that the database provider has applied to the database in case additional conditions have been placed on the use of the factual data contained in the database.

Be aware that Creative Commons licenses do not license all types of legal rights
Database users should be aware, before they freely use the facts or database elements, of some possible limitations imposed by different types of laws that may restrict the extent of data that can be used and that are not licensed by the Creative Commons licenses. Examples of potential limitations that may be imposed are by: (1) patent law; and, (2) for databases hosted in the European Union, laws that recognize a database right (which we explain some more below); (3) laws in jurisdictions in which copying a large amount of data is considered to be the equivalent of copying the database itself (which we also explain some more below).

To find out more information about whether something is protected by a patent (and you are based in the United States), you should check out the United States Patent & Trademark Office. It also has links to non-United States based patent bodies and international patent organizations that may also provide you with useful information to understand the scope of patent rights.

Consider that database rights may apply
Users of European databases should also be aware of the fact that the database may be protected by a sui generis (ie. copyright-like) database right that is not actually a copyright right and thus, not licensed under the standard Creative Commons licenses (except the Belgium & Netherlands Creative Commons licenses).

The database right applies to databases that have been created with considerable investment and protects against unauthorized extraction and re-utilization of the data. In general, it is an infringement of this database right to appropriate and distribute to the public the whole or part of the contents of the database without the database owner's permission.

With two exceptions, a Creative Commons license will not impact the existence of this database right and thus, database users need to check out the "Terms of Use" or other legal notices section to see if the database owner is limiting its database right in any way. The Creative Commons Netherlands and the Creative Commons Belgium licenses include the database right in the license and thus, these licenses will enable you to copy and distribute database contents consistent with the license terms.

Of course, none of the Creative Commons licenses or database terms will limit the four exceptions to the database right. The four exceptions are for use: (1) for private purposes of a non-electronic database; (2) where there is use for the sole purpose of illustration for teaching or scientific research, as long as the source is indicated and to the extent justified by the non-commercial purpose to be achieved; (3) where there is use for the purposes of public security of for the purposes of an administrative or judicial procedure; (4) where other exceptions to copyright (such as fair use or fair dealing) are involved, without prejudice to points (1), (2) and (3).

Think before copying large amounts of data
In some jurisdictions, it may be an infringement of the copyright in database overall, to copy and use large amounts of data, even if it is unprotected factual information. Consequently, if a database user is planning to copy large amounts data, whether factual or not, they may want to think about whether their use is in keeping with the Creative Commons license and/or if it is not, whether they may otherwise be infringing on the copyright in the database overall (if that has not been licensed under a Creative Commons license).

Annex 5 Creative Commons Licenses: Types of licenses

The following describes each of the six main licenses offered when you choose to publish your work with a Creative Commons license. We have listed them starting with the most restrictive license type you can choose and ending with the most accommodating license type you can choose. It's also helpful to know there are a set of baseline rights all six licenses offer to others and we've prepared a list of things to think about before choosing a license.

Attribution Non-commercial No Derivatives (by-nc-nd)

Choose by-nc-nd licenseThis license is the most restrictive of our six main licenses, allowing redistribution. This license is often called the "free advertising" license because it allows others to download your works and share them with others as long as they mention you and link back to you, but they can't change them in any way or use them commercially.

Attribution Non-commercial Share Alike (by-nc-sa)

Choose by-nc-sa license This license lets others remix, tweak, and build upon your work non-commercially, as long as they credit you and license their new creations under the identical terms. Others can download and redistribute your work just like the by-nc-nd license, but they can also translate, make remixes, and produce new stories based on your work. All new work based on yours will carry the same license, so any derivatives will also be non-commercial in nature.
Attribution Non-commercial (by-nc)

Choose by-nc license This license lets others remix, tweak, and build upon your work non-commercially, and although their new works must also acknowledge you and be non-commercial, they don't have to license their derivative works on the same terms.
Attribution No Derivatives (by-nd)

Choose by-nd license This license allows for redistribution, commercial and non-commercial, as long

as it is passed along unchanged and in whole, with credit to you.
Attribution Share Alike (by-sa)

Choose by-sa license This license lets others remix, tweak, and build upon your work even for commercial reasons, as long as they credit you and license their new creations under the identical terms. This license is often compared to open source software licenses. All new works based on yours will carry the same license, so any derivatives will also allow commercial use.

Attribution (by)

Choose by license This license lets others distribute, remix, tweak, and build upon your work, even commercially, as long as they credit you for the original creation. This is the most accommodating of licenses offered, in terms of what others can do with your works licensed under Attribution.

Other licenses

We also offer a set of other licenses for more specialized applications. Sampling Licenses allow for snippets (not whole work) to be remixed into new works, even commercially. Our Public Domain Dedication lets you free works from copyright completely, and our Founders Copyright lets you do the same, but after 14 or 28 years. Musicians looking to share their work with fans might want to look at the Music Sharing license. The Developing Nations license lets you offer less restrictive terms to countries that aren't considered high income by the World Bank, and finally, for those licensing software, we offer the GNU GPL and GNU LGPL licenses.

creative commons
COMMONS DEED

Attribution-NonCommercial-NoDerivs 2.5 Netherlands to copy, distribute, display, and perform the work

Under the following conditions:

Attribution. You must give the original author credit.

Non-Commercial. You may not use this work for commercial purposes.

No Derivative Works. You may not alter, transform, or build upon this work.

- For any reuse or distribution, you must make clear to others the licence terms of this work
- Any of these conditions can be waived if you get permission from the copyright holder.

Annex 6 Seedling- Grain; Oct. 2004 Tribal rights (f)or wrongs in India- GRAIN

The rights of traditional tribal communities have been at the centre of many a struggle with the State. But it's another story when within the State machinery itself there are disagreements on if and how communities ought to control forest resources. So it has been in India. The Government of India's Ministry of Tribal Affairs (MoTA) mooted a draft Scheduled Tribes (Recognition of Forest Rights) Bill 2005 1 that was cleared by the Law Ministry in April 2005. The bill has been stalled by opposition from the Ministry of Environment and Forests (MoEF) on the grounds that it will be detrimental to safeguarding the forests and wildlife that thrives in them.

The aim of the Bill is to undo the legacy of discounting the time-honoured use and preservation of forest resources by tribals that has pervaded since colonial times. By recognizing the rights of the forest-dwelling tribals, the bill seeks to protect them from being branded as "encroachers" and safeguard them against forced evictions. The Bill acknowledges 12 specific heritable but not alienable non-transferable "forest rights" of tribals in forest villages for "bonafide livelihood needs". The conditions for vesting such rights include a limit of up to 2.5 hectares of land per family which must have been in occupation prior to 25 October, 1980 (the date on which the Forest [Conservation] Act came into force).

The list of rights include the:

- Right to live in the forest under the individual or common occupation for habitation or for self-cultivation for livelihood
- Right to access, use or dispose of minor forest produce
- Rights of entitlement such as grazing and traditional seasonal resource access
- Rights for conversion of leases or grants issued by any local authority or any state government on forest lands to titles
- Right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving.

Parliamentarians supporting the bill are being accused by some as pursuing vote-bank politics to appease tribals. Questions are also being asked as to why only "scheduled" tribes are to be granted forest rights? The simple answer is that MoTA was established as an independent ministry in 1999 to deal specifically with scheduled tribes. The criteria for designating a tribe as "scheduled" include having 'primitive' traits, dwelling in geographical isolation, having a distinct culture, being shy of contact with the outside world and being economically 'backward'. There are more than 600 officially listed scheduled tribes in the country, comprising less than 10% of the country's total population and with little over 2% believed to be dwelling in forests.

There is a view that once the Bill is passed, this itself would provide the basis for the extension of the rights to other forest dwellers.

The issue has turned into a battle for control between the MoTA and MoEF. There are also deep divisions between conservationists and tribal activists. The pro-tribals lobby argues that it is large developmental projects – such as large dams, power plants and mining activities – that need to be checked, rather than the forceful eviction of traditional forest-dependent communities to save the forests. Several groups contend that it is not tribals who are bringing in commercial activities into forests, but external commercial pressures that are degrading the forest resources and thereby eroding the traditional lifestyles of tribal communities. Meanwhile the more radical green groups warn against the land mafia misusing the provisions of the proposed law into conning unsuspecting tribals vested with land rights to part with their land in prime forest areas. They also fear that the proposed legal provision allowing for the "sale of forest-based products for their household needs", would translate into large-scale commercialization of forest resources.

Apart from the practical problems in implementing the Bill and working out its relationship with other conservation laws, there are certain problems within the text that would need to be addressed. There are several measures built into the Bill for conservation, but there remains a lack of clarity on what prevails

in the event of such "rights" causing loss of wildlife, forest or biodiversity. For instance, if the collection of a medicinal plant becomes threatened, would the law restrict it? There is a penalty for unsustainable use, but who and how determines what is "unsustainable"? And would such collections be permitted in national parks or sanctuaries?

The neglected issue of traditional knowledge warrants more attention. Amongst the "forest rights" that the Tribal Bill seeks to grant is the right to access to biodiversity, and community rights to intellectual property and traditional knowledge related to forest biodiversity and cultural diversity. The approach to these rights appears to be in harmony with the Government of India's official pro-IPR policy, and is supported rather than contested by the various Ministries involved. The pro-IPR approach is clear in the draft National Tribal Policy 2 which is currently being revised. It states that the preservation and promotion of traditional wisdom is recommended through documentation of such traditional knowledge and its "transfer" to non-tribal areas. In the context of health, the National Policy mandates:

- Strengthening the allopathic system of medicine in tribal areas.
- Validating identified tribal remedies (folk claims) used in different tribal areas
- Encouraging, documenting and patenting tribals' traditional medicines

Biodiversity-based traditional knowledge can not exist without the resources on which it is based. Such systems of knowledge would not grow from a document but by a symbiosis of people and plants. What needs to be protected is the collective intellectual heritage of communities. This is different from advocating for a community to be made a legal entity for grant of a patent or other IPR, which implies the commodification of their knowledge. Conservation by the people can be made possible only if communities are given a stake in conserving. But in the context of traditional knowledge, IPR is not a helpful incentive to conserve knowledge.

There is doubt about the Bill being cleared in its present form. The Prime Minister's Office has asked the MoTA to reword its original Bill to reflect conservation concerns, while asking the MoEF not to push its rival "alternative draft". Hopefully in the end the tribals in the forest who are largely oblivious to these ongoing discussions will be more righted than wronged.

The government in making such a law would be fulfilling its electoral promise only if it facilitates the control of people rather than effecting controls. Self-governance is a critical issue for indigenous peoples whose systems of self-rule pre-date the modern state. The state must recognise this, and rights must not be dependent on the mere efficacy of a law drawn up today, often without the very people it proposes to right.

Annex 7 Traditional Knowledge Digital Library (TKDL)

1. What is Patent?

A patent is an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something, or offers a new technical solution to a problem.

2. What kind of inventions can be protected?

An invention must in general fulfill the following conditions to be protected by a patent:

(a). It must show an element of novelty, that is, some new characteristics which are not known in the body of existing knowledge in its technical field. This body of existing knowledge is called as Prior art.
(b). It must have a commercial potential.
(c). The invention must show an inventive step, which could not be deduced by a person with average knowledge of the technical field.
(d). The subject matter must be accepted as patentable under law.

3. Why TKDL?

It is observed that in the last few years patents have been wrongly granted in traditional knowledge related inventions which do not fulfill the requirement of novelty and inventive step when compared with the relevant prior art, as has happened in the case of Turmeric, Neem, Basmati etc.

The practical obstacle underlying the issue was that patent examiner could not search relevant traditional knowledge as prior art, when patent applications were examined claiming traditional knowledge related inventions because they did not have access to traditional knowledge information in their classified non-patent literature. The reason behind this non access were that :
(a) such information was not available, compiled and orderly arranged;
(b) the prior-art was confined in texts in local languages such as Sanskrit, Urdu, Tail etc.
TKDL makes available the information existing in local languages in English, French, Spanish, German and Japanese in patent application format, easily understandable by patent examiners. Thus, TKDL database which breaks the language and format barrier, is a tool which will provide defensive protection to rich traditional knowledge of India.

4. What is TKDL ?

It is a database with a tool/mechanism to understand the prior art available for Indian Systems of Medicine (Ayurveda / Siddha / Unani / Yoga) which is a codified knowledge. It is not a diagnostic/usage database. TKDL is also not the prior art; Books on Indian Systems of Medicine are the prior art from where a given reference is taken.

For Example, prior art of Indian Systems of Medicine in the form of text, comprises of the following main components:
(a) Plants, minerals or animals and their products thereof, as main ingredients.
(b) Method of preparation of a given formulation.
(c) Usage, e.g. in a particular disease or to maintain health.

TKDL, gives modern names to Plants / Diseases / Processes, mentioned in the literature related to Indian Systems of Medicine, and establishes relationship between traditional knowledge and modern knowledge.

5. What is TKRC ?

Traditional Knowledge documentation lacked a classification system. Therefore, a modern classification system i.e. Traditional Knowledge Resource Classification (TKRC), based on the structure of International Patent Classification (IPC) has been evolved for Indian Systems of Medicine viz., Ayurveda, Siddha, Unani and Yoga.
Is a TKRC a structured classification consisting of sections, classes, subclasses, groups and subgroups, similar to that included in IPC system, for traditional knowledge of India, for facilitating the patent examiners in retrieval of information related to prior art, before granting a patent in the area of traditional knowledge. TKRC is also being used as an abstracting tool.

About TKDL

Introduction

Since time immemorial, India has possessed a rich traditional knowledge of ways and means practiced to treat diseases afflicting people. This knowledge has generally been passed down by word of mouth from generation to generation. A part of this knowledge has been described in ancient classical and other literature, often inaccessible to the common man. Documentation of this existing knowledge, available in public domain, on various traditional systems of medicine has become imperative to safeguard the sovereignty of this traditional knowledge and to protect it from being misused by obtaining patents on non-original innovations, and this has been a matter of national concern. India fought successfully for the revocation of turmeric and basmati patents granted by United States Patent and Trademark Office (US PTO) and neem patent granted by European Patent Office (EPO). As a sequel to this, in 1999, the Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy-AYUSH, erstwhile Department of Indian System of Medicine and Homoeopathy-ISM&H) constituted an inter-disciplinary Task Force, for preparing an approach paper on establishing a Traditional Knowledge Digital Library (TKDL).

TKDL is a collaborative project between *National Institute of Science Communication and Information Resources* (NISCAIR), Council of Scientific and Industrial Research, Ministry of Science & Technology and *Department of AYUSH*, Ministry of Health and Family Welfare, which is being implemented at NISCAIR. An inter-disciplinary team of Traditional Medicine (Ayurveda, Unani, Siddha, Yoga) experts, patent examiners, IT experts, scientists and technical officers are involved in creation of TKDL for Indian Systems of Medicine.

The project TKDL involves documentation of the knowledge available in public domain on traditional knowledge from the existing literature related to Ayurveda, Unani and Siddha, in digitized format in five international languages which are English, German, French, Japanese and Spanish. Traditional Knowledge Resource Classification (TKRC), an innovative structured classification system for the purpose of systematic arrangement, dissemination and retrieval has been evolved for about 10,500 subgroups against one group in International Patent Classification (IPC), i.e. *AK61K35/78* related to medicinal plants.

Presentation on Traditional Knowledge Resource Classification (TKRC) at IPC Union led to the creation of WIPO-TK Task Force consisting of USPTO, EPO, JPO, China and India by (IPC) Union for enhancing the sub-groups in IPC for classifying the TK related subject matter and considering the linking of TKRC with IPC. In February 2002, Committee of Experts recommended : (i) inclusion of 200 subgroups on TK against earlier single group on medicinal plants, (ii) linking of TKRC to IPC and (iii) continuation of work on biodiversity, TK and TCE. Thus, a new main group was included in IPC i.e. AK61K 36/00 with approx. 200 subgroups covering different categories of plants, as shown below:

S. No	IPC Codes	IPC Categories	No. of Sub groups in IPC
1.	Algae	A61K 36/02 to 36/05	4
2.	Fungi & Lichens	A61K 36/06 to 36/09	10
3.	Bryophyta	A61K 36/10	1
4.	Pteridophytes	A61K 36/11 to 36/126	3
5.	Gymnosperms	A61K 36/13 to 36/17	5
6.	Angiosperms	A61K 36/18	1
7.	Dicotyledons	A61K 36/185 to 36/87	148
8.	Monocotyledons	A61K 36/88 to 36/9068	35
Total number of Sub-groups			197

Later in October 2004, in the 35th IPC Union Meeting linking of Traditional Knowledge Resource Classification with International Patent Classification was approved. This linkage of TKRC-IPC will provide a better information retrieval tool during *prior art* search by patent examiners.

TKDL will give legitimacy to the existing traditional knowledge and enable protection of such information from getting patented by the fly-by-night inventors acquiring patents on our traditional knowledge systems. It will prevent misappropriation of Indian traditional knowledge, mainly , by breaking the format and language barrier and making it accessible to patent examiners at International Patent Offices.

History of TKDL

The history of TKDL is given below:

Sno	Activity	Period	Responsibility
1.	Recognition of need of creation of Traditional Knowledge (TK) data bases and need of support to developing countries by Standing Committee on Information Technology (SCIT) of World Intellectual Property Organization (WIPO).	June, 1999	Third Plenary Session of SCIT, WIPO under the Chairmanship of Dr. R. A. Mashelkar, DG CSIR, India
2.	Direction to Department of Indian Systems of Medicine & Homoeopathy (ISM&H) for initiating measures to protect Indian Traditional Knowledge in particular, Ayurveda	-	Planning Commission constitutes Task Force under the Chairmanship of Prof. D. N. Tiwari, Member Planning Commission on S&T.
3.	Approach paper on setting up of TKDL.	October, 1999	Paper was prepared by Mr. V. K. Gupta, the then Senior Technical Director, National Informatics Centre at the direction of the then Secretary Department of AYUSH (erstwhile ISM&H)
4.	Submission of approach paper to SCIT, WIPO	December, 1999	Dr. R. A. Mashelkar, D.G., CSIR
5.	Setting up of the interdisciplinary (inter-ministerial Task Force on TKDL, consisting of experts from Department Of ISM&H (now AYUSH), Central Council of Research in Ayurveda & *Siddha* (CCRAS), Bananas Hindu University (BHU), National Informatics Centre (NIC), Controller General of Patents Design & Trade Marks (CGPDTM), etc. under the Chairmanship of the then Senior Technical Director, Mr. V. K. Gupta	May, 2000	Department of AYUSH (erstwhile ISM&H)
6.	Submission of TKDL Task Force Report to Department of Indian Systems of Medicine & Homoeopathy (ISM&H)	May, 2000	TKDL Task Force
7.	Presenting TKDL Concept & Vision at International forum	May, 2000	Dr. R.A Mashelkar, Director General, CSIR.
8.	Cabinet Committee of Economic Affair's (CCEA's) approval on TKDL Project	January, 2001	Department of AYUSH
9.	Memorandum of Understanding (MoU) between Department of Indian Systems of Medicine & Homoeopathy (now AYUSH) and National Institute of Science Communication (now NISCAIR)	June, 2001	Department of AYUSH and National Institute of Science Communication and Information Resources –NISCAIR (erstwhile NISCOM)
10.	TKDL software specifications and design	July, 2001	Mr. V. K. Gupta, Director NISCAIR

11.	Establishing TKDL team of Project Assistants (IT), *Ayurveda*, Patent Examiners, etc.	October, 2001 to March, 2002	NISCAIR, CCRAS, D/o AYUSH and CGPDTM.
12.	Presentation on Traditional Knowledge Resource Classification (TKRC) at International Patent Classification (IPC) Union for getting established WIPO-TK Task Force consisting of USPTO, EPO, JPO, China and India	February, 2001	Mr. V. K. Gupta, Director NISCAIR
13.	WIPO-TK Task Force recommended for adding a subclass under A 61	February, 2002	Meeting on behalf of India was attended by Director, NISCAIR as one of the members of International Task Force and the presentation was made on the issue of linkage between TKRC and IPC
14.	Committee of Experts recommended (i) inclusion of 200 subgroups on TK against earlier single group on medicinal plants, (ii) linking of TKRC to IPC and (iii) Continuation of work on biodiversity, TK and TCE	February, 2003	-------do-------
15.	Internationally recognized specifications and standards for setting up of TK data bases and registries based on TKDL specifications (a) Drafting of specifications at WIPO Regional Symposium at Kochi, based on TKDL (b) Presentation of WIPO document No. WIPO /GRTKF / IC/ 4/ 14 at the 4th Session of Intergovernmental Committee (IGC) of WIPO on Intellectual Property and Genetic Resources, Traditional Knowledge and expression of folklore (c) Adoption of recommendations contained in document No. WIPO/ GRTKF/ IC/ 4/ 14 by International IP community at the 5th Session of IGC	November, 2002 December, 2002 July, 2003	Regional TK experts from China, Philippines, India (Prof. Anil Gupta, Prof. Madhav Gadgil, Dr, Darshan Shankar, Mr. V. K. Gupta, etc.) Mr. V. K. Gupta, Director NISCAIR Intergovernmental Committee (IGC) of WIPO
16.	Completing data abstraction work on 36,000 *Ayurvedic* formulations for creating TKDL in five languages, i.e. English, German, Spanish, French and Japanese	March, 2003	TKDL team of Project Assistants (IT), Ayurveda, Patent Examiners, and Scientists functioning since October 2001 at NISCAIR
17.	Release of CD containing a sample of 500 formulations	October, 2003	By the then Hon'ble Union Minister of Human Resource Development, Science & Technology, and Ocean Development and presided by the then Hon'ble Union Minster of

			Health & Family Welfare and Parliamentary Affairs.
18.	Initiation of the TKDL Unani project	June 2004	Dept. of AYUSH and NISCAIR
19.	Initiation of TKDL Ayurveda Phase II	August 2004	Dept. of AYUSH and NISCAIR
20.	Meeting with Hon'ble Minister of Health and Family Welfare on providing access of TKDL database to EPO	August 2004	Dept. of AYUSH and NISCAIR
21.	Concordance between IPC and TKRC and approval on linking of TKRC with IPC	October, 2004	35th IPC Union Meeting
22.	Workshop on Creation of TKDL for SAARC Countries	December, 2004	SAARC Documentation Centre, NISCAIR and MHRD
23.	Initiation of project on TKDL Siddha	August, 2005	Dept. of AYUSH and NISCAIR
24.	Proposal of Governing Board of SAARC Documentation Centre, for creation of TKDL for at least one of the Member States in 2006, got approved by SAARC Programming Committee	November, 2005	SDC and Member State
25.	Meeting of Taskforce,Advisory Committee & Working Group on Yoga	January, 2006	Taskforce Members & eminent Yoga experts

Present Status(January 2006)

Present status of Traditional knowledge Digital Library is reflected in the table below:

Discipline	Target(No. of Formulations)	Achieved
Ayurveda	59000	59000
Unani	77000	51000
Siddha	10000	-
Yoga	1500	-
Total	14,7500	11,0000

At present, TKDL contains 11.0 million pages (A4 size) information in five international languages.

Impact and Recognition of TKDL

Traditional Knowledge Digital Library is based on Ayurveda which is one of the oldest systems of medicine(2500 B.C.), and *Google search results* for which shows about 4,100,000 references/citations/documents, whereas references/citations/documents for TKDL established in 2003, are about 11,000,000 i.e more than two and a half times than Ayurveda on which TKDL is based.Similarly, Traditional Knowledge Resource Classification recognized in February 2002 is based on International Patent Classification System (1971). Google search results show about 1,730,000 references/citations/documents for IPC and 11, 900,000 citations for TKRC which is more than seven times to that for IPC. Google search results are sown in the table below:

User agreement database TKDL;
This site contains information on Indian Traditional Knowledge on Ayurveda, an Indian System of Medicine practiced and known since ages. The contents of this site may be used only for educational an research purposes. By accessing this site, you agree to make fair use of its contents solely for research and education in an ethical an appropriate manner. You also agree not to make any commercial use , expressed or implied , of the contents of this website . Finally, by accessing these pages, you agree not

to hold the developers and owner of this website liable for any damage arising directly or indirectly from the use of these pages.

Traditional Knowledge Resource Classification (TKRC)

Traditional Knowledge documentation lacked a classification system. Therefore, a modern classification based on the structure of International Patent Classification (IPC) was evolved. This has been attempted for Ayurveda and has been named as Traditional Knowledge Resource Classification (TKRC).It was essential to seek international recognition to the innovative efforts. Therefore, linkages were established with IPC Union at World Intellectual Property Organization (WIPO) Geneva.

It is expected that TKRC structure and details will be adopted by other countries, who are concerned about prevention of grant of patents for non-original discoveries in their traditional knowledge systems. TKRC is also likely to facilitate in creating greater awareness on the traditional knowledge systems by leveraging the modern system of dissemination i.e. Information Technology in particular Internet and Web technologies.

Structure of TKRC

The TKRC is mainly divided into the following sections:

- A – Ayurveda
- B – Unani
- C – Siddha
- D – Yoga and Naturopathy
- E – Folklore medicine

Section A ie Ayurveda is divided into the following classes:

- 01 – Pharmaceutical preparations (Kalpana)
- 02 – Personal Hygiene Preparations
- 03 – Dietary (Food / Food stuff or Beverages)
- 04 – Biocides, Fumigatives (Dhupana, Krimighna)

The Pharmaceutical preparations are divided into following sub-classes based on the material used.

- 01A – Based on Audbhida (Plants)
- 01B – Based on Jangama (Animals)
- 01C – Based on Parthiva (Minerals)
- 01D – Characterised by Roga (Disease)
- 01E – Characterised by Karma (Action)
- 01F – Drug Administration
- 01G – Miscellaneous

So the Sub-Class A01A is Kalpana (Pharmaceutical preparations) based on Audbhida(plants)

Group A01A-1/00 is Whole Medicinal Audbhida (plants)

Similarly there are group codes and subgroup codes for the rest of the Sub Classes.

Method of Preparation

The codes for method of preparation have been prepared on the basis of various methods and preparations defined in Ayurveda , various forms of Ayurveda preparations and various ingredients used in Ayurveda. At present there are 75 Preparation codes.

Example

AM1- Arista

The drugs mentioned in the text are coarsely powdered (Yavakut) and Kasaya is prepared. The Kasaya is filtered with a cloth and kept in the fermentation pot, vessel or barrel. Sugar, jaggery or honey, according to the formula, is dissolved, boiled and added. Drugs mentioned as **Praksepa Dravyas*** are finely powdered and added. At the end, Dhatakipuspa (Woodfordia fruticosa (Linn.) Kurz.- flowers), if included in the formula, should be properly cleaned and added. The mouth of the pot, vessel or barrel is covered with an earthen lid and the edges sealed with clay-smeared cloth wound in seven consecutive layers.The container is kept either in a special room in an underground cellar or in a heap of paddy, so as to ensure that for the duration of fermentation, as far as possible, a constant temperature is maintained, since varying temperatures may impede or accelerate the fermentation. After the specified period, the lid is removed, and the contents examined to ascertain whether the process of fermentation (Sandhana) has been completed. The fluid is first decanted and then strained after two or three days. When the fine suspended particles settle down, it is strained and bottled.

*Praksepa Dravyas - The fine powder of some fragrant and other drugs like honey, clarified butter etc. to make the formulation more palatable and increase its potency are called Praksepa Dravyas. These are generally mixed in Avalehakalpana, Asava-arista, Kasayakalpana etc.

Bibliography / References

This code has been prepared to codify the references of publication where in the information relating to traditional knowledge is available which can be retrieved. This will include the name of the book , name of the author, name of the publication,edition, parts of the book and year of publication of the book etc. At present there are 35 codes for various books where from the references have been abstracted.

Example

AB1 - Caraka Samhita - Edited & translated by P.V Sharma, Vol.-I : Chaukhamba Orientalia, Varanasi, Edn. 6th, 2000.[Time of origin 1000 BC-4th century

Annex 8. Sources of information on IPR

- WIPO www.wipo.int/globalissues/tk
- Traditional Knowledge Digital Library (TKDL)
- GRAIN www.grain.org
- ELDIS www.eldis.org
- Creative commons license http://creativecommons.org/
- National Innovation Foundation (NIF) www.nifindia.org
- Honeybee Network http://www.sristi.org/honeybee.html