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INTELLECTUAL PROPERTY AND GENETIC RESOURCES,  
TRADITIONAL KNOWLEDGE AND FOLKLORE**

**Third Session  
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INVENTORY OF EXISTING ONLINE DATABASES CONTAINING TRADITIONAL  
KNOWLEDGE DOCUMENTATION DATA

*Prepared by the Secretariat*

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## I. BACKGROUND

1. At the first session of the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (“the Committee”), held from April 30 to May 3, 2001, the Committee members expressed support for a work program, which comprises, *inter alia*, the following task referred to in document WIPO/GRTKF/IC/1/3:

The Member States may wish to consider revising existing criteria and developing new criteria which would allow the effective integration of traditional knowledge documentation into searchable prior art. (Task B.3)<sup>1</sup>

2. At its second session, held from December 10 to 14, 2001, the Committee considered a Progress Report on the Status of Traditional Knowledge as Prior Art (WIPO/GRTKF/IC/2/6) and deliberated extensively on the implementation of Task B.3. The Committee expressed support for five Activities aimed at the implementation of Task B.3, as referred to in document WIPO/GRTKF/IC/2/6.<sup>2</sup> These Activities included, *inter alia*, a study on the feasibility of electronic exchange of traditional knowledge documentation data, including through the establishment of international online traditional knowledge databases and digital libraries (Activity 4, Task B.3).

3. At the end of the Committee’s deliberations, the Chairman concluded that “as regards Activity 4, there had been considerable support for the establishment of a database on traditional knowledge, but also considerable hesitation as to the costs, access and use of the database, and the protection of the contents of it, which issues would have to be further studied by the Secretariat.”<sup>3</sup> Many delegations had expressed concern that the work on traditional knowledge databases as a tool for the defensive protection of traditional knowledge as prior art<sup>4</sup> should only proceed if discussions on the positive legal protection of traditional knowledge, in particular through a *sui generis* form of protection, also proceeded at the same time.<sup>5</sup> In light of these concerns, the Chairman concluded that “as regards databases... the Secretariat should study other ongoing activities in this field and experiences from other similar databases.”<sup>6</sup>

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<sup>1</sup> For the expose of Task B.3 see paragraph 80, document WIPO/GRTKF/IC/1/3 (“Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore – An Overview”). Regarding the conclusions of the Chairman on the adoption of Task B.3, see paragraph 155, document WIPO/GRTKF/IC/1/13 (“Report”).

<sup>2</sup> See paragraph 157, document WIPO/GRTKF/IC/2/16 (“Report”).

<sup>3</sup> Ibid.

<sup>4</sup> For a definition of the term “defensive protection” of traditional knowledge see paragraph 5 below.

<sup>5</sup> See the statements of African Group (158), Asian Group (118), Brazil (117), Côte d’Ivoire (128), Ecuador (120), Egypt (132), India (119 and 162), Morocco (129), Pakistan (139), Panama (133), Peru (123), South Africa (127), Thailand (124), Venezuela speaking for Cuba, Ecuador and Venezuela (122), Zambia (142), Saami Council (151), First Nations Development Institute (FNDI) (152), Indigenous Peoples’ Biodiversity Network (153) and the Indian Movement “Tupaj Amaru” (156) in document WIPO/GRTKF/IC/2/16 (“Report”).

<sup>6</sup> See document WIPO/GRTKF/IC/2/16, paragraph 157.

4. The study of ongoing activities and experiences from similar databases, which had been requested by the Committee, has been undertaken by the Secretariat in the form of two complementary activities:

(a) The first activity focused on the study of existing databases of disclosed traditional knowledge, the majority of which are currently available on the Internet. This study resulted in an Inventory of Existing Traditional Knowledge-related Databases, which is contained in Annex II of the present document;

(b) The second activity of the requested study focused on activities and experiences of Member States in establishing and using databases or inventories of traditional knowledge at the national level. In order to facilitate the study by the Committee of traditional knowledge databases compiled by WIPO Member States, this activity was completed with the creation of an Online Portal of Traditional Knowledge Databases, which provides hyperlinks to samples of national databases compiled by several Member States. The Portal is available at <http://www.wipo.int/globalissues/tk/tkportal/index.html>.

5. The present document describes preliminary findings from both activities and provides options for the Committee members to decide on future activities related to traditional knowledge databases. In so doing, the document adopts and applies two basic distinctions which the Member States introduced at the second session into their discussions on traditional knowledge databases and which are dealt with in more detail below:

(a) The distinction between defensive protection of traditional knowledge and positive legal protection in intellectual property terms<sup>7</sup>; and

(b) The distinction between *codified* traditional knowledge systems and *non-codified* traditional knowledge.<sup>8</sup>

6. *Defensive and positive legal protection:* The term “defensive protection” refers to measures aimed at preventing the acquisition of intellectual property rights over traditional knowledge by parties other than the customary traditional knowledge holders themselves.<sup>9</sup> Measures to improve the availability, searchability and exchangeability of traditional knowledge as prior art may therefore be considered predominantly as measures for the defensive protection of traditional knowledge. In contrast, positive legal protection refers to the use of existing intellectual property or contractual rights or the development of *sui generis* rights to enable the affirmative protection of traditional knowledge by and for traditional knowledge holders themselves.<sup>10</sup> This would entail a specific right on behalf of the traditional

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<sup>7</sup> See statements by Brazil (117 and 189), the European Community (169), Iran (125), Peru (123) and Venezuela (122) in document WIPO/GRTKF/IC/2/16 (“Report”).

<sup>8</sup> See statements by Canada (131) and the FNDI (152), in document WIPO/GRTKF/IC/2/16.

<sup>9</sup> This includes the prevention of acquisition of intellectual property rights over subject matter essentially derived from the traditional knowledge which does not involve sufficient innovation and creativity as to fulfill the requirements of protection under existing intellectual property regimes. See paragraph 169, document WIPO/GRTKF/IC/2/16.

<sup>10</sup> The Representative of the European Community added a third dimension to the work on folklore, namely ethical concerns: “There appeared to be three major issues at stake in this context: a defensive commercial interest, an active commercial interest and ethical concerns. A defensive commercial interest was relevant where cultural communities wished to protect their folklore from being exploited commercially by others. An active commercial interest would be

knowledge holders to restrict the way the traditional knowledge is used by others, or to claim compensation for its use.

7. The same data from the same data system can be used both to challenge third parties patent claims (i.e. defensively) and to identify and protect traditional knowledge as an object of protection itself (i.e. positively) and Member States have already used or proposed traditional knowledge databases or inventories as tools for both the defensive and the positive legal protection of traditional knowledge.<sup>11</sup> During the first and second sessions of the Intergovernmental Committee, most Member States stated that work should proceed on both defensive and positive protection at the same time.<sup>12</sup> With particular regard to databases the Committee felt that it was necessary to “study other ongoing activities in this field and experiences from other similar databases.”<sup>13</sup> The present document therefore describes ongoing activities and experiences from similar databases, which illustrate how databases or inventories of traditional knowledge may function as practical, administrative mechanisms for both defensive and positive protection of traditional knowledge.

8. *Codified and uncodified traditional knowledge*: The second basic distinction which was introduced by Member States into their discussions on traditional knowledge databases and which this document adopts is, at the traditional knowledge level, the distinction between *codified* traditional knowledge systems and *non-codified* traditional knowledge.<sup>14</sup> In the field of traditional medicine, for example, the Traditional Medicine Team of the World Health Organization (WHO) distinguishes between (a) *codified* systems of traditional medicine, which have been disclosed in writing in ancient scriptures and are fully in the public domain, e.g. Ayurveda disclosed in ancient Sanskrit scriptures<sup>15</sup> or Traditional Chinese Medicine

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relevant where communities wished to benefit from the economic advantage attached to treating their expressions of folklore as a commodity. Ethical concerns arose when cultural communities wished to protect their folklore so that its evolution faithfully respected their traditions and modes of life.” (see document WIPO/GRTKF/IC/2/16, paragraph 169).

<sup>11</sup> On databases as a tool for positive protection of traditional knowledge see the outline of a “*Sui Generis* System of Databases” in document WIPO/GRTKF/IC/1/5, Annex I, paragraph VI.D, (“Traditional Knowledge and the Need to Give It Adequate Intellectual Property Protection. Document prepared by the GRULAC”). For further discussion on this aspect see the statements of India (162), Morocco (129), Panama (133), Venezuela (122) and the Center for International Environmental Law (149) in document WIPO/GRTKF/IC/2/16 (“Report”). See also document WIPO/GRTKF/IC/3/8, which was requested by Venezuela, Brazil, Egypt and Ecuador.

<sup>12</sup> See the statements of the African Group (158), Asian Group (118), Brazil (117), Côte d’Ivoire (128), Ecuador (120), Egypt (132), India (119 and 162), Morocco (129), Pakistan (139), Panama (133), Peru (123), South Africa (127), Thailand (124), Venezuela speaking for Cuba, Ecuador and Venezuela (122), Zambia (142), Saami Council (151), First Nations Development Institute (FNDI) (152), Indigenous Peoples’ Biodiversity Network (153), and the Indian Movement “Tupaj Amaru” (156) in document WIPO/GRTKF/IC/2/16 (“Report”).

<sup>13</sup> See summary by the Chairman, document WIPO/GRTKF/IC/2/16, paragraph 157.

<sup>14</sup> See the statement by Canada (131), supported by the First Nations Development Institute (152), in WIPO/GRTKF/IC/2/16 (“Report”).

<sup>15</sup> Ayurveda is a codified system of traditional medicine which was disclosed in writing in the Vedic period when the Aryans compiled the four Vedas (1500-1800 B.C.) with maximum references in the *Rigveda* and the *Atharvaveda*.

(TCM) disclosed in ancient Chinese medical texts<sup>16</sup>; and (b) *non-codified* traditional medicinal knowledge which has not been fixed in writing, often remains undisclosed by traditional knowledge holders, and is passed on in oral traditions from generation to generation. In South Asia, for example, the codified knowledge systems include the Ayurvedic system of medicine, which is codified in the 54 authoritative books of the Ayurvedic System, the Siddha system, as codified in 29 authoritative books, and the Unani Tibb tradition, as codified in 13 authoritative books.<sup>17</sup> As pointed out by Committee members, this distinction may have important intellectual property implications for the compilation and use of traditional knowledge databases.

9. The present document is based on several limitations and presuppositions, which include the following:

(a) The document covers only *intellectual property* aspects of traditional knowledge databases and, for reasons of space, does not address other important aspects of such databases, such as: how orally transmitted traditional knowledge can be most accurately and faithfully recorded (whether by writing, video or audio tape); how access to those recordings can be controlled by traditional knowledge holders through legal or technical means so that the information recorded can remain confidential to those holders, if so desired; and how subsequent use of that knowledge and any resulting benefits may best be negotiated and recorded by the traditional knowledge holders themselves, if so desired;

(b) The document takes traditional medicine and other biodiversity-related traditional knowledge as its initial emphasis, because this is the area of traditional knowledge where the highest number of industrial property titles were granted and subsequently revoked because traditional knowledge had not been discovered as relevant prior art during the substantive examination of the application;

(c) The document covers defensive protection primarily with regard to patents, because failure to discover traditional knowledge as relevant prior art during examination has most often arisen as an issue affecting the validity of patents as against other industrial property rights;

(d) The document does not address issues related to the copyright protection of non-original databases, on which extensive and innovative work is being undertaken in the Standing Committee on Copyright and Related Rights of WIPO.<sup>18</sup> The present document

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<sup>16</sup> Traditional Chinese Medicine was initially codified and disclosed in writing in the *Yellow Emperor's Canon of Medicine*, the first monumental classic establishing TCM. The Canon was compiled over several hundred years and appeared between 300 and 100 B.C.

<sup>17</sup> In India the First Schedule of the Drugs and Cosmetics Act, No. 23 of 1940, as amended by the Drugs and Cosmetics (Amendment) Act No. 71 of 1986, specifies the authoritative books of the Ayurvedic, Siddha and Unani Tibb Systems.

<sup>18</sup> See, for example, documents SCCR/7/2 (*Economic Impact of Database Protection in Developing Countries and Countries in Transition*. Study prepared by Mr. Yale M. Braunstein, Professor, School of Information Management and Systems, University of California, Berkeley, United States of America"); SCCR/7/3 (*Study on the Protection of Unoriginal Databases*. Study prepared by Mr. Sherif El-Kassas, Associate Director, Department of Computer Science, American University in Cairo"); SCCR/7/4 (*Economic Impact of the Protection of Unoriginal Databases in Developing Countries and Countries in Transition*. Study prepared by Mr. Thomas Riis, Ph.D., Associate Professor, Law Department, Copenhagen Business School");

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merely addresses the role of traditional knowledge databases in relation to the protection of traditional knowledge *per se*;

(e) The document assumes that the legal and operational issues set out in document WIPO/GRTKF/IC/2/6 (“Progress Report on the Status of Traditional Knowledge as Prior Art”) have been considered by the Committee at its second session. It therefore presupposes familiarity with that document and moves, as a next step, towards the implementation of activities resulting from the second session.

10. The present document provides information on intellectual property issues related to traditional knowledge databases and inventories in the following structure:

- Section II describes the Inventory of Online Databases contained in Annex II, as well as the process of, and findings from, its compilation.
- Section III describes the samples of national databases and inventories of traditional knowledge which China, India and Venezuela will demonstrate to the Intergovernmental Committee at its third session, either by hyperlinking them to the WIPO Portal of Traditional Knowledge Databases or by providing live demonstrations of database samples. It also illustrates certain intellectual property issues in the experiences arising from traditional knowledge databases through some examples.
- Section IV requests the decision of the Committee on future use, if any, of the WIPO Portal after the third session of the Committee.
- Section V addresses future work of the Intergovernmental Committee on traditional knowledge databases. It suggests as next steps, that the Committee members clarify the primary objectives and functional requirements of traditional knowledge databases. Finally, the Section offers examples of such objectives, functional requirements and technical specifications which the Committee members have already identified in the first and second sessions of the Committee.

## II. INVENTORY OF EXISTING ONLINE DATABASES CONTAINING TRADITIONAL KNOWLEDGE DOCUMENTATION DATA

11. In recent years, search tools and procedures for prior art searches have shifted dramatically from paper-based to electronic means. A new generation of patent examiners is working with the Internet as a powerful tool when examining patent applications.<sup>19</sup> For patent applications which claim traditional knowledge-related inventions, however, prior art searches on the Internet are currently conducted without effective tools to retrieve the traditional knowledge-related documentation which is already available on the Internet. In light of this situation, the Secretariat has compiled an Inventory of Traditional Knowledge-related Databases (see Annex II), so as to provide a potential tool for online searches by

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SCCR/7/5 (“*A Study on the Impact of Protection of Unoriginal Databases on Developing Countries: Indian Experience*”. Study prepared by Mr. Phiroz Vandrevalla, Chairman, National Association of Software and Service Companies (NASSCOM), New Delhi”); SCCR/7/6 (“*The Economic Impact of the Protection of Database in China*”. Study prepared by Mr. Zheng Shengli Professor of Law Intellectual Property School Peking University”).

<sup>19</sup> See, for example, document SCIT/5/5.

patent examiners.<sup>20</sup> The Inventory contains *only* references to databases of *disclosed* traditional knowledge which forms part of prior art in various fields of technology. The Inventory lists these databases and does not include traditional knowledge data as such. The Secretariat has not sought to collect or to compile traditional knowledge data information.

12. Annex II lists the following details of the existing databases of disclosed traditional knowledge:

- A. Internet address.
- B. Database title.
- C. Summary of content of database.
- D. Name and contact details of compiler(s) and/or publisher(s) of database.
- E. Approximate size of database, i.e. number of entries.
- F. Language(s) of database.
- G. Other details.

13. In compiling this inventory, the Secretariat sought contributions from a wide range of stakeholders by issuing a “Request for References” (see Annex I). The Secretariat particularly welcomed information relating to databases compiled by, or with the prior informed consent of, indigenous and local communities. The Request for References was sent to all participants of the Intergovernmental Committee, to Indigenous Knowledge Resource Centers, national libraries and museums and to counterparts from the WIPO Fact-finding Missions on Intellectual Property and Traditional Knowledge, undertaken in 1998-1999. In addition, the Secretariat itself undertook extensive online research to identify relevant databases.

14. At the second meeting of the Ad-Hoc Open-Ended Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity (CBD), which took place in Montreal from February 4 to 8, 2002, WIPO sought the contribution of the Working Group to the Inventory. The Request for References was circulated to the members of the Working Group and again to participants of the sixth meeting of the Conference of the Parties to the CBD, held in The Hague from April 7 to 19, 2002, in particular to representatives of indigenous and local communities. Additionally, in the context of WIPO’s ongoing cooperation with the Secretariat of the Convention on Biological Diversity (SCBD) on traditional knowledge, the Request for References has been posted by the SCBD on the traditional knowledge page of the Clearing House Mechanism of the CBD.<sup>21</sup> The Request was also sent to other intergovernmental organizations and United Nations agencies active in the field of traditional knowledge, such as the United Nations Environment Program (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO).

15. References were received in response to the Request from a wide range of stakeholders. Annex II contains a selection of the most pertinent references. The amount of disclosed traditional knowledge on the Internet is greater than just those examples reflected in Annex II. A first assessment shows that the challenge for patent examiners in obtaining relevant information from the Internet will lie not in gaining access to information, but rather in

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<sup>20</sup> The databases compiled by Member States and referred to in Section III of this document have not been included in the Inventory.

<sup>21</sup> See, <<http://www.biodiv.org/programmes/socio-eco/traditional/references.asp>>.



screening out relevant information from the excess of only marginally relevant information which is available in the digital environment, and in reducing access and search times.

16. Certain principles and criteria were applied in the compilation of the inventory. The overall criterion was that the database had to be useful to patent examiners in practical terms when conducting prior art searches and therefore fulfill an immediate practical need. For this reason, an initial emphasis was laid on existing databases of disclosed traditional knowledge in the field of traditional medicine, since this is the field of traditional knowledge in which the highest number of patents have been revoked because examiners could not discover disclosed traditional knowledge as prior art. An additional and wider emphasis was laid on databases of disclosed traditional knowledge related to the use of components of biological diversity.

17. Some examples of databases of species nomenclature and terminology were also included, since a particularly difficult step for patent examiners is the conversion of scientific and botanical plant names, as tend to be used in the claims of patent applications, into common and vernacular names in local languages, in which traditional knowledge is articulated and normally documented.<sup>22</sup>

18. Other criteria that were taken into account when compiling the Inventory included the following:

- (a) Who had the database been prepared by? Were contact names and addresses given on the web site?
- (b) Did the database identify the origin of the information (e.g. bibliographic details)?
- (c) Was the database searchable?
- (d) Regardless of whether the database was searchable, was the recorded data organized in a logical and structured manner?
- (e) Did the data describe traditional uses, knowledge or practices related to specific plants or other components of biodiversity?
- (f) Was the data of a sufficiently technical character as to be useful to a patent examiner? (e.g. did it describe specific physical properties of plant materials, or narrate cultural practices?)
- (g) Was the database of a sufficiently large size so as to make the prior art search efficient in practical terms?

19. No discrimination was made between those databases which required fees to be paid for access to the data and those databases which did not require access fees. It is to be noted, however, that numerous databases included in the Inventory did require access fees, in particular the bibliographical databases.

20. As a result of the compilation of the Inventory contained in Annex II, a preliminary assessment of on-line databases of disclosed traditional knowledge could be as follows:

- (a) The amount of disclosed traditional knowledge-related information on the Internet is large and growing;
- (b) However, the ease of display, specificity of information available and the credibility of websites varies considerably;

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<sup>22</sup> See, for instance, references in Annex II to the following databases: GBIF, the Global Biodiversity Information Facility; IOPI, the International Organization for Plant Information; and IT IS, the Integrated Taxonomic Information System.

(c) In addition, not all databases are searchable and there is a huge variety in quality of search engines between those databases that are searchable;

(d) Furthermore, much of the available information is not sufficiently specific and technical as to constitute relevant prior art in relation to the claims of specific patent applications;

(e) Therefore, in an unstructured, unsystematic search performed without appropriate search tools, few search results would be likely to be of any meaningful use to patent examiners;

(f) In addition, Member States may wish to note that it is very difficult to ascertain whether prior informed consent of countries or communities from which the traditional knowledge originated has been obtained for publication and for any subsequent utilization of that knowledge.

21. The value added by an inventory such as the one contained in Annex II could therefore be not only to make relevant information accessible to examiners by providing summaries and addresses for relevant information sources, but also to eliminate irrelevant or only tangentially relevant information by limiting the references to the most useful databases for the purposes of prior art searches.

22. In light of this preliminary assessment, the Inventory contained in Annex II may be utilized by the Committee in several ways to improve the availability of disclosed traditional knowledge as prior art:

(a) Firstly, the Committee members are invited to study the Inventory and comment upon its current scope and structure. In particular, the Committee members may wish to identify:

- (i) Any additional references which should be included in the list;
- (ii) Any existing references which should be removed from the list; and
- (iii) Those references which they consider to be particularly important and/or useful references for their patent examiners.

In particular, Committee Members may wish to discuss how to approach the issue of prior informed consent. As stated above, it is very difficult to ascertain from the databases themselves whether or not prior informed consent was obtained prior to the inclusion of certain traditional knowledge elements in the databases. In strict intellectual property terms, all information that is publicly available in a written form can be considered as part of prior art according to the patent laws of most countries.<sup>23</sup> Nonetheless, Committee Members may wish to discuss whether patent examiners should only be directed towards on-line databases that clearly state they have been compiled with the prior informed consent of the countries and/or the original traditional knowledge holders.<sup>24</sup>

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<sup>23</sup> For an overview of the definitions of prior art under international instruments and in the patent laws of major countries see Section IV of document WIPO/GRTKF/IC/2/6 (“Progress Report on the Status of Traditional Knowledge as Prior Art”).

<sup>24</sup> Although such a decision would clearly restrict the amount of traditional knowledge-related information that could be considered by a patent examiner and may, in fact, result in more patents being granted on traditional knowledge. Moreover, if the traditional knowledge holder is him/herself the patent applicant and if the relevant prior has been disclosed only through the database in question,

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(b) Secondly, the Committee members are invited to provide guidance on how the inventory may be further utilized to improve the availability of disclosed traditional knowledge as prior art. Such uses could include *inter alia* the following options:

- (i) The Inventory could be made available online at the WIPO Website in a searchable format for use by patent examiners and other interested parties;
- (ii) The Inventory could be used to develop a search quality assurance tool, such as a “minimum documentation list” of online databases for prior art searches related to patent applications claiming traditional knowledge-based inventions. Through such an arrangement, the major patent-granting authorities could share the subscription costs to the databases which require the payment of access fees;
- (iii) The Inventory could be used to explore possible avenues by which patent-granting authorities might purchase and incorporate contents of selected databases referenced in the Inventory into their own in-house search collections or into existing data services provided to them by various content providers under current arrangements;<sup>25</sup>
- (iv) The Committee could also decide not to use the Inventory at all, since it is unclear whether the majority of the listed databases have been compiled by or with the prior informed consent of the traditional holders of the knowledge in the databases.

23. In summary, the quantity of information about disclosed traditional knowledge currently on the Internet is high, but often the quality of the information is low as regards its usefulness for prior art searches. In light of this status quo, Member States have compiled their own databases of disclosed traditional knowledge for prior art searches.<sup>26</sup> The establishment, management and making available of these traditional knowledge databases poses an additional set of intellectual property questions, which are addressed in the next section.

*24. The Intergovernmental Committee is invited to review the Inventory of Traditional Knowledge-related Databases contained in Annex II and to decide upon the use of the Inventory for the implementation of Task B.3 of the Committee, inter alia through the possible uses identified in paragraph 22.*

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he/she would be entitled to oppose the use of prior art in the examination of his/her own patent application. It has therefore been argued that the integration of information into databases with the consent of traditional knowledge holders may be relevant exclusively for the assessment of abuses in the compilation of the databases, rather than their use by examiners.

<sup>25</sup> See document SCIT/5/5.

<sup>26</sup> For example in the People’s Republic of China the State Intellectual Property Office (SIPO) maintains ten databases of disclosed traditional Chinese medicine (TCM) for the purposes of its prior art searches.

### III. TRADITIONAL KNOWLEDGE DATABASES COMPILED BY THE MEMBER STATES

25. Several Member States have, over many years, compiled databases, inventories or registries of traditional knowledge. At the second session of the Committee, several Committee members requested to learn from the experiences of those countries which had already established traditional knowledge databases.<sup>27</sup> Following that request, three Committee members, namely China, India and Venezuela, have offered to demonstrate their databases, in whole or in part, to the Committee at its third session, in order to facilitate the study of intellectual property issues arising from the establishment, management and use of such databases and inventories. In order to facilitate the study of these intellectual property issues by the Committee, the Secretariat has created a “Portal of Traditional Knowledge Databases” on the WIPO website, to which some of the demonstrated databases are hyperlinked. The hyperlinked databases can be accessed, viewed and studied by Committee participants at <http://www.wipo.int/globalissues/tk/tkportal/index.html>.

26. The databases which will be demonstrated have been created, maintained, operated and managed at the national level by the Member States, who have, in some cases, linked samples of the databases to the WIPO Portal. Therefore, WIPO makes no representation or warranties regarding (samples of) the databases which are hyperlinked to the Portal, including as to the correctness, reliability, accuracy, currency, completeness or correct translation into the English language of the databases or samples thereof. WIPO also makes no warranties with respect to the existence of consent of third parties, including prior informed consent by holders of traditional knowledge, the consent of which may be required for the use, incorporation or publication of the data in the databases or samples thereof.<sup>28</sup>

27. The (samples of) databases which will be demonstrated by China, India and Venezuela may provide useful examples which allow the study of certain intellectual property issues arising in the establishment and management of such databases and inventories. The databases, of which samples will be demonstrated to the third session of the Committee, are described in the following section.

#### *III.A SAMPLE DATABASES*

##### *III.A.1 China*

28. The “China Traditional Chinese Medicine (TCM) Patent Database” (Chinese version) contains 12,124 deeply indexed records of China TCM patent literature with 32,603 TCM formulas in Chinese. Its English Demo Version contains 1,761 records of China TCM patent literature in English with 4,177 TCM formulas. The 12,124 Chinese language records cover the time period from April 1985 to June 2001, whereas the 1,761 English language demonstration records cover the period from 1993 to 1994. The database focuses on bibliographic type data related to TCM.

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<sup>27</sup> See the statements of New Zealand (138), Republic of Korea (135), Russia (140), United States of America (134) and Venezuela (122) in document WIPO/GRTKF/IC/2/16.

<sup>28</sup> See the complete “Terms of Use” applicable to the WIPO Portal and the (samples of) databases linked with it, at <http://ipdl.wipo.int/en/search/tkdl-terms.html>.

29. The China TCM Patent Database was compiled by the State Intellectual Property Office (SIPO) of the People's Republic of China. The database is hosted on a server maintained by SIPO and is linked to the WIPO Portal from the SIPO server. In addition to the China TCM Patent Database, SIPO uses some other TCM databases, which were not compiled directly by SIPO and are not located on SIPO servers. Most of them are in Chinese. Several of these databases have also been linked to the WIPO Portal for illustration purposes, since some of them were referenced by SIPO.

30. The China TCM Patent Database allows for three methods of searching. First, the "Quick Search" facility provides a simple search interface with a text search for the entire contents of the database. Second, the "Advanced Search" facility provides for nested Boolean searches and field searches. Third, a "Formula Search" facility allows for two different types of searches according to TCM formulas. The first type is a "Formula Logic Search" which provides logic combination and Boolean searches of TCM formulas. The second type is a "Formula Similarity Search" which provides TCM formula similarities as its search results and is particularly popular with patent examiners at SIPO. The Database also allows users to save their search histories.

31. The database provides a statistic facility for search results by the fields of Applicant (AP), Inventor (INR), Main International Classification (IC1), Secondary International Classification (IC2), International Patent Classifications (IC) (searching for IC1 and IC2 together) and Country/Province Code of applicant (PAC).

32. The data contained in the China TCM Patent Database, both in Chinese version or in English Demo version, are provided in the following 29 fields:

1. Title (TI)
2. Abstract (AB)
3. Application Date (AD)
4. Application Number (AP)
5. Publication Date (PD)
6. Publication Number (PN)
7. Applicant (PA)
8. Applicant Address (ADDR)
9. Applicant Country/Province Code (PAC)
10. Inventor Name (INR)
11. Priority (PRN)
12. Main International Patent Classification (IC1)
13. International Patent Classification (IC) (searching for IC1 and IC2 together)
14. Secondary International Patent Classification (IC2)
15. Biological Process (BIO)
16. Chemical Process (CHE)
17. Analytical Process (ANA)
18. Extraction Process (EXT)
19. Preparing Process (PHY)
20. Formulation Process (GAL)
21. TCM Formula Composition (MIX)

22. New Therapeutic Use (NUS)
23. Index Terms (IT) (used to search ANA, EXT, BIO, CHE, PHY,GAL, MIX and NUS together)
24. Therapeutic Effect (THEF)
25. Side Effect (TOXI)
26. Diagnostic Effect (DIAG)
27. Similar Effect (DINT)
28. Interactive Effect (ANEF)
29. Effect (EFF) (used to search THEF, TOXI, DIAG, DINT and ANEF together)

33. The China TCM Patent Database additionally provides a “TCM Dictionary” as an assistant tool for users to locate TCM names. It allows them to search for TCM names, and then transfer these names to the China TCM Patent Bibliographic Database or TCM Formula Database in order to search related TCM patents or TCM formulas. The “TCM Dictionary ” can be accessed by Chinese standard names, Chinese synonyms, Chinese PINYIN, English drug names, Latin drug names and Latin plant/animal/mineral names.

### *III.A.2     India*

34. India has linked two databases on Ayurveda to the WIPO Portal which illustrate different approaches and stages of traditional knowledge documentation and database development. First, the ‘Health Heritage Database,’ which takes a plant-based approach, was initially published on CD-ROM and, second, the Ayurveda Traditional Knowledge Digital Library (TKDL), which takes a formulation-based approach, is expected to be completed by October 2002.

#### Health Heritage Test Database

35. The “Health Heritage Test Database” contains non-patent and patent literature on fifty medicinal plants endemic to South Asia and on their traditional uses in the codified knowledge systems of traditional medicine in South Asia. It also includes the vernacular names of the medicinal plants in 22 South Asian languages. The database focuses on the Ayurveda system of traditional medicine. The most important feature of the Ayurveda traditional knowledge system from an intellectual property point of view is that it was codified and disclosed in writing in ancient Sanskrit scriptures in the 12<sup>th</sup> century B.C. This knowledge is therefore clearly and unambiguously in the public domain and forms part of prior art in the field of traditional medicine. It is common knowledge for most people in the region. It does not pose the complex questions which arise in the context of indigenous and tribal medicine which has been kept undisclosed by individual healers or communities.

36. The database was compiled by the ‘Unit for Research and Development of Information Products’ (URDIP), a member institution of the Indian Council of Scientific and Industrial Research (CSIR), on a CD-ROM. The traditional knowledge documentation data on the “Health Heritage” CD-ROM was then extracted by the Intellectual Property Digital Libraries (IPDL) Team and the Traditional Knowledge Division of WIPO and compiled into an online database. The objective of the database is to provide a trial product against which the perceived potential of databases in making traditional knowledge available as searchable non-patent literature can be tested in practice by patent examiners.

37. The database allows for free text searching of the data by using the PCT Search Engine to search the database, including three different Search Pages, which allow for complex and nested Boolean searches, field searching, phrase searching, right truncation and stopwords. The search and retrieval of traditional knowledge data from this database therefore differ from IPC-based prior art searches, which are possible in the Chinese database.<sup>29</sup> The data on the fifty medicinal plants are provided in the following fields:

1. Biological Activity
2. Chemical Constituents (CC),
3. Medicinal Properties (MP),
4. Patents (PAT),
5. Other Industrial Uses (OI),
6. Taxonomy (TAX), and
7. Vernacular Names (VN).

This set of fields follows the structure by which the data were presented in the original CD-ROM of URDIP. The database contains references to modern scientific research work published during 1961 to 2000 on the medicinal plants. It summarizes the chemical studies of plants and biological evaluation of total extracts and fractions thereof. It also lists all the pharmacological, biological and clinical work done on constituents obtained from plants and it gives the complete structures of any new substances isolated.

#### Traditional Knowledge Digital Library (TKDL) of Ayurveda

38. The TKDL aims to eliminate language and format barriers on the existing traditional knowledge available in Ayurveda in the public domain in India. The Indian government expects that TKDL will be able to effectively achieve the defensive protection of Indian traditional knowledge and facilitate faster invalidation procedures for patents already granted on traditional knowledge-based inventions which do not fulfill the requirements of patentability when compared with traditional knowledge as prior art. The retrieval of traditional knowledge which is already in the public domain is facilitated by using classification tools such as the Traditional Knowledge Resource Classification (TKRC)<sup>30</sup> and making the information available in English, French, German, Spanish and Japanese.

39. The TKDL is being compiled by the National Institute of Science Communication (NISCOM) of the Indian CSIR. The completed TKDL will contain 35,000 drug formulations used in the Ayurvedic system of medicine.<sup>31</sup> The sample TKDL database which is being linked to the WIPO Portal contains approximately 2200 drug formulations.<sup>32</sup> The data about each formulation in the TKDL is structured in the following fields:

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<sup>29</sup> Most of the information contained in the database would fall into class A 61 K of the International Patent Classification (IPC), entitled 'Preparations for Medical, Dental, or Toilet Purposes.'

<sup>30</sup> On the TKRC developed by the Government of India, see document IPC/CE/30/9 ("Development of Classification Tools for Traditional Knowledge") and document IPC/CE/31/6, ("Development of Classification Tools for Traditional Knowledge").

<sup>31</sup> In total this information will amount to approximately 2 gigabytes of data.

<sup>32</sup> The TKDL sample linked to the WIPO Portal thus amounts to approximately 21 Megabytes of data.

1. Title of Traditional Knowledge Resource (i.e., name of the drug),
2. Date Since Which the Knowledge Is Known,
3. TKRC Codes,
4. IPC Codes,
5. Abstract,
6. Key words,
7. Synonyms,
8. Details of Process/Formulations,
9. List of Documents with Date of Publication (Prior Art).

40. Unicode and metadata technology was used for the conversion of the database into the international languages. These technologies allow a knowledge-based conversion which automatically converts vernacular names into scientific names, both for plants (e.g., *kumari* into *aloe vera*) and for diseases (e.g., *mussorika* into Small Pox).

41. The search facilities of the web version of the TKDL allow for full text searching and for searches based on keywords in multiple languages. The search features available in TKDL include complex Boolean expression searches, proximity searching, field searching, phrase searching as well as right and left truncation searching. Searches can also be based on the IPC or the Indian TKRC. As a database, TKDL consists of the following tables:

1. Structural
2. Preparation
3. Bibliography
4. TKRC English
5. TKRC Subgroup
6. Main
7. Composition
8. TKRC Codes
9. Search Abstract
10. Subprocess

42. The website portal which will provide access to the completed TKDL will include comprehensive information on Ayurveda, including a Glossary; Principles of Ayurveda; Drugs (Cosmetics, Personal Hygiene, Diet); Diseases, Causes and Symptoms; and links and contact information regarding relevant Ayurvedic Institutions (Research, Learning Centres, Hospitals).

### *III.A.3*     Venezuela

43. The Biozulua database contains records of native medicine, ancestral technology and traditional knowledge related to food and agriculture from various ethnicities and local and indigenous communities in Venezuela. Biozulua concerns primarily traditional knowledge related to biological resources. The database was compiled by the Fundación Para el Desarrollo de Ciencias Físicas y Naturales (FUDECI) of Venezuela. Besides the traditional knowledge information, the database encompasses the taxonomic identification of each collected specimen of documented biological resources, including names in native languages and/or Creole. It also incorporates scientific literature and analysis about the resources, their components and/or extracts.



44. The objective of Biozulua is to store in a relational database records about traditional knowledge which is at risk to disappear or to be eroded. The data is compiled in the field through an established protocol in which information is generated and then stored in Biozulua. The data contains information which describes, *inter alia*, the characteristics of the collected samples, their biologically active components and extracts, and their local, national or international uses, if any. The database contains approximately 10 megabytes of records, not including any of the associated data.

45. Records are geographically referenced based on satellite positioning systems which define the locations where samples have been collected. The records are accompanied by digital information such as photographs, videos, and information recorded directly from the traditional knowledge holders. The information is recorded in a geographic information system (GIS) which has been developed specifically for the Biozulua database. The data standards used for the storage of the information are adapted from the standards of the International Committee for Documentation (CIDOC) of the International Council of Museums.<sup>33</sup>

46. The Biozulua database can be searched through three main interfaces. Searches can be conducted, *inter alia*, according to registered record numbers, taxonomic family names to which the relevant samples belong, types, species, common names, vernacular names, countries, states or provinces of origin of the samples (according to the politicoterritorial division of the country), the relevant community, uses of the biological resources and the components which are utilized.

47. Given the importance and incalculable value of traditional knowledge, as well as the potential commercial value of the data in the database, FUDECI is currently processing the approval of confidentiality agreements with all persons involved in software development and the collection and compilation of data for Biozulua.

48. The database has in principle been designed to store information from Venezuela, but at the moment it can be used to store data from any part of the world. The practical experience with the compilation of the Biozulua database led to the development of software which allows for the inclusion of data that is considered important both by the investigators of the Biozulua project and the traditional knowledge holders with whom the prospecting work is undertaken. The software is flexible enough to allow at any point the inclusion of additional fields that were not foreseen at the beginning of the documentation process. In the view of the compilers, Biozulua therefore provides a tool which can be adapted to the documentation needs of any other part of the world.

### *III.B EXPERIENCES FROM ONGOING ACTIVITIES CONCERNING TRADITIONAL KNOWLEDGE DATABASES*

49. The experiences of China, India and Venezuela in the compilation of traditional knowledge databases and the management of their intellectual property aspects may provide Committee members with lessons, options and models regarding the use of traditional knowledge databases for defensive and positive protection of traditional knowledge.

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<sup>33</sup> For the work of CIDOC see <<http://www.cidoc.icom.org/>>.

50. An initial distinction can be drawn between the intellectual property objectives and issues regarding the compilation and management of the Indian databases on the one hand and the Venezuelan on the other.

51. The Indian databases are limited to the *codified* traditional knowledge systems of South Asia. The traditional knowledge data contained in the Indian Databases is limited primarily to Ayurvedic medicinal knowledge, which was fully disclosed in writing in the twelfth century B.C.<sup>34</sup> Because this knowledge had been fully disclosed and is unambiguously in the public domain, India has used its databases exclusively for the *defensive* protection of codified traditional knowledge. The databases provide an effective tool to prevent the granting of patents for codified disclosed traditional knowledge by making the documentation data available to patent examiners as searchable prior art. *Codified and fully disclosed* traditional knowledge systems seem to lend themselves more easily to defensive protection through the compilation and disclosure of databases. Less extensive but similar *codified* traditional knowledge systems exist in other countries.<sup>35</sup>

52. The Biozulua database of Venezuela contains *non-codified* traditional knowledge, some elements of which remain confidential to the traditional knowledge holders. Accordingly, the disclosure of this information would destroy its novelty<sup>36</sup> and would waive the ability of the traditional knowledge holders to obtain patent protection for it, even if the knowledge had fulfilled the requirements of patentability under applicable patent law. It would also undermine any legal rights related to confidentiality, unfair competition, or contractual obligations. For this reason, the Biozulua database has not been made available to the public, but has been kept undisclosed as an inventory of Venezuelan traditional knowledge for possible positive legal protection through a *sui generis* system in the future.<sup>37</sup> In light of its domestic experience with the Biozulua database, the Delegation of Venezuela suggested at the first session of the Intergovernmental Committee that “the proposal to elaborate ... databases as a protection mechanism for said traditional knowledge” should become an additional task for the Committee.<sup>38</sup> During the second session Venezuela requested that a document be prepared with elements of a *sui generis* system for the protection of traditional knowledge. This request is addressed in document WIPO/GRTKF/IC/3/8.

53. *Codified and disclosed* traditional knowledge systems (such as Ayurveda, Siddha or Traditional Chinese Medicine) which require primarily defensive protection on the one hand; and uncodified, undisclosed tribal medicine which requires exclusively positive protection on the other hand. This is just a simplified way of characterizing the two end points of a continuous spectrum of traditional knowledge. Traditional knowledge holders have pointed out that many traditional knowledge systems consist of a combination of several elements,

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<sup>34</sup> World Health Organization. Regional Office for South-East Asia. *Traditional Medicine in Asia*. (ed. R.R. Chaudhury, U.M. Rafei) New Delhi: WHO, 2002: p.3.

<sup>35</sup> For example the codified *Koryo* system of traditional medicine in the Democratic People's Republic of Korea is based on the ancient *material medica*, disclosed in the 85 volumes of *Hyangyakjipsongbang* which was published in a wooden edition in Korea in the 15<sup>th</sup> century A.D. See, WHO Regional Office for South-East Asia. *Traditional Medicine in Asia*. New Delhi: WHO, 2002: 69.

<sup>36</sup> See the response of Venezuela to document WIPO/GRTKF/IC/2/5, page 131-132.

<sup>37</sup> Except for a few sample records which will be demonstrated to the WIPO Intergovernmental Committee at its third session.

<sup>38</sup> See paragraph 112(ii), document WIPO/GRTKF/IC/1/13 (“Report”).

including: (i) knowledge derived from individual experience and experimentation; (ii) knowledge derived from contemporary and modern concepts; and (iii) ‘traditional knowledge’ *strictu sensu*, which has been passed on for generations within the indigenous or local community.<sup>39</sup> From an intellectual property perspective, therefore, these knowledge systems constitute a mixture of (i) individual innovation and creativity, (ii) the public domain of modern society, and (iii) the exclusive traditional knowledge base of a community. Therefore, traditional knowledge databases, compiled by indigenous and local communities who seek to document their systems in a holistic manner, may contain a combination of traditional knowledge elements which are disclosed to the public (and for which the community may wish to pursue defensive protection), and of traditional knowledge elements which are undisclosed (and for which the community may wish to pursue positive legal protection). Equally, innovation is possible within the codified systems, and this innovation may be subject to positive protection (e.g. traditional Chinese medicine patents in the People’s Republic of China).

54. Some countries therefore use the same databases for defensive as well as positive legal protection of the registered traditional knowledge. For example, Panama stated at the second session of the Intergovernmental Committee that a register and database of traditional knowledge had been established under its Law no. 20, of June 26, 2000, which provides for *sui generis* protection of certain elements of traditional knowledge.<sup>40</sup> It pointed out that “the register created, as well as the database, had the purpose of not only providing information but also records about registered traditional knowledge rights.” The Delegation called on the assistance of WIPO in this regard.<sup>41</sup>

55. Indigenous and local communities which have developed their own intellectual property strategy and policy for managing their databases have combined defensive and positive legal protection strategies for different traditional knowledge elements contained in their databases. The first strategy is to provide tiered levels of access to different types of traditional knowledge within the database. Such an approach was suggested by several Committee members at the second session of the Committee.<sup>42</sup> By providing different levels of access to different types of traditional knowledge in their databases, they are differentiating, *inter alia*, between those elements of their systems for which they wish to pursue a purely defensive protection strategy and those elements for which they wish to pursue positive protection. The former elements are being provided to patent examiners, thereby ensuring that no patents will be granted which lay claim to this knowledge. The latter elements are being kept undisclosed in order to avoid the destruction of novelty, confidentiality or cultural exclusivity of the knowledge. The second strategy consists of specific documentation methods, such as synoptic or phased documentation of traditional knowledge.<sup>43</sup>

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<sup>39</sup> Members of the Grand Council of the Crees, Montreal, Canada, November 30, 1998. See, WIPO. *Revised Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge*. Geneva, 2000: p.136.

<sup>40</sup> See paragraph 133 of document WIPO/GRTKF/IC/2/16 (“Report”). See also the response of Panama to document WIPO/GRTKF/IC/2/5.

<sup>41</sup> See paragraph 133, document WIPO/GRTKF/IC/2/16 (“Report”).

<sup>42</sup> For example, the African Group supported the setting up of traditional knowledge databases, given that “in this instance, a clear distinction should be drawn between the public and non-public domains of traditional knowledge.” (document WIPO/GRTKF/IC/3/16, paragraph 158)

<sup>43</sup> See, WIPO. *Revised Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge*. Geneva, 2000: p.122.

56. Two examples of databases listed in the Inventory contained in Annex II may illustrate these approaches. In the United States of America the Tulalip Tribes in Washington State are compiling a database of their traditional environmental knowledge named “StoryBase.”<sup>44</sup> While compiling this database, the tribes have distinguished between “Type A knowledge,” which they wished to reserve exclusively for the members of the tribal communities, and “Type B knowledge,” which the tribes wished to make available to the public at large. The software which is being developed to operate the database is being programmed to restrict access for Type A knowledge in the StoryBase to community members, whereas Type B knowledge will be disclosed and made available either to the general public or to patent examiners only. In distinguishing between Type A and Type B knowledge, intellectual property considerations are being taken into account and in the technical structure of the database this distinction will be reflected in the access privileges of different users. The access privileges are complex and are still being developed on the basis of discussions within the Tribes. In this way, databases may provide a tool by which indigenous and local communities can achieve their collective objectives for their knowledge base and keep control of their traditional knowledge.

57. Experiences similar to those in the United States exist in India. For example, the Society for Research Into Sustainable Technologies and Institutions (SRISTI) has compiled a database of more than 5000 informal innovations from 2300 villages within India. The publication of the innovations within the database can preempt the future options of the innovator to acquire industrial property rights for the innovation. This dilemma is being resolved through dissemination of a practice in synoptic form, while at the same time undertaking research for purposes of potential commercialization with positive legal protection.<sup>45</sup> At the same time SRISTI has promoted the establishment of a registry of tradition-based innovations with a utility models-like form of protection.

58. Taking into account the ongoing activities and experiences described in Section III, several general observations may be made:

(a) Member States are using traditional knowledge databases or inventories as tools for both the defensive and positive legal protection of traditional knowledge. Some countries and communities which have established traditional knowledge databases are using the same database for defensive and positive protection purposes at the same time;

(b) The decisions of traditional knowledge holders about their use and management of traditional knowledge databases should be informed by intellectual property considerations and should take into account the type of traditional knowledge included in traditional knowledge databases (e.g. whether the traditional knowledge is codified or uncoded; disclosed or undisclosed; commercially utilized or not; whether it may fulfill the requirements of protection under existing IP regimes; whether it includes sacred or other religiously, culturally or socially sensitive information; what restrictions on its use by others this might entail; etc.). These considerations about the type of traditional knowledge may be considered fundamental in defining the intellectual property objectives of the community vis-à-vis the knowledge and in determining the intellectual property-aspects of the knowledge;

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<sup>44</sup> See, Tulalip Natural Resources. “Cultural Stories” *ICONS CD-ROM*. 2002. See entry in the Inventory contained in Annex II.

<sup>45</sup> See WIPO. *Revised Report on Fact-finding Missions on Intellectual Property and Traditional Knowledge*. Geneva, 2000.

(c) Databases of codified, disclosed traditional knowledge, such as Ayurveda or Traditional Chinese Medicine (TCM), may be useful starting points to begin work on the defensive protection of disclosed traditional knowledge in practical terms by making them available to patent examiners as searchable prior art;

59. Considering the extensive experience embodied in the databases of China, India and Venezuela, the Intergovernmental Committee may wish to take these existing databases as models for continuing its work on the following specific topics:

(a) the Chinese databases may serve as an example or model for IPC-based searches of disclosed traditional knowledge as prior art;

(b) the Indian Health Heritage Database may serve as a model for text-based searches of disclosed traditional knowledge as prior art;

(c) the TKDL of Ayurveda may serve as an example or model for databases of disclosed traditional knowledge which are searchable through nationally specific classification systems, such as TKRC;

(d) the Venezuelan Biozulua database may serve as a model inventory of undisclosed traditional knowledge, which could form an administrative mechanism for *sui generis* protection of the contents of traditional knowledge databases, as outlined in documents WO/GA/26/9, WIPO/GRTKF/IC/1/5 and WIPO/GRTKF/IC/3/8.

60. The (samples of) databases demonstrated to the Intergovernmental Committee at its third session reflect the diversity of intellectual property-related objectives and approaches adopted by different countries and communities in relation to traditional knowledge databases. This diversity of objectives created a certain hesitation at the second session of the Committee and needs to be further addressed, in order to obtain clarity on the direction of work regarding traditional knowledge databases. In moving forward, the Committee should therefore seek to clarify:

(i) the intellectual property-related objectives of the work on traditional knowledge databases;

(ii) the basic database functionalities required to achieve those objectives; and

(iii) basic technical specifications and administrative measures which would implement those required functionalities.

The existence of sample databases and the exchange of national experiences could be of assistance in the clarification of these questions, in order to ground the discussions in practical experiences. The continued use of the WIPO Portal as a tool for the exchange of national experiences with traditional knowledge databases may therefore facilitate the future work of the Committee. In the next section, the Intergovernmental Committee is thus invited to decide upon the future use, if any, of the WIPO Portal of Traditional Knowledge Databases.

#### IV. FUTURE USE OF THE WIPO PORTAL OF TRADITIONAL KNOWLEDGE DATABASES

61. The Committee may wish to decide upon the role of the Portal in its future work on traditional knowledge databases. It could make such decisions by considering, *inter alia*, the following options:

Option 1: Closing the Portal after the third session of the Committee

62. The Portal could be closed after the third session of the Committee, since it will by that time have enabled the exchange of national experiences, as requested at the second session. This option would reflect the hesitation of Member States to make (samples of) their traditional knowledge databases available permanently, given the current limitations of positive legal protection for their contents and of technical assistance for their maintenance. The willingness of China and India to make their databases available to the Committee was confined to hyperlinking (a) limited samples rather than entire databases, (b) for study rather than operational purposes, (c) on a temporary rather than permanent basis, (d) while operating the databases at the national level. The only database which has so far been made available permanently is the Health Heritage Test Database. In order to meet the demands for technical and financial assistance in respect of traditional knowledge databases, additional funds would be required, which currently are not available to the WIPO program on genetic resources, traditional knowledge and folklore. The option of closing the Portal would thus limit additional demands on the WIPO budget. However, it would not allow for any further practical work in relation to the use of traditional knowledge databases.

Option 2: Using the Portal to clarify intellectual property-related objectives, functionalities and technical specifications of traditional knowledge databases

63. The Portal could be maintained as a tool for the exchange of national experiences with traditional knowledge databases. This exchange of experiences would not necessarily seek to harmonize diverse approaches, but would rather aim to better understand the differences and similarities between the diverging approaches. Such a clarification would aim at:

- (i) elucidating the *policy objectives* which the different databases were intended to achieve;
- (ii) identifying the *functionalities* of the databases which were developed to achieve those policy objectives; and
- (iii) detailing the technical *specifications* of the databases which were developed to perform those identified functions.

This may include dealing with the implications of databases with dual objectives – defensive and positive legal protection. Some objectives, functionalities and specifications which the Committee members have already identified in the first and second sessions, are illustrated in the table contained in paragraph 86 below.

64. This option would ensure that work on traditional knowledge databases continues to take a bottom-up approach and is driven by developments and consultations at the national level regarding the appropriate use of, and access to, traditional knowledge databases. It would also ensure that the traditional knowledge contained in the databases, and the access to it, are controlled entirely at the national level.

65. This option would, in itself, help define and develop the work of the Committee, and build up a stock of practical experience and greater clarity of the objectives and practicalities of traditional knowledge protection. It may, therefore, lay the groundwork for future work. However, if further databases were to be added to the Portal, this option would in the medium-term lead to limitations in information exchange which cannot be addressed by merely studying differences and commonalities among existing systems. These limitations arise in the light of the following factors:

(a) The traditional knowledge databases currently linked to the Portal do not follow any common data standards and are therefore not interoperable. Each database needs to be searched separately, potentially with distinct search methods, key words and criteria. The Portal would never provide an integrated tool for prior art searches or for the exchange of documentation regarding legally protected traditional knowledge, be it under existing intellectual property systems or *sui generis* systems;

(b) If more databases were linked to the Portal in the future, users might be confronted with a growing and confusing number of diverse systems when trying to access or search traditional knowledge data through the Portal. While it is practicable for users to keep up with changes in a few national systems, they cannot be expected to keep up simultaneously with changes in potentially dozens of national systems, especially as those systems grow in size and complexity;

(c) On a technical level, the Portal would become increasingly volatile and ever more complex as individual national systems are added and upgraded. In the medium term, each new system added to the Portal would enlarge the diversity of operational characteristics and add to existing problems of (un)interoperability;

(d) If standards for traditional knowledge documentation were to be defined,<sup>46</sup> the national or local operators of the databases would be required to develop various measures to bridge between the agreed standards and the installed base. The larger the installed base of uncoordinated systems on the Portal, the greater the cost and complexity would be for them of putting such temporary measures for compatibility in place.

66. In order to avoid these pitfalls, the Committee may wish to integrate issues relating to information exchange into its discussions about online databases of traditional knowledge. Controlling access to and exchange of information from online databases has been flagged as one of the gravest concerns of traditional knowledge holders and database operators. The questions of functionality and technical specifications would thus be posed not merely in relation to individual, stand-alone databases, but with a view to controlling and facilitating information exchange among networked databases according to intellectual property-specific considerations. WIPO's and the Committee's role would thus not be to develop, or assist in the development of, individual databases at national or international levels, but to facilitate cooperation, exchange and coherence between existing databases and database initiatives. In the medium term, this would be done by developing a common understanding among Committee members about coordinated approaches for the intellectual property-related aspects of traditional knowledge databases.

Option 3: Using the Portal to develop coordinated approaches to intellectual property-related aspects of traditional knowledge databases

67. Several WIPO Committees have suggested that the thrust of WIPO's work on traditional knowledge databases should aim towards examining the exchangeability of traditional knowledge data in a networked environment. In 1999 the SCIT suggested that "the feasibility of electronic exchange of traditional knowledge documentation should be studied as part of the overall WIPO approach to intellectual property aspects of traditional

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<sup>46</sup> The need for technical standards for traditional knowledge databases is addressed in Section V.C.3 below.

knowledge.”<sup>47</sup> Furthermore, several subsidiary bodies of other international organizations have requested WIPO to address the electronic exchangeability of traditional knowledge data between databases.<sup>48</sup>

68. Most recently, the Committee of Experts of the Special Union for the IPC decided to “recommend to the IGC [the Intergovernmental Committee] that a prototype traditional knowledge database which had been compiled by India and made available on the WIPO Web site, and the traditional knowledge sample patent database developed by the Chinese Intellectual Property Office ... be used for testing of ... information exchange systems for traditional knowledge data.”<sup>49</sup>

69. In response to these requests and assuming that basic questions about policy objectives and functionalities of databases could be clarified in a first step, the Committee may wish to consider using the Portal to study the electronic exchangeability of traditional knowledge data between different information systems. This study could address different aspects of data exchange which reflect different degrees of harmonization of the work on traditional knowledge databases. The first is to study coordinated approaches in establishing and operating traditional knowledge databases (Option 3). A second degree of harmonization would be to study the feasibility of developing a standardized environment for nationally maintained traditional knowledge databases (Option 4).

70. Once the main objectives of databases are identified, the Committee could aim to facilitate and promote the exchangeability of data through the coherent use of validated approaches by ongoing national and subnational database projects. As an interim measure, the Committee could work on facilitating the use of traditional knowledge databases without directly addressing technical standardization issues.

71. In such an exercise the Committee should study at least three factors in an integrated manner:

(a) *User needs*: It would be necessary to assess the needs of intellectual property offices and a wide range of other users when they use traditional knowledge databases, in particular the needs of patent examiners working on traditional knowledge-related fields of technology. Some needs which may deserve particular attention include, *inter alia*:

- (i) specialized classification systems for traditional knowledge data;
- (ii) specialized search tools for search and retrieval of traditional knowledge data;
- (iii) thesauri and controlled vocabularies regarding nomenclature for components of biodiversity associated with the traditional knowledge;

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<sup>47</sup> See paragraph 42 of document SCIT/4/8 (“Report”).

<sup>48</sup> See in particular the references to WIPO in documents WT/CTE/W/156, IP/C/W/198 and IP/C/W/284 of the Council for Trade-Related Aspects of Intellectual Property Rights (“TRIPS Council”) of the World Trade Organization (WTO) and in the Report of the Second Session of the Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity (CBD) (document UNEP/CBD/COP/6/7). For an overview of similar proposals and discussions in other intergovernmental organizations see Section III of document WIPO/GRTKF/IC/2/6 (“Progress Report on the Status of Traditional Knowledge as Prior Art”).

<sup>49</sup> See paragraph 44 of document IPC/CE/31/8 (“Report”).



(b) *Provider needs*: Unless the databases were to be limited to material unequivocally in the public domain, it would be necessary to assess the intellectual property-specific needs of database compilers which arise from the establishment, maintenance and operation of traditional knowledge databases with dual objectives, namely defensive and positive protection. Needs in this area which may require further study could include:

- (i) IP-management during the traditional knowledge documentation process;
- (ii) regulating access to the databases or use of their contents according to criteria which are informed by intellectual property considerations;
- (iii) data and documentation standards which could be applied to the traditional knowledge data;
- (iv) positive protection of the contents of the databases and inventories;
- (v) management of IP assets arising from the documentation and the compilation of the databases;
- (vi) linkages with other objectives of traditional knowledge documentation, such as the conservation of traditional knowledge, etc.

(c) *IP information systems*: WIPO and other institutions operating intellectual property information systems would need to examine options of integrating, when requested, traditional knowledge databases into existing international intellectual property information systems, such as WIPONet, Intellectual Property Digital Libraries, Esp@ceNet, etc. Issues to be studied in this area include:

- (i) practicalities of data provision and exchange;
- (ii) harmonization with parallel information systems, etc.

72. Certain technical and administrative issues arising under each of these items are addressed in detail in Section V below. It is to be emphasized that such technical and administrative issues need to be studied, irrespective of whether the databases serve defensive or positive protection purposes, or a combination thereof. From a purely technical point of view it makes no difference whether traditional knowledge information is included in a database because it constitutes prior art or because it constitutes protected knowledge under a *sui generis* system of traditional knowledge databases. In other words, the same data record can be used to deny another party's claimed right (e.g. to a patent) or to define the holder's right; yet, this crucial legal distinction need not entail a technical difference in the way the data are defined, stored, processed and exchanged.

73. After greater practical experience is gained and coordinated approaches to database use at the national level are agreed, the Committee may wish to request the SCIT to explore the technical feasibility of developing the Portal into a more standardized environment for nationally controlled and maintained online databases and inventories of traditional knowledge. If the Committee found such a development to be desirable in principle, the Committee would need to study and define the required features of such an environment. Once the Committee has defined the requirements for an integrated environment of traditional knowledge databases, it could issue a recommendation to the Standing Committee on Information Technologies (SCIT) to create Tasks in its work program which would implement the development of this environment. This possibility is reflected in Option 4.

Option 4: Using the Portal to study the feasibility of developing a standardized environment for nationally maintained traditional knowledge databases

74. The Committee may wish to use the existing Portal as a starting point to study the feasibility of developing a standardized environment for nationally controlled and maintained traditional knowledge databases and inventories. In order to clarify the required features, the Committee will need first to consider the operational environment of traditional knowledge database systems. This may include dealing with the implications of databases with dual objectives, namely defensive and positive legal protection.

75. A study to develop a better understanding of such requirements could be based on the present WIPO Portal. Yet it would clearly be premature to undertake Options 3 or 4 in the immediate term. More work will first be required on defining the policy goals and operational environment of any enhanced Portal. If the Intergovernmental Committee considers the creation of such a standardized environment desirable and feasible, the Committee may wish, at an appropriate point in the future, to recommend to the SCIT that the SCIT Standards and Documentation Working Group and the SCIT Task Force on IPDLs address as a priority task the incorporation of existing, nationally maintained and controlled traditional knowledge databases into the IPDL system.<sup>50</sup>

76. The desirability of such an environment would most likely depend on it exhibiting certain features which appropriately reflect existing priorities, experiences and policy objectives of the Committee members in the traditional knowledge area. It would also have to accommodate the diverse characteristics of the traditional knowledge databases that would be integrated in this environment. For example, two features have already been defined by the Committee members:

- (a) Control and operation of the databases, and regulation of access to the data contained in the databases, should remain exclusively at the national and subnational levels;<sup>51</sup>
- (b) The databases should function as a mechanism for the defensive *and* positive protection, as appropriate, of the traditional knowledge compiled in them.<sup>52</sup>

77. With regard to the budgetary implications of the options presented, it is noted that option 1 and 2 could be implemented with the existing budgetary arrangement. Option 3 involves the provision of services to facilitate coordinated approaches of operating national traditional knowledge databases. Additional funding required for such services during the initial period could be made available through redeployment to the extent provided by budget flexibility for the biennium 2002-2003. For the biennium 2004-2005, detailed budget estimates would be presented for Option 3 to the Program and Budget Committee in the context of the biennial budget exercise. In addition to the activities described for Option 3, Option 4 would involve major system development

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<sup>50</sup> At the second session of the Intergovernmental Committee, Committee members expressed support for the IPDL System of the SCIT to work on traditional knowledge databases. See statements of the Asian Group (paragraph 118) and India (119).

<sup>51</sup> See statements of Venezuela speaking for Cuba, Ecuador and Venezuela (122), Zambia (142), Saami Council (151), First Nations Development Institute (FNDI) (152), and the Indian Movement "Tupaj Amaru" (156) in document WIPO/GRTKF/IC/2/16 ("Report").

<sup>52</sup> See the statements of the African Group (158), Asian Group (118), Brazil (117), Côte d'Ivoire (128), Ecuador (120), Egypt (132), India (119 and 162), Morocco (129), Pakistan (139), Panama (133), Peru (123), South Africa (127), Thailand (124), Venezuela speaking for Cuba, Ecuador and Venezuela (122), Zambia (142), Saami Council (151), First Nations Development Institute (FNDI) (152), Indigenous Peoples' Biodiversity Network (153) and Indian Movement "Tupaj Amaru" (156) in document WIPO/GRTKF/IC/2/16 ("Report").

and maintenance work for a standardized environment of nationally operated traditional knowledge databases. Once the detailed objectives and functionalities of such a system have been determined by the Committee, the technical specifications of such a system would need to be developed and considered by SCIT. Whereas preparatory work could be carried out by the International Bureau during the biennium 2002-2003 within existing resources, establishing such a system would involve additional resources. For the biennium 2004-2005, detailed cost estimates on system development and maintenance would be submitted to the Program and Budget Committee in the context of the biennial budget exercise.

*78. The Intergovernmental Committee is invited to study the databases and inventories of traditional knowledge which are linked to the WIPO Portal of Traditional Knowledge Databases and to decide upon future use and development of the Portal, including by considering the possible uses and modalities identified in paragraphs 62, 63, 70, 74 and 77.*

79. The next section offers options regarding the organization of work by the Intergovernmental Committee, with a view to developing requests to the SCIT subsidiary bodies to implement appropriate solutions for traditional knowledge databases.

#### V. POSSIBLE NEXT STEPS FOR THE STUDY OF TRADITIONAL KNOWLEDGE DATABASES BY THE COMMITTEE

80. Considering the past deliberations of the Intergovernmental Committee and other international fora dealing with traditional knowledge, the current state of discussion with regard to traditional knowledge databases might be described as follows. At present, there is:

- Much interest and experimentation in the use of databases;
- A need to further clarify the *objectives* of using traditional knowledge databases;
- A lack of experience with the intellectual property implications of different uses of traditional knowledge databases, including the impact on positive rights of traditional knowledge holders; and
- Consequently, a hesitation about moving towards a definitive approach at the international level, before issues and positions have been clarified at the national level.

81. In light of this current state of discussion, the Committee may wish to address the basic areas which currently lack clarity. This would entail the following next steps for the work of the Committee:

- (1) Clarifying the *policy objectives* which traditional knowledge databases should serve;
- (2) Defining *functionalities* of databases, which would achieve those objectives and which reflect the user needs of different user groups;
- (3) A subsequent step, probably to be undertaken by, or in cooperation with, the SCIT, would be to develop *specifications* for systems (databases and networked systems) that could be used to perform those functions.

82. If the Intergovernmental Committee is successful in agreeing on shared policy objectives that should underlie the work on traditional knowledge databases, and in translating those via basic functionalities of databases into specifications for systems, the Committee could refer these functionalities and specifications to the competent subsidiary bodies of the SCIT for the development of specific database solutions or networked environments for databases which fulfilled the agreed specifications, functions and objectives.

#### *V.A POLICY OBJECTIVES*

83. While Activity 4 of Task B.3 proposed a feasibility study on traditional knowledge databases with the objective of improving the availability and exchangeability of disclosed traditional knowledge as prior art, it became clear during the second session of the Committee that there was interest in ensuring that the work on traditional knowledge databases takes into account additional policy objectives.

84. Committee participants identified multiple policy objectives which traditional knowledge databases should serve, including:

- Defensive protection of traditional knowledge;<sup>53</sup>
- Positive protection of traditional knowledge;<sup>54</sup>
- The preservation and conservation of traditional knowledge;<sup>55</sup>
- Full stakeholder involvement, in particular of indigenous and local communities;<sup>56</sup>
- National and subnational control of traditional knowledge;<sup>57</sup>
- International recognition of traditional knowledge;<sup>58</sup> and
- The equitable sharing of benefits arising from the use of traditional knowledge.<sup>59</sup>

In order to give direction to the work on traditional knowledge databases and take next steps, the Committee participants may wish to agree upon the primary objectives they wish to implement among the identified objectives or among additional objectives. Agreed objectives would enable the Committee to derive the main functionalities of traditional knowledge databases which would be necessary for the databases to support the achievement of the agreed policy objectives.

#### *V.B FUNCTIONALITY OF DATABASES*

85. For several Committee members, specifying the objectives of traditional knowledge databases led to conclusions about the functionalities required to achieve those objectives.

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<sup>53</sup> See the European Community (143), India (119), United States of America (134), Switzerland (130), EPO (146) and AAAS (154) in document WIPO/GRTKF/IC/2/16.

<sup>54</sup> See the statements of Asian Group (118), Egypt (132), Morocco (129), Panama (133), Peru (123), Venezuela for Cuba, Ecuador and Venezuela (122) and CIEL (149) in document WIPO/GRTKF/IC/2/16.

<sup>55</sup> See the statements of Egypt (132) and the Islamic Republic of Iran (125) in document WIPO/GRTKF/IC/2/16.

<sup>56</sup> See the statements of India (119), New Zealand (138), Russian Federation (140), South Africa (127) and ATSI (155) in document WIPO/GRTKF/IC/2/16.

<sup>57</sup> See the statements of India (119), CIEL (149) and First Nations Development Institute (FNDI) (152) in document WIPO/GRTKF/IC/2/16.

<sup>58</sup> See the statements of India (119) and UNESCO (147) in document WIPO/GRTKF/IC/2/16.

<sup>59</sup> See the statements of Brazil (117), India (119) and Thailand (124) in WIPO/GRTKF/IC/2/16.

For example, Committee members who have used traditional knowledge databases for defensive protection indicated that in order to achieve this objective, the functionality of the databases would have to include means to address (i) different terminologies of traditional knowledge systems and modern science; (ii) translation to and from local languages;<sup>60</sup> (iii) international recognition through an integrated system of information exchange among the Member States; (iv) direct involvement of traditional knowledge holders as the creators of traditional knowledge databases;<sup>61</sup> and (v) ownership and legal protection of databases.<sup>62</sup>

86. Several of the required functionalities which were derived from the objectives of the use of traditional knowledge databases could be translated into specific technical specifications of the tools which could be developed to implement these objectives. For instance the above-mentioned objectives and functions of traditional knowledge databases could be translated into specifications as reflected in the table below. This is a non-exhaustive list of objectives, functionalities and specifications for traditional knowledge databases mentioned by Committee members during the first and second sessions of the Committee.

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<sup>60</sup> See the statement of India (119) in document WIPO/GRTKF/IC/2/16.

<sup>61</sup> See the statements of Canada (131) and New Zealand (138) in document WIPO/GRTKF/IC/2/16.

<sup>62</sup> See the statement of Venezuela (122).

<u>Objective</u>	<u>Functionalities</u>	<u>Specifications</u>	<u>Example Databases</u>
1. Defensive protection	1.1 Data search and retrieval integrated with other forms of non-patent literature	1.1.1 IPC-based classification systems for traditional knowledge	TCM Patent Database (China)
		1.1.2 Integration of traditional knowledge data with existing databases and services used in prior art searches;	Health Heritage Test Database (India) integrated with WIPO IPDLs and PCT Search Engine
		1.1.3 Text-based search and retrieval	Health Heritage Test Database (India) Biozulua (Venezuela)
	1.2 Addressing differing nomenclatures	1.2.1 Thesauri, dictionaries and controlled vocabularies	TCM Patent Database (China)
	1.3 Translation to and from local languages	1.3.1 Automated translation	TKDLs (India)
	1.4 Bibliographic references	1.1.4 Data fields and standards for bibliographic references	TKDL (India) and Health Heritage Test Database (India)
2. Positive protection	2.1. Information exchange on intellectual property titles granted for traditional knowledge subject matter – or other intellectual property-related mechanisms.	2.1.1 Data fields and standards for: - right holder - knowledge holder - claims or other definition the protected subject matter; - date of application and of grant; - information on maintenance and use of rights, etc.	- TCM Patent Database (China)
		2.1.2 Agreed data standards for rights information	None for traditional knowledge specifically

<u>Objective</u>	<u>Functionalities</u>	<u>Specifications</u>	<u>Example Databases</u>
3. Full stakeholder involvement	3.1 Capacity building and financial, legal and technical assistance	3.1.1 “Toolkit” on the intellectual property aspects of traditional knowledge documentation and database projects;	None
		3.1.2 Accessibility and affordability of hardware and software (both operating systems (e.g. Linux) and database software (e.g. SQL))	ICONS (United States of America)
	3.2 Stakeholder participation in database and policy development	3.2.2 Consultations with indigenous and local communities	“StoryBase” (United States of America)
4. National and local control of databases	4.1 Decentralized functioning and architecture of information networks	4.1.1 Distributed database software	ICONS (United States of America)
		4.1.2 Access control software	“StoryBase” (United States of America)
		4.1.3 Security protocols (e.g. firewalls, using SSL (Secure Socket Layer), if the database is accessible through Internet websites...)	TKDL (India)
5. International recognition of defensive and positive protection of traditional knowledge	5.1 International information exchange systems	5.1.1 Networked environment for traditional knowledge databases	None
		5.1.2 Data standards for data exchange (eg XML interfaces)	None

87. The database functionalities derived from the various policy objectives are by no means mutually exclusive and many of those listed in the previous paragraph can be combined in the same database by programming them into the operating software as required. The list of objectives, functionalities and technical specifications provided in the previous paragraph is non-exhaustive and reflects the objectives indicated by the Committee participants at the first and second sessions of the Committee.

### *V.C TECHNICAL SPECIFICATIONS OF DATABASES*

88. The functional requirements which have been defined in the previous section can be translated into system specifications for traditional knowledge databases. If the Committee is able to develop functional requirements which can be implemented through specific technical designs, these requirements and specifications could be referred to the competent subsidiary bodies of the SCIT which have the expertise and mandate to implement specific technological projects. Subject to the availability of resources and if appropriate, the SCIT could be requested to create specific tasks for this issue. Since different specifications would have to address the different needs, certain selected specifications are indicated below under the three headings identified in paragraph 70, namely user needs, provider needs and system requirements.

#### *V.C1 User needs*

89. Any effort of developing the Portal into a standardized environment for nationally maintained traditional knowledge databases should be based on a clear understanding of who wishes to use the databases for which purposes. A first line of inquiry could therefore focus on the user needs which the development of the databases would address. A few technical measures which address user needs that have been identified by past WIPO activities are listed below. They include (i) classification systems for traditional knowledge data, (ii) search tools for traditional knowledge databases and (ii) dictionaries on nomenclature.

#### *Classification methods for traditional knowledge data*

90. An important prerequisite for effective search and retrieval from traditional knowledge databases and inventories is the consistent classification of traditional knowledge. As an outcome of its efforts to establish traditional knowledge databases, the Government of India proposed the development of appropriate classification tools for traditional knowledge to the Committee of Experts of the Special Union for the International Patent Classification (IPC) at its thirtieth session in February 2001.<sup>63</sup> At this meeting the Delegation presented a Traditional Knowledge Resources Classification (TKRC) which had been developed by the Government of India for providing efficient access to traditional knowledge data. The Expert Committee agreed to create a Task Force on the Classification of Traditional Knowledge in order to study TKRC in detail with a view to investigating its information aspects and its relationship to the IPC.<sup>64</sup> The mandate of the Task Force was to elaborate advice on the future development of TKRC, in particular with a view to its expansion to documentation of other countries, and to investigate how its proper relationship to the IPC should be established.

91. The work program of the Task Force included the following items: a study of TKRC as a classification and search system; a study of traditional medicine databases developed in China; consideration of the need for developing the IPC in the field of traditional medicine;

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<sup>63</sup> See document IPC/CE/30/9 (“Development of Classification Tools for Traditional Knowledge”).

<sup>64</sup> See document IPC/CE/30/11 (“Report”), paragraphs 47 to 53.



consideration of the need for further developing TKRC; and the elaboration of revision proposals with regard to the IPC and TKRC. The Report of the Task Force was submitted to the Committee of Experts at its Thirty-First Session, which took place from February 25 to March 1, 2002.<sup>65</sup> The Committee considered the Report of the Task Force and agreed to submit the Report to the Intergovernmental Committee for information, in order to initiate cooperation and coordination between the two Committees. The Report of the Task Force and the relevant section of the Report of the Committee of Experts have been issued as document WIPO/GRTKF/IC/3/INF.2.

92. In summary, the Report of the Task Force concludes that the most efficient way of developing classification tools for traditional knowledge would be their integration into the IPC. The Committee of Experts agreed with this conclusion of the Task Force<sup>66</sup> and noted that the IPC could be applied for classifying traditional knowledge documentation as one form of non-patent documentation. However, only few entries in the IPC are currently available for classifying traditional knowledge documentation. The Committee of Experts therefore concluded that substantial revision of the IPC could be required, including the creation of a new subclass covering traditional knowledge subject matter. The Committee of Experts instructed the Task Force to prepare an IPC revision proposal with regard to classification of traditional knowledge documentation. The Committee of Experts requested the Task Force to prepare this revision proposal for consideration to the IPC Revision Working Group by the end of 2002, so that the revision results would be available already in the next edition of the IPC. The Committee also requested the Task Force to consider how the future revised IPC could be linked to traditional knowledge resources classifications which have been developed at the national level by various countries.

93. Since the availability of appropriate classification tools will be of critical importance in the establishment, management and searching of traditional knowledge databases, the Intergovernmental Committee may wish to consider further strengthening the cooperation with the Task Force on Traditional Knowledge Classification of the IPC Committee of Experts. Such cooperation could be strengthened by providing any relevant findings and the Report from the third session of the Intergovernmental Committee to the IPC Committee of Experts.

#### *Search tools*

94. The traditional knowledge databases currently linked to the WIPO Portal utilize a range of different tools for the search and retrieval of their data. A basic distinction can be made between those traditional knowledge databases which use classification-based search tools (see, for example, the China TCM Patent Database) and those databases which use text-based search tools (see, for example, the Health Heritage Database). Traditional knowledge databases often have particular features, e.g. they cannot be searched by author or by date of publication. Thus the preferred tools and mechanisms of searching the information may differ from databases containing other types of intellectual property information. In order to further develop the traditional knowledge databases in an informed and effective way, it would be valuable to have a better understanding of which features of existing search tools are particularly helpful to the primary users of the databases. This would enable the further

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<sup>65</sup> See document IPC/CE/31/6, (“Development of Classification Tools for Traditional Knowledge”).

<sup>66</sup> See document IPC/CE/31/8 (“Report”), paragraph 34.

development of the Portal to take into account the needs of end users for search and retrieval tools.

#### *Dictionaries and Thesauri on Nomenclature*

95. A specialized problem in the field of traditional knowledge is the correlation of vernacular/local language names and scientific/common names of biological resources associated with the traditional practices.<sup>67</sup> The claims of the patent applications which an examiner receives will refer to the plant used in the inventions by their scientific or English common name. Examiners then often spend considerable time and effort trying to translate these scientific/common names into the vernacular names of local languages, in which the disclosed traditional uses of those plants are documented and articulated. An important need of the users of traditional knowledge databases would be met if there were a means to reduce this correlation and translation time and a means to ensure accurate translation.

#### *V.C2 Provider needs*

96. At the second session of the Committee, a number of delegations of countries which are rich in traditional knowledge and which could compile traditional knowledge databases of their own expressed hesitation about the use of traditional knowledge databases. The Chairman summarized that these concerns as being related “to [1] the costs, [2] access and use of the databases, and [3] the protection of the contents of it.”<sup>68</sup> Each of these concerns is identified below as a specific issue that would require detailed further study by the Intergovernmental Committee.

#### *Capacity building and technical assistance*

97. The establishment and maintenance of traditional knowledge databases is cost-intensive. Therefore, considerable financial, technical and administrative assistance will need to be provided to Committee members, in particular developing countries, who wish to establish traditional knowledge databases. Besides financial resources, there is a need for technical assistance and capacity building concerning the management of intellectual property aspects of traditional knowledge databases and inventories, both as a tool for defensive and positive legal protection of traditional knowledge. This was the foremost need identified by Committee members at the second session during their discussions on traditional knowledge databases.<sup>69</sup>

98. Furthermore, issues for further clarification have been identified in other fora working on intellectual property and traditional knowledge. For example, the second meeting of the *Ad hoc* Open-ended Inter-sessional Working Group on Article 8(j) and Related Provisions of

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<sup>67</sup> See, for instance, references in Annex II to the following databases: GBIF, the Global Biodiversity Information Facility; IOPI, the International Organization for Plant Information; and IT IS, the Integrated Taxonomic Information System.

<sup>68</sup> See document WIPO/GRTKF/IC/2/16, paragraph 157.

<sup>69</sup> The need for technical assistance and capacity building for traditional knowledge databases and inventories was emphasized in particular by Canada (131), Egypt (132), Switzerland (130). See document WIPO/GRTKF/IC/2/16 („Report“).

the CBD discussed the issue of traditional knowledge databases at length. The Report of the Working Group recommended that governments be invited,

“with the participation of indigenous and local communities, upon their request, to examine the feasibility of establishing their respective national and community registries or databases of traditional knowledge ... taking into consideration customary laws and practices, and subject to national legislation. In examining the feasibility of establishing such databases or registries, Parties and Governments, if required, with the technical assistance of the World Intellectual Property Organization, when requested, should consider issues relating to:

- (a) Protocols for lodging, accessing and retrieving information and data;
- (b) Location and administrative arrangements;
- (c) Modalities and terms for access to information stored in the registry/database;
- (d) Methods for classification and standardization of data;
- (e) Security and confidentiality requirements and methods regarding information stored in the registry/database;
- (f) The legal status of information stored in the registry/database;<sup>70</sup>

99. In order to provide technical assistance and capacity building on these subjects, WIPO might develop ‘guidelines’ or a ‘toolkit’ for the management of intellectual property aspects of traditional knowledge documentation with a particular focus on the establishment of traditional knowledge databases.<sup>71</sup> Such a toolkit or guidelines would provide technical information and practical advice on managing IPRs during the documentation and compilation process for the establishment of traditional knowledge databases. Starting from existing documentation procedures, it could explain practical measures that should be taken to manage IP-aspects of standard procedures. The materials could be practically organized into sections, such as: (a) Considering IPR implications before the establishment of databases; (b) Managing IPRs during traditional knowledge documentation and database compilation; (c) Managing IPRs after the establishment of traditional knowledge databases; (d) Standardization and classification of traditional knowledge documentation; (e) regulation of access to database contents. The materials would inform the users about IP implications of existing documentation; minimum documentation required for exercise and enforcement of certain IPRs; classifying traditional knowledge according to IP tools during the documentation process; use of existing IP documentation standards during traditional knowledge documentation; IP-aspects of managing documentation data; etc. Taking into account prevailing documentation standards, the materials would assist institutions and communities involved in the establishment of traditional knowledge databases to take the IP dimensions of their work into account.

*100. The Intergovernmental Committee is invited to consider the development of guidelines or a ‘toolkit’ for the management of intellectual property aspects of the compilation, maintenance and use of traditional knowledge databases, and the*

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<sup>70</sup> See document UNEP/CBD/COP/6/7 (“Report of the Ad Hoc Open-ended Inter-Sessional Working Group on Article 8(j) and Related Provisions of the Convention on Biological Diversity on the Work of its Second Meeting”).

<sup>71</sup> The need for such a toolkit is identified in document WIPO/GRTKF/IC/3/5, paragraph 24.

*making available of the necessary budgetary resources.*

*Access to and use of traditional knowledge databases*

101. One major reservation about the use of traditional knowledge databases concerns the security and confidentiality of information compiled in the databases. The far-reaching intellectual property implications of disclosure of the knowledge, in particular the destruction of novelty of possible inventions contained in the databases, make the question of access to the databases a key question to be further studied. An important tool is tiered levels of access to the database contents. Besides intellectual property considerations, the access privileges for the databases should also reflect other social and cultural concerns of the traditional knowledge holders, such as confidentiality and sensitive treatment of sacred knowledge, etc. A final important issue in this respect is the prior informed consent of the traditional knowledge holders to the inclusion of the knowledge in the databases and the subsequent use of the databases.

*Policy issues concerning protection of the database contents*

102. As Committee members have established their databases they have encountered a range of policy issues regarding the positive legal protection of the database contents. Consequently, at the first session of the Committee, the Delegation of Venezuela raised some questions which had been discovered during that country's effort to establish an inventory of traditional knowledge: the Delegation pointed out that Venezuela "had already acquired experience in developing a database in the context of traditional knowledge. ... In that context, question arose on the means to protect the contents of the database. Once again, the Delegation stressed the importance of technical assistance for countries and indigenous communities on the many different aspects of intellectual property relating to the protection of traditional knowledge. The delegation concluded that the only manner to adequately address the concerns of traditional knowledge holders would be to develop a positive protection system by means of a *sui generis* system for the intellectual property protection of the contents of indigenous knowledge databases." In seeking solutions to the policy questions which Venezuela had encountered in its past experience with traditional knowledge databases, the Delegation suggested to add an additional task to the Committee's work program, namely "creating databases to protect the contents of traditional knowledge and the promotion of the proposal to elaborate these databases as a protection mechanism for said traditional knowledge."<sup>72</sup> Such a *Sui Generis* System of Traditional Knowledge Databases, which was proposed as an additional task of the Committee, was outlined in the group position submitted by the GRULAC to the first session of the Committee:

"System of *sui generis* databases: Apart from the standard rights in databases that are original in terms of the selection or arrangement of their contents, these would be characterized by the following additional features:

- Protection of undisclosed information: protection of the arrangement of the information within the database would not be sufficient; there would have to be rights in the knowledge actually recorded. Without protection of the subject matter, there would be no incentive to pass it on in the case of innovations, or to organize it and refine it in the case of traditional knowledge.

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<sup>72</sup> See paragraph 112(ii), document WIPO/GRTKF/IC/1/13 ("Report").

- Right of exclusion applicable not only to reproduction of the information, but also to the use of registered information.
- No need for prior fixing of the information as a condition of the grant of protection.”<sup>73</sup>

103. At the second session of the Intergovernmental Committee, the Delegations of Venezuela, Brazil and Egypt requested that the Secretariat prepare a document with elements of a *sui generis* system for the protection of traditional knowledge. This request is addressed in document WIPO/GRTKF/IC/3/8 (“Elements of a *Sui Generis* System for the Protection of Traditional Knowledge”).

#### V.C3 System Requirements

104. A final set of issues which is critical for the medium- and long-term development of databases concerns technical and administrative measures for possible systems integration. The importance of agreed and appropriate standards for traditional knowledge data in this respect has been emphasized by several expert bodies working on related subjects.<sup>74</sup>

#### *Standards for traditional knowledge databases*

105. At the practical level, the establishment of functioning and inter-operable databases hinges upon the availability of agreed standards for traditional knowledge documentation data. As an activity to implement Task B.3, the Intergovernmental Committee has already undertaken to examine the applicability of existing intellectual property documentation standards to traditional knowledge-related subject matter (Activity 5).<sup>75</sup> In undertaking Activity 5 of Task B.3, the Committee may wish to take into account ongoing and previous work of WIPO for the development of documentation standards. This work has resulted in more than 50 industrial property documentation standards, which aim to harmonize practices by all industrial property offices and to facilitate the international transmission, exchange and dissemination of industrial property information (for both text and images).<sup>76</sup>

106. Two WIPO activities which are relevant to Activity 5 under Task B.3 of the Intergovernmental Committee are currently ongoing under the purview of the Standing Committee on Information Technologies (SCIT), namely the activities of the SCIT Standards and Documentation Working Group (SDWG) and the two Informal Workshops on IPDL Standardization.

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<sup>73</sup> See document WIPO/GA/26/9, Annex I, paragraph VI.D, and document WIPO/GRTKF/IC/1/5, Annex I, paragraph VI.D, (“Traditional Knowledge and the Need to Give It Adequate Intellectual Property Protection; WIPO Committee on the Relationship Between Intellectual Property, Genetic Resources and Traditional Knowledge. Documents prepared by the GRULAC”). The GRULAC position paper stated that “[t]hese options are important initial efforts which aim to address clearly the problem of the lack of protection for the knowledge, innovations and practices of indigenous and local communities, and which must be thoroughly investigated and duly taken into account in the planning of a universal solution.”

<sup>74</sup> See, *Report of the Workshop on Intellectual Property Digital Libraries (IPDL) Standardization*. Geneva, July 2 to 6, 2001 (Draft 1.309).

<sup>75</sup> See “Possible Activity 5” in document WIPO/GRTKF/IC/2/6, paragraph 106. Regarding the adoption of this activity see document WIPO/GRTKF/IC/2/16, paragraph 157.

<sup>76</sup> See *WIPO Handbook on Industrial Property Information and Documentation*. Part 3.

107. At its sixth Plenary Session, held from January 22 to 26, 2001, the SCIT decided to establish a Standards and Documentation Working Group.<sup>77</sup> The mandate of the SCIT Working Group is to “to provide a forum to adopt new or revised WIPO standards, policies, recommendations and statements of principle relating to intellectual property data, global information system related matters, information services on the global system, data dissemination and documentation.”<sup>78</sup> Existing documentation standards which may be of relevance to the establishment and maintenance of traditional knowledge databases include standards ST.2,<sup>79</sup> ST.3,<sup>80</sup> ST.9,<sup>81</sup> ST.14,<sup>82</sup> ST.80,<sup>83</sup> and ST.81.<sup>84</sup> Since the development of those standards represents a large investment by the Member States over many years, it is suggested to build upon these existing standards which are already in place. Nevertheless, experiences with traditional knowledge databases reflected in Section III, indicate that new and additional standards may be required for the establishment and effective use of traditional knowledge databases.

108. The Standards and Documentation Working Group (SDWG) of the SCIT has, as one of its on-going tasks, the development of standards to enable all Member States to participate in a global IPDL system.<sup>85</sup> At its fifth session, held from July 10 to 14, 2000, the SCIT Plenary approved the establishment of a SCIT Task Force to support the IPDL Project.<sup>86</sup> In order to enable the Task Force to begin its work, the Secretariat has convened two Informal Workshops on IPDL Standards, in order to analyze the subject of IPDL standards. The workshops recognized that “[t]he users of these systems are no longer just the traditional IP community” but include new beneficiaries, such as holders of traditional knowledge. Consequently, the Report of the first Workshop on IPDL Standards has created room for the integration of traditional knowledge information into the IPDL system. The Report singles out traditional knowledge as one element to be integrated into national IPDL systems in the future:

“This future demands an even more diverse and distributed information base (*including the integration of traditional knowledge information into national IPDL systems*). Therefore, it is important that steps be taken immediately to allow the national IPDLs to

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<sup>77</sup> See document SCIT/6/2 (“Restructuring of the SCIT”), paragraphs 23 to 28, and SCIT/6/7 (“Report”), paragraphs 9 to 12.

<sup>78</sup> See document SCIT/6/2, paragraph 25. For a listing of the tasks of the Working Group see SCIT/6/7, paragraph 12 and Annex IV. For a detailed description of the tasks of the Working Group see document SCIT/SDWG/1/2 (“Task List of the Standards and Documentation Working Group (SDWG)”).

<sup>79</sup> “Standard Manner for Designating Calendar Dates by Using the Gregorian Calendar.”

<sup>80</sup> “Recommended Standard on Two-letter Codes for the Representation of States, Other Entities and Intergovernmental Organizations.”

<sup>81</sup> “Recommendation Concerning Bibliographic Data On and Relating To Patents and SPCs.”

<sup>82</sup> “Recommendation on the Inclusion of References Cited in Patent Documents.”

<sup>83</sup> “Recommendation Concerning Bibliographic Data Relating to Industrial Designs (Identification and Minimum requirements).”

<sup>84</sup> “Recommendation Concerning the Content and Layout of Industrial Design Gazettes.”

<sup>85</sup> See document SCIT/SDWG/1/2 (“Task List of the Standards and Documentation Working Group (SDWG)”), Task number 10 and 11.

<sup>86</sup> See document SCIT/5/10 (“Report”), paragraph 59. For Phase I of the IPDL project deployment strategy, of which the decision to establish the Task Force formed a part, see document SCIT/5/5 (“Proposed Intellectual Property Digital Library Project Development and Implementation Plan”).

participate in a globally-distributed environment in which national IP information can be shared seamlessly.”<sup>87</sup>

109. The Recommendations of the first Workshop therefore include the following proposal for the 2002-2003 work program:

“The proposed program for 2002-2003 would include: (a) the definition of new standards and the evaluation of existing non-WIPO standards useful for the development and integration of national and regional IPDLs (in the broadest sense, including not only patents but design, trademark *and traditional knowledge resources*), in particular, common standards for persistent data identification and retrieval from digital libraries.”<sup>88</sup>

110. The Report of the second Informal Workshop moves forward by recommending a specific set of simple preliminary steps which could achieve, *inter alia*, the integration of traditional knowledge data within existing collections concerning other intellectual property rights. In order to simplify the task of working with the diversity of intellectual property, the Workshop adopted the principle of partitioning data into separate intellectual property domains. By considering one domain at a time (namely patents, trademarks, industrial designs, traditional knowledge, etc),<sup>89</sup> it intends to focus on separate areas for which the IPDL system needs, or already has, well-known semantics.

111. In order to examine the technical and administrative issues identified in the preceding Sections and to advance the work on traditional knowledge databases, it would be necessary to enable the Committee to address certain specialized and technical details in a structured and systematic manner. For this purpose, a questionnaire could be issued to the Committee participants and other relevant stakeholders, containing a structured set of questions concerning objectives, functional requirements and technical specifications of traditional knowledge databases. An analysis of the responses received could be presented to the Committee at the next session for its consideration and further decisions on the continuation of work on traditional knowledge databases. It is suggested, that in preparing and disseminating this questionnaire, the Secretariat of the Intergovernmental Committee should take into account the work of, and cooperate with, the work of the Task Force on Traditional Knowledge Classification of the IPC Committee of Experts, the Task Force on IPDLs of the SCIT, and the SCIT Standards and Documentation Working Group. The purpose of the questionnaire would be to obtain a clear and systematic overview over the priorities of the Committee members regarding the objectives, functional requirements and technical specifications of traditional knowledge databases. The compilation and analysis of the responses received to the questionnaire could be presented to the Intergovernmental Committee at its future sessions.

*112. The Intergovernmental Committee is invited to approve the preparation and dissemination of a questionnaire concerning*

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<sup>87</sup> See *Report of the Workshop on Intellectual Property Digital Libraries (IPDL) Standardization*. Geneva, July 2 to 6, 2001 (Draft 1.309): paragraph 13. Emphasis added.

<sup>88</sup> See, *Report of the Workshop on Intellectual Property Digital Libraries (IPDL) Standardization*. Geneva, July 2 to 6, 2001 (Draft 1.309): paragraph 30(a)-(f).

<sup>89</sup> See document SCIT/7/6, Annex, paragraph 16.

*the objectives, functional requirements and technical specifications of existing traditional knowledge database initiatives and the presentation of responses received to the Committee at its future sessions.*

## VI. CONCLUSIONS

113. The present document addresses intellectual property issues related to online databases containing traditional knowledge documentation data both for defensive and positive protection. Part II of the document presents an inventory of existing online databases of disclosed traditional knowledge which are currently available on the Internet and may be used by patent examiners for prior art searches. Part III describes traditional knowledge databases and inventories which were established by WIPO Member States and which will be demonstrated to the Committee at its third session. It also describes experiences from ongoing activities on traditional knowledge databases. Part IV invites the Intergovernmental Committee to decide on future uses, if any, of the Portal of Traditional Knowledge Databases which was established for the third session of the Committee. The discussions of the Committee at its first two sessions indicate that the intellectual property issues related to traditional knowledge databases go beyond the making available of disclosed traditional knowledge as prior art. Part V therefore suggest that the Committee may direct its future work on traditional knowledge databases by identifying what its members understand to be the objectives, functional requirements and technical specifications of traditional knowledge databases. The document then offers examples of such objectives, functional requirements and technical specifications which the Committee members had identified in the second session. It closes by offering suggestions for the specific next steps of the Committee's work on traditional knowledge databases.

*114. The Intergovernmental Committee is invited to consider the contents of this document and to make recommendations on paragraphs 22, 24, 62, 63, 70, 74, 77, 78, 100 and 112.*

[Annex I follows]