Presentation on
Traditional Knowledge Digital Library at
The Third Session of Inter-Governmental Committee,
World Intellectual Property Organisation

at
Geneva
on June 17th, 2002

Presented By
V.K. GUPTA
Director
National Institute of Science Communication
(Council of Scientific & Industrial Research)
NEW DELHI
Phone : (091)-11-574 6024; Fax : (091)-11-578 7062;
E_mail: vkg@niscom.res.in; vkg@nistads.res.in
Out line of TKDL Presentation

- Objectives
- Problem Dimensions
- Life Cycle
- Specifications
- Software
- Search & Retrieval
- Cost/Benefit
- Concerns and Expectations
• Prevent grant of patents for un-patentable inventions on Indian TK
• Break language and Format Barriers
• Bridge between:
  – Patent examiner and prior art
  – TK and Modern Science
• Establish modern classification, search and retrieval tools on TK
Turmeric to TKDL

- Turmeric
- Neem
- Basmati

TKDL → TKRC → IPC
TKDL Task Force Findings: March 2000

Ref: USPTO Database

- 4896 references on 90 medicinal plants in USPTO patent database
- 80% of references on seven medicinal plants of Indian Origin.
  - Kumari, Mustaka, Tamraparna, Garjara, Atasi, Jambira, Kharbuza
- 408 references were available on Aloe vera for March 2000 itself
- 762 patents on medicinal plants were studied, about 360 could be categorised as traditional
Illustrative Examples of patents granted for Non-original Inventions

Direct references available in Ayurveda public domain publications

- Turmeric for skin disorder
- Herbal composition and their use as hypoglycemic agents
- Antiviral Effect
- Treatment of diabetes
- Musculo-skeletal diseases
SCIT will take initiatives for creation of databases in the area of TK available in public domain so that prior art gets established.

Third Plenary Session, June 1999

“With the help of developing countries, Traditional Knowledge can be documented, captured electrically and placed in the appropriate classification within the IPC. This would help prevent the patenting of turmeric, Karela, Jamun, Brinjal and other traditional remedies”

Mr. Robert Saifer
Director, International Liaison, USPTO
letter dt. 27.8.99 to Dr Mashelkar, DG, CSIR
TKDL Life Cycle
Major Milestone

The Committee agreed that the Traditional Knowledge Resource Classification elaborated in India should be studied in detail with a view to investigate its information aspects and its relationship to the IPC and decided to create to this end a WIPO Traditional Knowledge Task Force, consisting of China, India, Japan, United States of America and IB as coordinator.

IPC Union, Committee of Experts, Thirtieth Session, Feb., 2001

- Committee felt that IPC revision work to continue including creation of a new subclass covering TK Subject matter
- To consider linking TKRC in future revision of IPC

IPC Union Committee of Experts, Thirty First Session, Feb., 2002
“I am happy to know that SAARC Documentation Centre has set up a task force on Traditional Knowledge for Developing Traditional Knowledge Resource Classification for SAARC countries”

Mr. Q A M A Rahim
Secretary General, SAARC Secretariat
at SDC meeting in New Delhi
on 19.3.2002
TKDL Portal

- **Facilities and Requirements**
  - Query window, display facility, secured access, Digital watermarking and digital delivery

- **Methodologies and standards**
  - As followed for WIPO’s IPDL and global IP offices, XML Standards and platform independent

- **Security & Access**
  - Secured, Authentication, Digital watermarking, and digital delivery

- **Components**
  - Static: Ayurveda concepts and definitions, Background on Indian Systems of Medicine
  - Dynamic: 35,000 formulations to be regularly updated for contents
Scope of Work

- Transcription of 35,000 formulations (Drugs)
- Converting details into Patent Application Format
  - Description
  - Method of Preparation
  - Claim/Usage
  - Bibliography
- Retrieval based on TKRC and IPC
- Translating from Sanskrit to French, German, English, Japanese, Spanish and Hindi 1,40,000 pages of information
- Convert Local names of plants to Botanical names, Ayurvedic description of diseases to modern names
(हकना) एवं सहकारात्मका नाश होता है।

(११८५) तुह्याविद्याट काध: (वा. ते. ने. ने.)
गृहकारिताकाराक्षत्रा लोहारां दुष्ट:।
अरम्भम मस्तिंगम वा तेरसैन विचित्रा पिंगुः।

(११८६) तुह्याविद्याट काध:
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Cost Benefits

**Resources**
- Team : 40 members
- Duration : one year
- 0.3 million : US $

**Deliverable**
- Portal with 0.15 million pages in 6 languages
- *Prior art* becomes available to patent examiners for 35,000 TK (Ayurvedic) Formulations

**Benefits : Saving in translation cost**
- Team Size : 240
- Duration : 8 years
- Cost : 8.4 million US$

**Proactive step against misappropriation**
Concerns & Expectations

♣ National Concerns
  ♣ Elimination of TK piracy
  ♣ Invalidation of TK Patents for un-patentable inventions

♣ Expectations from International IP Community
  ♣ Enhancement of IPC for TKRC
  ♣ Inclusion of TKDL in PCT minimum
  ♣ Faster invalidation procedures for TK Patents on unpatentable inventions
  ♣ Development of standards for TK Data
  ♣ Legal frame work on TK
Thanks
Comparison of U.S. Patents with references cited in Ayurveda

PRIOR ART

<table>
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<tr>
<th>S. N.</th>
<th>US PATENT Details</th>
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<tbody>
<tr>
<td>1.</td>
<td>5897865 Granted on 27.4.1999; Applicant – Nyuyen. Van; Application filed on 30.6.1997 Title: Turmeric for treating skin disorder Claims: 4 claims in this patent. Claim 1 relates to a method for treating Acne by admixturing orally an effective amount of turmeric to subject having acne. Claims 2&amp;3 relate to the amount of turmeric to be admixedtured i.e. 500 mg. to 2 grams per day, which can be further increased to 5 grams.</td>
<td>1. Bhartiya Bhaisjaya Ratnakara Part 5, yoga 8453. Title – Turmeric powder In this reference, Turmeric powder is used 3-4 grams for treatment of skin disorder along with jaggery and cow’s urine. 2. Bhava prakasa Nighantu, haritkyadivarga, no. 67 sloka no. 196-197, page no. 114. Title – Turmeric In this reference, turmeric is described for the treatment of skin disorder. 3. The Ayurvedic formulary of India, part 1, volume 1, page 45-46, 1986. Use of turmeric for skin disorders in powder form in the dosage of 1-3 grams.</td>
<td>Both references resemble with the treatment described in the patented invention.</td>
</tr>
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**Comparison of U.S. Patents with references cited in Ayurveda**

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| 2.    | **5900240** granted on **4.5.1999**  
Applicant – **Onkar S. Tomar** et. al.  
Filed on – **6.3.1998**  
**Title** – **Herbal composition and their use as hypoglycemic agents**  
**Claims:** There are 12 claims in this patent.  
Claim 1 describes an edible composition as a hypoglycemic agent in mammals comprising 300-600 mg of a mixture of at least three herbs selected from groups consisting of Syzygium cumini (Jamuna) or Gymnema sylvestre (Gurmara) or Momordica charantia (Karela) or Solanum melongena (begun) in equal parts. The doses are 300-600 mg of the composition. Entire fruits of Karela and begun, dry seeds of Jamuna and entire plant along with leaves of Gurmara are used, in the form of powder. | 1. **Susruta samhita, Ci. 11.10**  
In this reference Jamuna is described in treatment of diabetes  
2. **Bhava prakasa nighantu, saka varga, 43, page 683.**  
In this reference Karela is described to be used for treatment of diabetes.  
3. **Susruta samhita, Su. 15.19-20.**  
In this reference Gurmara is described to be used for treatment of diabetes. | The references indicate the use of Jamuna, Karela, and Gurmara in the treatment of diabetes as described in patented invention. |
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| 3    | 5,725,859 granted on 10\(^{th}\) March 1998  
Applicant: Omer Osama L. M.  
Application filed on June 3\(^{rd}\) 1996  
Title: Plant based therapeutic agent with virustatic and antiviral effect  
Claims: there are four claims. First two claims i.e. 1&2 relate to a method of treating a patient infected with DNA virus of the herpes family or DNA hepatitis B or hepatitis C viruses, or suffering from chronic allergic rhino-sino-bronchitis, by administering to the said patient a pharmaceutical composition as claimed. Claim 3&4 define a pharmaceutical composition which comprises at least two of the compounds selected from the group consisting of 1. absinthe (artemisia absinthium) 2. Resin of mastic (resin pistacia lentiscus) and 3. Fruit of delphinium denudatum. This composition further comprises at least one of the compounds selected from the groups consisting of rose wood (flores rosae), seeds of cardamom (fructus ellettaria cardmomum) and borgae flowers (flores onosma brateatum boriginaceae). | 1. Caraka-samhita, Ci-101, page 240  
Use of ellettaria cardamom in a compound formulation for treatment of kapha roga.  
2. Bhava prakasa nighantu, page 829  
Use of delphinium denudatum in treatment of kapha roga. Chronic allergic rhino-sino bronchitis is a form of kapha roga. | References resemble the treatment described in patented invention. |

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## Comparison of U.S. Patents with references cited in Ayurveda

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| 4.   | 5,693,327 granted on Dec 2, 1997  
Applicant Name Shah; Eladevi  
Application was filed on July 12, 1995  
**Title: Herbal Composition**  
Claims: There are 13 claims in this patent. Claim 1 to 9 relate to a therapeutic composition. | 1. Bhava prakasa nighantu, Guducyadi varga, page 331, sloka 97-99  
Use of Melia azadirachta in treatment of skin disorders.  
Use of Centratherum anthelminticum in the compound formulation in treatment of skin disorder.  
Eczema, psoriasis and lichen planus are skin disorders. | References resemble the treatment described in patented invention. |
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<td>5.</td>
<td>5,886,029 granted on March 23, 1999&lt;br&gt;Applicant Name Dhaliwal; Kirpal S.&lt;br&gt;Application was filed on September 5, 1997&lt;br&gt;Title: Method and composition for treatment of diabetes&lt;br&gt;Claims: There are 20 claims in this patent. Claims 1 to 14 relate to medicinal composition comprising between about 0.5 grams and about 2.0 grams of (-) epicatechin, between about 0.5 and about 2.0 grams of gymnemic acid, 0.5 to 5.0 grams of Cinnamomum tamala, 0.5 to 6.0 grams of Syzygium cumini, 0.5 to 5.0 gram Trigonella foenum graceum, 0.5 to 5.0 grams Azardirachta indica, 0.5 to 5.0 grams of Ficus racemosa, 0.5 to 5.0 grams of Tinospora cordifolia, 0.5 to 6.0 grams of Aegle marmelos, 0.5 to 6.0 grams of Momardica charantia&lt;br&gt;Claims 15 to 20 relate to a method of treating diabetes in a human patient by administering to said patent between 0.5 grams to 2.0 grams of the composition at least once in a day.</td>
<td>1. Caraka samhita, Ci – 12, page 301 sloka 34-38&lt;br&gt;Use of cinnamomum tamala, in a compound formulation in treatment of prameha.&lt;br&gt;2. Carakasamhita, Ci-6, page 195 solka 38-390&lt;br&gt;Use of Azardichta indicia, in a compound formulation in treatment of prameha.&lt;br&gt;3. Caraka samhita, Ci-6, page 193 sloka 27-29&lt;br&gt;Use of Tinospora cordifolia, in a compound formulation in treatment of prameha.&lt;br&gt;4. Caraka samhita, Ci-6, page 193 sloka 29-32&lt;br&gt;Use of Azardichta indicia, in a compound formulation in treatment of prameha.&lt;br&gt;5. Susruta samhita, Ci-11, page 60&lt;br&gt;Use of Azardichta indicia, in a compound formulation in treatment of prameha.&lt;br&gt;6. Susruta samhita, Ci-11, page 61&lt;br&gt;Use of, Syzygium cumini in a compound formulation in treatment of prameha.&lt;br&gt;Diabetes is a type of premaha.</td>
<td>Reference resembles the treatment described in patented invention.</td>
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| 6.   | 5,494,668 granted on February 27, 1996  
Applicant Name Patwardhan Bhushan  
Application was filed on July 11, 1994  
Title: Method of treating musculoskeletal disease and a novel composition therefor  
Claims: There are 12 claims in this patent  
Claims 1 to 8 relate to a method of treating degenerative musculoskeletal disease in an animal by administering to the animal an amount of a composition as claimed. Claims 9 to 12 relate to composition for treating degenerative musculoskeletal disease comprising an effective amount of the extracts of the plants ASHWAGANDHA (Withania somnifera), SALLAI GUGGUL (Boswellia serrata), TURMERIC (Curcuma longa) and GINGER (Zingiber officinale) in a predetermined proportion relative to each other with or without other biologically active inorganic ingredients, such as zinc sulfate. | 1. Bhava prakasa nighanu, guducyadi varga, sloka 189-190, page 393. Use of Withania somnifera to pacify vata.  
2. Bhava prakasa nighantu, Karpuradi varga, sloka 50-51, page 212 Use of Boswellia serrata to pacify vata.  
6. Astanga hardya, k 2, sloka 54-56, page 596 Use of Withania somnifera in a compound formulation to pacify vata. Musculoskeletal diseases are relieved by pacifying vata. | References resemble the treatment described in patented invention |