

***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

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Out line of TKDL Presentation



- **Objectives**
- **Problem Dimensions**
- **Life Cycle**
- **Specifications**
- **Software**
- **Search & Retrieval**
- **Cost/Benefit**
- **Concerns and Expectations**

TKDL Objectives

- 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

Problem Dimensions

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**

TKDL Life Cycle

Major Milestone

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**

TKDL Life Cycle

Major Milestone

“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 water marking 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**

(रुकना) एवं सन्निपातज्वरका नाश होता है । यह काथ अत्यन्त दीपन पाचन (अग्निकी वृद्धि करने और आहार तथा दोषादिको पचाने वाला) है ।

(प्र० वि० पीपलका चूर्ण १ माशा डालना चाहिए ।)

(११८५) शुद्धच्यादि काथः (बं. से. । मे. रो.)

गुडूचीत्रिफलाकाथस्तथा लोहरजो युतः ।

अहमजं महिषाक्षं वा तेनैव विधिना पिबेत् ॥

गिलोय और त्रिफलेके काथमें लोह चूर्ण अथवा शिलाजीत और मौंसिया गूगल मिलाकर सेवन करनेसे मेदरोग नष्ट होता है ।

(प्र० वि०—लोह चूर्णके स्थानमें एक रत्ती लोह—भस्मका प्रयोग किया जाय तो विशेष उत्तम है । शुद्ध लोह—चूर्ण भी उचित मात्रानुसार प्रयोग करनेमें कोई हानि प्रतीत नहीं होती । शिलाजीत और गूगलकी शाखोक मात्रा ५ मासो है, परन्तु आज कल रोगियोंके बलानुसार आगेसे २ मासो तक ही सेवन कराना पर्याप्त है ।)

(११८६) शुद्धच्यादि काथः

(बं० से० । मयू० वि०)

शुद्धची मधुकं रास्ना पञ्चमूलं कनिष्ठकम् ।

चन्दनं काशमर्षफलं बलामूलं विकङ्कतम् ॥

दाककाले अमृतं वातजायां मयोजयेत् ॥

वातज मयूरिकाके पकवनेके समय गिलोय, सुलहटी, रास्ना, लघु पञ्चमूल (शालपर्णी, वृष्टपर्णी, बड़ी कटैली, कटैली, गोखरू), लाल चन्दन, खम्भारीके फल, खैरटीकी जड़ और कटैलीका काथ पिलाना हितकर है ।

टिपणियाँ—जो औषधि दो बार आती है वह द्विगुण ली जाती है यथा इस प्रयोगमें कटैली ।

(११८७) शुद्धच्यादि काथः

(हा० सं० । न्धा. ३, अ. २)

गुडूची शतपुष्पा च द्राक्षा रास्ना पुनर्नवा ।

त्रायमाणककाथश्च गुडैर्वातज्वरापहः ॥

गिलोय, सौंफ, सुन्का, रास्ना, पुनर्नवा और त्रायमाणा (बनफसा) के काथमें गुड डालकर पीनेसे वातज्वर नष्ट होता है ।

(प्र० वि० गुड एक तोला मिलाना चाहिए ।)

(११८८) शुद्धच्यादि काथः

(हा० सं० । न्धा. ३, अ. २)

गुडूचिनिम्बन्ववासकञ्च

शटी किरातं मगधा बृहरषी ।

दाबी पटोली कथितं कषायं

पिबेन्नरः पित्तकफज्वरञ्च ॥

पित्तज और कफज ज्वरमें गिलोय, नीमकी छाल, बैसा (अडसा), कचूर, चिरायता, पीपल, छोटी और बड़ी कटैली, दासहन्दी और पटोलेपत्र का काथ सेवन करना लाभदायक है ।

(११८९) शुद्धच्यादि काथः (ग. नि. । ज्वर.)

शुद्धयतिविपोशीरं गिरिमल्ली च मोचकः ।

कुष्ठं लज्जावतीपृष्ठीमधुचन्दनसारिवाः ॥

एषां कषायः कथितो मधुना च विमिश्रितः ।

हन्तिज्वरतीसारं सकृन्निशूलं निषेचितः ॥

गिलोय, अलीस, खस, कुडैकी छाल, मोचरस, कूट लज्जाट्ट, सुलहटी, लाल चन्दन और सारिवाके काथमें शहद मिलाकर पीनेसे कुष्ठि शूल युक्त ज्वरतिसार नष्ट होता है ।

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

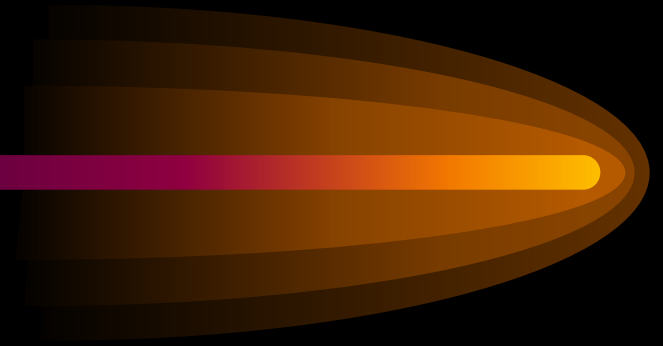
♣ National Concerns

- ♣ 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

S. N.	US PATENT Details	REFERENCES CITED IN AYURVEDA	REMARKS
1.	<p>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&3 relate to the amount of turmeric to be admxtured i.e. 500 mg. to 2 grams per day, which can be further increased to 5 grams.</p>	<p>1. Bhartiya Bhaijsjaya 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.</p> <p>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.</p> <p>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.</p>	<p>Both references resemble with the treatment described in the patented invention.</p> <div style="text-align: right; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Back </div>

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

PRIOR ART

S. N.	US PATENT DETAILS	REFERENCES CITED IN AYURVEDA	REMARKS
2.	<p>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.</p>	<p>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.</p>	<p>The references indicate the use of Jamuna, Karela, and Gurmara in the treatment of diabetes as described in patented invention.</p>

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

PRIOR ART

S.N.	US PATENT DETAILS	REFERENCES CITED IN AYURVEDA	REMARKS
3	<p>5,725,859 granted on 10th March 1998 Applicant: Omer Osama L. M. Application filed on June 3rd 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 lenticus) 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).</p>	<p>1. Caraka-samhita, Ci-101, page 240</p> <p>Use of ellettaria cardamom in a compound formulation for treatment of kapha roga.</p> <p>2. Bhava prakasa nighantu, page 829</p> <p>Use of delphinium denudatum in treatment of kapha roga. Chronic allergic rhino-sino bronchitis is a form of kapha roga.</p>	<p>References resemble the treatment described in patented invention.</p> <div style="text-align: right; border: 1px solid black; padding: 5px; display: inline-block;">Back</div>

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

PRIOR ART

S. N.	US PATENT DETAILS	REFERENCES CITED IN AYURVEDA	REMARKS
4.	<p>5,693,327 granted on Dec 2, 1997 Applicant Name Shah; Eladevi Application was filed on July 12 1995</p> <p>Title: Herbal Composition</p> <p>Claims: There are 13 claims in this patent. Claim 1 to 9 relate to a therapeutic composition.</p>	<p>1. Bhava prakasa nighantu, Guducyadi varga, page 331, sloka 97-99 Use of Melia azadirachta in treatment of skin disorders.</p> <p>2. Bhaisya Ratanavali, "Kustha 62", page 583. Use of Centratherum anthelminthicum in the compound formulation in treatment of skin disorder. Eczema, psoriasis and lichen planus are skin disorders.</p>	<p>References resemble the treatment described in patented invention.</p>

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

PRIOR ART

S.N.	US PATENT DETAILS	REFERENCES CITED IN AYURVEDA	REMARKS
5.	<p>5,886,029 granted on March 23, 1999 Applicant Name Dhaliwal; Kirpal S. Application was filed on September 5, 1997 Title: Method and composition for treatment of diabetes 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 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.</p>	<ol style="list-style-type: none"> 1. Caraka samhita, Ci – 12, page 301 sloka 34-38 Use of cinnamomum tamala, in a compound formulation in treatment of prameha. 2. Carakasamhita, Ci-6, page 195 solka 38-390 Use of Azardichta indicia, in a compound formulation in treatment of prameha. 3. Caraka samhita, Ci-6, page 193 sloka 27-29 Use of Tinospora cordifolia, in a compound formulation in treatment of prameha. 4. Caraka samhita, Ci-6, page 193 sloka 29-32 Use of Azardichta indicia, in a compound formulation in treatment of prameha. 5. Susruta samhita, Ci-11, page 60 Use of Azardichta indicia, in a compound formulation in treatment of prameha. 6. Susruta samhita, Ci-11, page 61 Use of, Syzygium cumini in a compound formulation in treatment of prameha. Diabetes is a type of premaha. 	<p>Reference s resemble the treatment described in patented invention.</p>

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

PRIOR ART

S.N	US PATENT DETAILS	REFERENCES CITED IN AYURVEDA	REMARKS
6.	<p>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 (<i>Withania somnifera</i>), SALLAI GUGGUL (<i>Boswellia serrata</i>), TURMERIC (<i>Curcuma longa</i>) and GINGER (<i>Zingiber officinale</i>) in a predetermined proportion relative to each other with or without other biologically active inorganic ingredients, such as zinc sulfate.</p>	<ol style="list-style-type: none"> 1. Bhava prakasa nighanu, guducyadi varga, sloka 189-190, page 393. Use of <i>Withania somnifera</i> to pacify vata. 2. Bhava prakasa nighantu, Karpuradi varga, sloka 50-51, page 212 Use of <i>Boswellia serrata</i> to pacify vata. 3. Bhava prakasa nighantu, Haritkyadi varga, page 115. Use of <i>Curcuma longa</i> to pacify to vata. 4. Bhava prakasa nighantu, Haritkyadi varga, sloka 44-52, page 12-15. Use of <i>Zingiber officinale</i> to pacify vata. 5. Astanga hardya, k 4, sloka 54-57, page 559. Use of <i>Withania somnifera</i> in a compound formulation in a treatment of vatavyadhi. 6. Astanga hardya, k 2, sloka 54-56, page 596 Use of <i>Withania somnifera</i> in a compound formulation to pacify vata. Musculoskeletal diseases are relieved by pacifying vata. 	<p>References resemble the treatment described in patented invention</p> <div style="text-align: right; border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> Back </div>