

**International Conference on “Utilization of the Traditional Knowledge Digital Library (TKDL) as a Model for the Protection of Traditional Knowledge”**

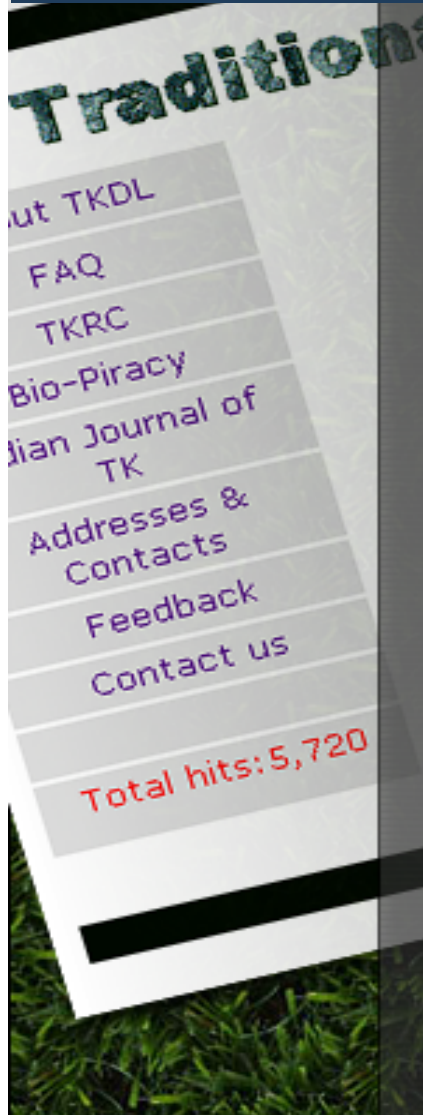
*New Delhi, India, March 22 to 24, 2011*

***The Functioning of the TKDL,  
Co-operation with International  
Patent Offices  
&  
Security & Access Considerations***

**V K Gupta, Senior Advisor and Director, TKDL,  
Council of Scientific and Industrial Research, Rafi Marg, New Delhi;  
E-mail: [vkg@csir.res.in](mailto:vkg@csir.res.in)**

# TKDL

## OBJECTIVES AND TARGET AUDIENCE



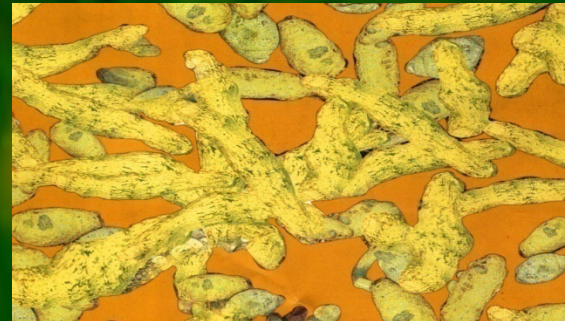
- **Prevent Misappropriation of Indian Traditional Knowledge**
  - Break Format & Language barriers
- **For International Patent Offices only**
- **Multilingual (French, German, Japanese, English & Spanish)**

# PROTECTING TRADITIONAL KNOWLEDGE

## India

- Turmeric
- Neem
- Basmati

**TKDL – TKRC - IPC**



# Extent of Misappropriation

(Ayurveda, Unani & Siddha)

Study Carried Out in March 2000

4896 references on 90 medicinal plants in USPTO patent databases

80% of references on seven medicinal plants of Indian Origin.

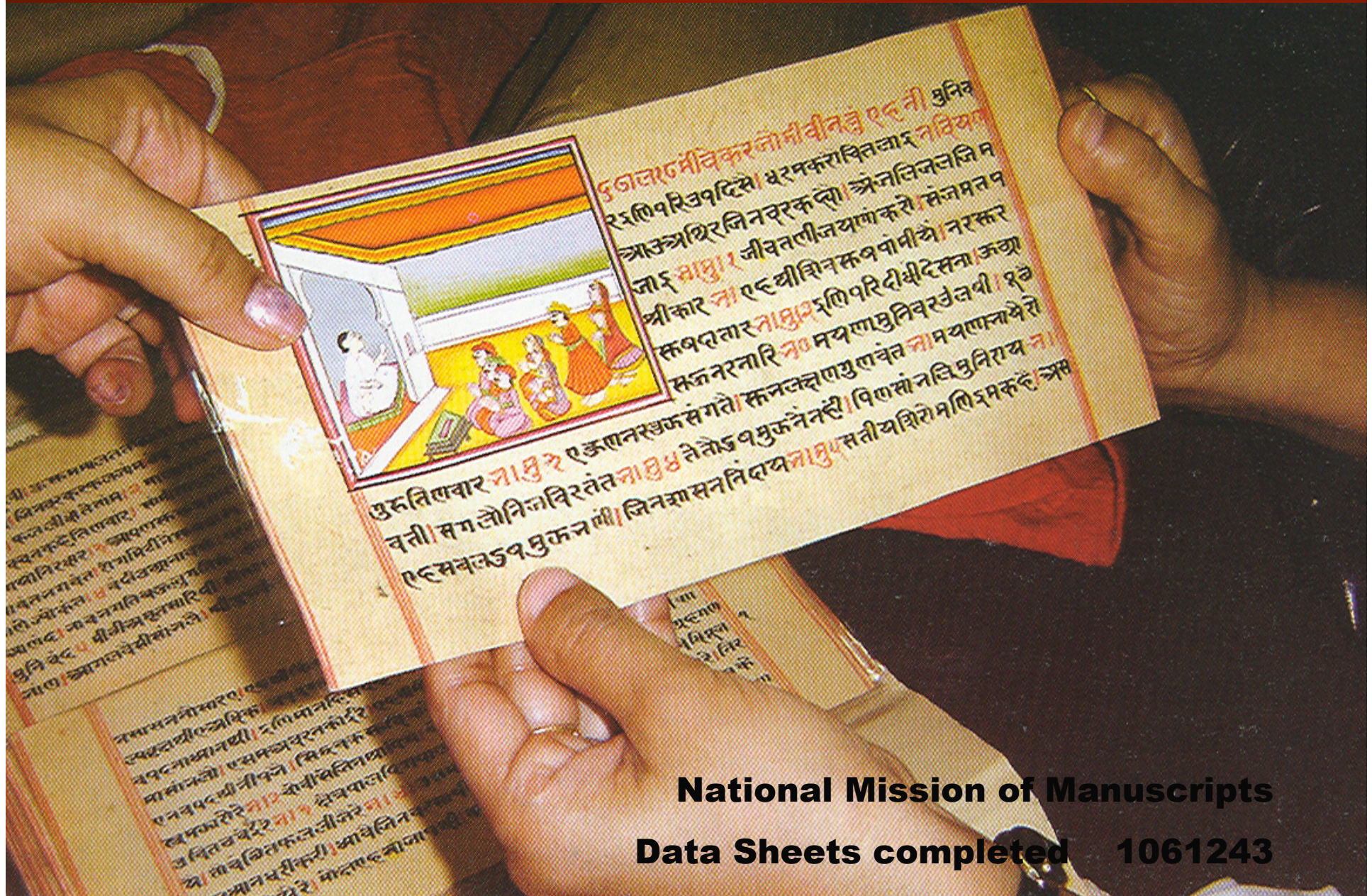
Kumari, Mustaka, Tamraparna, Garjara, Atasi, Jambira, Kharbuza

Almost 50% of patents linked to traditional medicine

# STUDIES ON PATENTS ON MEDICINAL PLANTS

■ March 2000	:	4896
■ March 2003	:	15000
■ December 2005	:	35587
■ December 2008	:	85000
■ Medicinal Plant Patents / Year	:	5000
■ Possible Patents concerning Indian Plants / Year	:	4000
■ Possible Patents on Indian system of Medicine on yearly basis	:	2000
■ Annual average Growth Rate between 2000-2008	:	200%

# Access to Traditional Knowledge



National Mission of Manuscripts

Data Sheets completed 1061243

(११८६) गुडूच्यादि काथः  
(बं० से० । मसू० त्रि०)  
गुडूची मधुकं रास्ना पञ्चमूलं कनिष्ठकम् ।  
बन्दनं काश्मर्यफलं बलामूलं विकङ्कतम् ॥  
पाककाले मसूर्यान्तु वातजायां प्रयोजयेत् ॥

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## Key Attributes of TKDL

BP/70

English

Title of Traditional Knowledge

**English**

Knowledge Known Since

Guducyadi Kvatha(14)

100 years

TKRC CODE : A01A-1/1512, A01A-1/1592, A01A-1/1789, A01A-1/1815, A01A-1/1824, A01A-1/1966, A01A-1/1988, A01A-1/2039, A01A-1/670, A01A-1/920, A01A-3/19, A01D-19/01

IPCCode : A61K35/78,A61K9/08,A61P31/12

### DETAILS OF PROCESS / FORMULATION :

1. Guducyadi Kvatha(14) is a therapeutic single/compound formulation consisting of useful parts of following ingredient(s) *Tinospora cordifolia* (Guduci), *Glycyrrhiza glabra* (Yastimadhu, Klitaka (Substitute)), *Pluchea lanceolata* (Rasna), *Desmodium gangeticum* (Salaparni), *Uraria picta* (Prasniparni), *Solanum xanthocarpum* (Kantakari, Laksamana (Substitute drugs) (Sveta)), *Solanum indicum* (Brahti), *Tribulus terrestris* (Goksura), *Pterocarpus santalinus* (Rakta candana), *Gmelina arborea* (Gambhari), *Sida cordifolia* (Bala), *Solanum xanthocarpum* (Kantakari, Laksamana (Substitute drugs) (Sveta))

2. Therapeutic composition/formulation is mentioned below :



# English

1	<i>Tinospora cordifolia</i> (Guduci)	(Stem)	1	Part
2	<i>Glycyrrhiza glabra</i> (Yastimadhu, Klitaka (Substitute))	(Root)	1	Part
3	<i>Pluchea lanceolata</i> (Rasna)	(Leaf)	1	Part
4	<i>Desmodium gangeticum</i> (Salaparni)	(Root)	0.2	Part
5	<i>Uraria picta</i> (Prasniparni)	(Root)	0.2	Part
6	<i>Solanum xanthocarpum</i> (Kantakari, Laksamana (Substitute drugs) (Sveta))	(Root)	0.2	Part
7	<i>Solanum indicum</i> (Brahti)	(Root)	0.2	Part
8	<i>Tribulus terrestris</i> (Goksura)	(Root)	0.2	Part
9	<i>Pterocarpus santalinus</i> (Rakta candana)	(Heart Wood)	1	Part
10	<i>Gmelina arborea</i> (Gambhari)	(Fruit)	1	Part
11	<i>Sida cordifolia</i> (Bala)	(Root)	1	Part
12	<i>Solanum xanthocarpum</i> (Kantakari, Laksamana (Substitute drugs) (Sveta))	(Whole Plant)	1	Part

# English

3. A composition as described above is formulated as (Decoction / Water Extract)(Kvatha)
4. Therapeutic composition mentioned above is prepared by Kvatha Curna/Kvatha: Drugs are cleaned and dried.
5. It is useful in the treatment of Small pox(Masurika)

## LIST OF DOCUMENTS WITH DATE OF PUBLICATION(PRIOR ART):

Nagin Das Chagan lal  
Saha

Bharat Bhaisjya Ratnakar, Gopi nath Bhisakratnen  
Vol II B. Jain publishers (New Delhi) Ed. Reprint - August 1999.



RS/08

従来の知識資源のタイトル

Mañjiṣṭhādīkvāṭhaḥ (Vṛhat) (08)

# Japanese

その後知られている知識

500 years

TKRC Code : A01A-1/1225, A01A-1/1237, A01A-1/1351, A01A-1/1463, A01A-1/1482, A01A-1/1515, A01A-1/1547, A01A-1/1587, A01A-1/1590, A01A-1/1592, A01A-1/16, A01A-1/1664, A01A-1/1740, A01A-1/1824, A01A-1/1864, A01A-1/1883, A01A-1/1935, A01A-1/1938, A01A-1/1966, A01A-1/2000, A01A-1/2147, A01A-1/237, A01A-1/265, A01A-1/291, A01A-1/415, A01A-1/429, A01A-1/44, A01A-1/480, A01A-1/488, A01A-1/513, A01A-1/52, A01A-1/530, A01A-1/538, A01A-1/566, A01A-1/60, A01A-1/603, A01A-1/635, A01A-1/741, A01A-1/759, A01A-1/761, A01A-1/823, A01A-1/880, A01A-1/903, A01A-1/972, A01A-1/989, A01A-2/25, A01A-3/47, A01A-3/9, A01D-1/35, A01D-18/04, A01D-20/25, A01D-21/01, A01D-6/31, A01D-8/07, A01D-8/28, A01D-8/52, A01D-9/07, a01f-1/1

IPC コード : A61K35/78, A61K9/08, A61K9/14, A61P15/00, A61P17/00, A61P19/00, A61P19/02, A61P19/06, A61P21/00,

## のプロセス/ 公式 :

1. Mañjiṣṭhādīkvāṭhaḥ (Vṛhat) (08) 次のような有用な構成成分を含む治療的化合物製剤アカネ・カルジフォリア (マンジスタ), カヤツリグサ (ムスタカ), ホラレナ・アンチダイセンテリカ (クタジャ、インドラヤヴァ), タイノスポラ・コルジフォリア (グドウチ), モッコウ (クスタ), ジンギベル・オフィシネール (アルドラカ), クレロデンドラム・セツラタム (バランギ), ソレナム・ザントカルパム (カンタカリ、ラクサマナ (代用薬品)) (スヴェタ), アヤメガサ (ヴァチャ), アザジラクタ・インジカ (ニンバ), ウコン (ハリドラ), メギ・アリステタ (ダルハリドラ), カラスウリ・ダイオイカ (パトラ), コウレン (カトウキ), コンズランゴ・テネシシマ (ムルワ), エンベリア・ライプス (ヴィダンガ), プロテカルプス (ビジャカ (アサナ)), セイロンマツリ (チタラカ), アスパラガス・レスモサス (サタヴァリ、メダマハメダ (代用薬品)), リンドウ・クッルー (トラヤマツナ, トラヤンティ), キンマ・リンガム (ピッパリ), ホラレナ・アンチダイセンテリカ (クタジャ、インドラヤヴァ), アデトダ・ヴシカ (ヴァサ), タカサブロー・アルバ (ブリッガラジャ), ヒマラヤスギ・ヒマラヤスギ (デヴァダル), シサンペロス・パレイラ (パタ), アセンヤクノキ (カディラ), シタン (ラクタ・チャンダナ), オペルクリナ・タルパタム (トリワルタ), クラタエヴァ・ヌルヴェラ (ヴァルナ), センプリ・シライタ (キラタティクタ), ソレリア・コリリフォリア (バクキ), ナンバンサイカチ (アルガワダ), ストブラス・アスパル (サクホタカ), センダン・アゼダラク (マハニンバ、カイドリヤ?), ポンゲミア・ピンネタ (カランジャ、ナクタマラ、ウドキリヤ), トリカプト・ヘテロフィツラム (アティヴィサ), サヤバナ・ヴェッティヴェロイデス (ハリベラ), スイカ・コロシンチス (インドラヴァルニ), ヘミデスマス・インジカス (サリヴァ (ウトパラ・サリヴァ)), フェマリア・パルヴィフロラ (パルパタ・ベータ), ファゴンタ・クレティカ (ダンヴィヤサ), テルミナリア・チェブラ (ハリタキ), テルミナリア・ベッリリカ (ビビタカ), エンブリカ・オフィシユナリス (アマルキー)

## 2. 治療的構成/製剤は以下の通り

1	アカネ・カルジフォリア (マンジスタ)	(根)	1	パート、部
2	カヤツリグサ (ムスタカ)	(茎・塊茎)	1	パート、部
3	ホラレナ・アンチダイセンテリカ (クタジャ、インドラヤヴァ)	(ステムバーク)	1	パート、部
4	タイノスポラ・コルジフォリア (グドウチ)	(ステム)	1	パート、部
5	モッコウ (クスタ)	(根)	1	パート、部
6	ジンギベル・オフィシネール (アルドラカ)	(根茎)	1	パート、部



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## Attributs de clef de TKDL

French

Titre de ressource traditionnelle de la connaissance

La Connaissance Connue Depuis

Mañjiṣṭhādīkvāthah (Vṛhat) (08)

500 années

**TKRC Code :** A01A-1/1225, A01A-1/1237, A01A-1/1351, A01A-1/1463, A01A-1/1482, A01A-1/1515, A01A-1/1547, A01A-1/1587, A01A-1/1590, A01A-1/1592, A01A-1/16, A01A-1/1664, A01A-1/1740, A01A-1/1824, A01A-1/1864, A01A-1/1883, A01A-1/1935, A01A-1/1938, A01A-1/1966, A01A-1/2000, A01A-1/2147, A01A-1/237, A01A-1/265, A01A-1/291, A01A-1/415, A01A-1/429, A01A-1/44, A01A-1/480, A01A-1/488, A01A-1/513, A01A-1/52, A01A-1/530, A01A-1/538, A01A-1/566, A01A-1/60, A01A-1/603, A01A-1/635, A01A-1/741, A01A-1/759, A01A-1/761, A01A-1/823, A01A-1/880, A01A-1/903, A01A-1/972, A01A-1/989, A01A-2/25, A01A-3/47, A01A-3/9, A01D-1/35, A01D-18/04, A01D-20/25, A01D-21/01, A01D-6/31, A01D-8/07, A01D-8/28, A01D-8/52, A01D-9/07, a01f-1/1

**Code d'IPC :** A61K35/78, A61K9/08, A61K9/14, A61P15/00, A61P17/00, A61P19/00, A61P19/02, A61P19/06, A61P21/00, A61P25/00, A61P27/00, A61P27/02, A61P29/00, A61P3/04, A61P3/06, A61P31/00, A61P31/08, A61P33/00, A61P43/00

**DÉTAILS DU PROCESSUS/DE FORMULATION :**

1. Mañjiṣṭhādīkvāthah<sup>a</sup> (Vṛhat) (08) composé thérapeutique contenant des parties utiles des ingrédients suivants *Rubia cordifolia* (Manjichtha), *Cyperus rotundus* (Moustaka), *Holarrhena antidysenterica* (koutadja, indrayava), *Tinospora cordifolia* (Goudouchi), *Saussurea lappa* (Koustha), *Zingiber officinale* (Ardraka), *Clerodendrum serratum* (Bharangi), *Solanum xanthocarpum* (Kantakari), *Lakchamana* (Droque en remplacement) (Chwéta), *Acorus calamus* (vatcha), *Azadirachta indica* (Nimba), *Curcuma longa* (Haridra), *Berberis aristata* (dârouharidrâ), *Trichosanthes dioica* (Patôla), *Picrorhiza kurroa* (Katouki), *Marsdenia tenacissima* (Mourva), *Embelia ribes* (Vidangâ), *Pterocarpus marsupium* (Beedjaka (âsana)), *Plumbago zeylanica* (Tchitraka), *Asparagus racemosus* (chatâvari, médâmahâméda (Droque en remplacement)), *Gentiana kurroo* (Trâyamana Trâyanti), *Piper lingum* (Pippali), *Holarrhena antidysenterica* (koutadja, indrayava), *Adhatoda vasica* (Vatcha), *Eclipta alba* (Bhringarâdja), *Cedrus deodar* (dévadârôu = le cèdre (déodar)), *Cissampelos pareira* (Patha), *Acacia catechu* (Khadira), *Pterocarpus santalinus* (Rakta chandana), *Operculina turpethum* (Trivrta), *Crataeva nurvala* (Varuna), *Swertia chirayita* (Kirâtatikta), *Psoralea corylifolia* (Bakouci), *Cassia fistula* (argavadha), *Streblus asper* (Sakhôtaka), *Melia azedarach* (Mahânimba, Kaidrya?), *Pongamia pinnata* (Karandja, Naktamâla, Oudkirya), *Aconitum heterophyllum* (ativicha), *Coleus vettiveroides* (haribéra), *Citrullus colocynthis* (Indravarouni), *Hemidesmus indicus* (Sariva (Outpala sariva)), *Fumaria parviflora* (Parpata bhédâ (U)), *Fagontia cretica* (Dhanavayassa), *Terminalia chebula* (Haritaki), *Terminalia bellirica* (Bibheetaka), *Embelia officinalis* (Amalki)

2. formulation composé thérapeutique est mentionnée ci-dessous



RS/08

## Schlüssel-Attribute von TKDL

German

Titel traditionellem Wissen Hilfsmittel

Wissen Seit dem Bekannt

Mañjisthādikvāthah (V̄rhat) (08)

500 Jahre

**TKRC Code :** A01A-1/1225, A01A-1/1237, A01A-1/1351, A01A-1/1463, A01A-1/1482, A01A-1/1515, A01A-1/1547, A01A-1/1587, A01A-1/1590, A01A-1/1592, A01A-1/16, A01A-1/1664, A01A-1/1740, A01A-1/1824, A01A-1/1864, A01A-1/1883, A01A-1/1935, A01A-1/1938, A01A-1/1966, A01A-1/2000, A01A-1/2147, A01A-1/237, A01A-1/265, A01A-1/291, A01A-1/415, A01A-1/429, A01A-1/44, A01A-1/480, A01A-1/488, A01A-1/513, A01A-1/52, A01A-1/530, A01A-1/538, A01A-1/566, A01A-1/60, A01A-1/603, A01A-1/635, A01A-1/741, A01A-1/759, A01A-1/761, A01A-1/823, A01A-1/880, A01A-1/903, A01A-1/972, A01A-1/989, A01A-2/25, A01A-3/47, A01A-3/9, A01D-1/35, A01D-18/04, A01D-20/25, A01D-21/01, A01D-6/31, A01D-8/07, A01D-8/28, A01D-8/52, A01D-9/07, a01f-1/1

**IPC Code :** A61K35/78, A61K9/08, A61K9/14, A61P15/00, A61P17/00, A61P19/00, A61P19/02, A61P19/06, A61P21/00, A61P25/00, A61P27/00, A61P27/02, A61P29/00, A61P3/04, A61P3/06, A61P31/00, A61P31/08, A61P33/00, A61P43/00

### DETAILS DES PROZESSES/DER FORMULIERUNG :

1. Mañjisthādikvāthah (V̄rhat) (08) ist eine therapeutische , die aus folgenden Zutaten besteht Rubia cordifolia (Manjistha), Cyperus rotundus (Mustaka), Holarrhena antidysenterica (Kutajha, Indrajava), Tinospora cordifolia (Guduki), Saussurea lappa (Kustha), Zingiber officinale (Ardraka), Clerodendrum serratum (Bharangi), Solanum xanthocarpum (Kantakari, Lakschmana (Ersatzdroge) (Schweta)), Acorus calamus (Vaka), Azadirachta indica (Nimba), Curcuma longa (Haridra), Berberis aristata (Daruharidra), Trichosanthes dioica (Patola), Picrorhiza kurroa (Katuki), Marsdenia tenacissima (Murwa), Embelia ribes (Vidanga), Pterocarpus marsupium (Bijaka (Asana)), Plumbago zeylanica (Kitraka), Asparagus racemosus (Satavari, MedaMahameda (Ersatzdroge)), Gentiana kurroo (Trajamana, Trajanti), Piper lingum (Pippali), Holarrhena antidysenterica (Kutajha, Indrajava), Adhatoda vasica (Vasa), Eclipta alba (Bhringaraja), Cedrus deodar (Devadaru), Cissampelos pareira (Patha), Acacia catechu (Khadira), Pterocarpus santalinus (Rakta-Tschandana), Operculina turpethum (Trivrita), Crataeva nurvala (Varuna), Swertia chirayita (Kiratatikta), Psoralea corylifolia (Bakuzi), Cassia fistula (Argavadha), Streblus asper (Sakhotaka), Melia azedarach (Mahanimba, Kādrja?), Pongamia pinnata (Karanja, Naktamala, Udkirja), Aconitum heterophyllum (Ativisa), Coleus vettiveroides (Haribera), Citrullus colocynthis (Indrawaruni), Hemidesmus indicus (Sariva (Utpala sariva)), Fumaria parviflora (Parpata-Bheda (U)), Fagontia cretica (Dhanvaiasa), Terminalia chebula (Haritaki), Terminalia bellirica (Bibhitaka), Emblica officinalis (Amalki)

2. Therapeutische Mischung/Formulierung ist unten erwähnt :

1	Rubia cordifolia (Manjistha)	(Wurzel)	1	Anteil
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RS/08

## Cualidades de la llave de TKDL

Spanish

Título del recurso tradicional del conocimiento

Conocimiento Sabido Desde entonces

Mañjisthādikvāthah (Vrhat) (08)

500 años

**TKRC Code :** A01A-1/1225, A01A-1/1237, A01A-1/1351, A01A-1/1463, A01A-1/1482, A01A-1/1515, A01A-1/1547, A01A-1/1587, A01A-1/1590, A01A-1/1592, A01A-1/16, A01A-1/1664, A01A-1/1740, A01A-1/1824, A01A-1/1864, A01A-1/1883, A01A-1/1935, A01A-1/1938, A01A-1/1966, A01A-1/2000, A01A-1/2147, A01A-1/237, A01A-1/265, A01A-1/291, A01A-1/415, A01A-1/429, A01A-1/44, A01A-1/480, A01A-1/488, A01A-1/513, A01A-1/52, A01A-1/530, A01A-1/538, A01A-1/566, A01A-1/60, A01A-1/603, A01A-1/635, A01A-1/741, A01A-1/759, A01A-1/761, A01A-1/823, A01A-1/880, A01A-1/903, A01A-1/972, A01A-1/989, A01A-2/25, A01A-3/47, A01A-3/9, A01D-1/35, A01D-18/04, A01D-20/25, A01D-21/01, A01D-6/31, A01D-8/07, A01D-8/28, A01D-8/52, A01D-9/07, a01f-1/1

**Código del IPC :** A61K35/78, A61K9/08, A61K9/14, A61P15/00, A61P17/00, A61P19/00, A61P19/02, A61P19/06, A61P21/00, A61P25/00, A61P27/00, A61P27/02, A61P29/00, A61P3/04, A61P3/06, A61P31/00, A61P31/08, A61P33/00, A61P43/00

### DETALLES EL PROCESO/FORMULACIÓN :

1. Mañjisthādikvāthah (Vrhat) (08) Es una formulación compuesta terapéutica que consiste de las siguientes partes útiles de ingredientes. *Rubia cordifolia* Linn. (rubia, granza), *Cyperus rotundus* Linn. (Mustaka, Ganda-durva (Sustituto)), *Holarrhena antidysenterica* (Roxb. ex Flem.) Wall. ex DC. (i) nombre de un árbol Karanja), *Tinospora cordifolia* Miers (Guduci), *Saussurea lappa* Clarke (lepra), *Zingiber officinale* Roscoe (Ardraka/Sunthi), *Clerodendrum divaricatum* Jack Syn.: *C. serratum* Spreng. (Bharangi), *Solanum surattense* Burm. F. Syn.: *S. xanthocarpum* Schrad. & Wendl. (Kantakari, Laksamana (droga de sustituto) (Sveta)), *Acorus calamus* Linn. (Una especie de pez), *Azadirachta indica* A. Juss. (limero), *Curcuma domestica* Valetton Syn. *C. longa* Linn (Haridra, Timira (Sustituto)), *Berberis aristata* DC. (el árbol Devadaru color verde), *Trichosanthes dioica* Roxb. (el pepino), *Picrorhiza kurroa* Royle ex Benth. (Katuki), *Marsdenia tenacissima* Wight. & Arn. (Murva), *Embelia ribes* Burm. f. (Una sustancia vegetal, usada extensamente como vermifugo), *Pterocarpus marsupium* Roxb. (Bijaka), *Plumbago zeylanica* Linn. (Citraka), *Asparagus racemosus* Willd. (Satavari), *Gentiana kurroo* Royle (Variedad de Trayamana), *Piper longum* Linn. (Pippali), *Holarrhena antidysenterica* (Roxb. ex Flem.) Wall. ex DC. (i) nombre de un árbol Karanja), *Justicia adhatoda* Linn. Syn.: *Adhatoda vasica* Nees (bambú), *Eclipta prostrata* (Linn.) Linn. Syn.: *E. alba* (Linn.) Hassk. (nombre de un árbol gigante), *Cedrus deodara* (D. Don) G. Don (una especie del pino), *Cissampelos pareira* Linn. (hoja), *Acacia catechu* (Linn. f.) Willd. (Arbol Khadira), *Pterocarpus santalinus* Linn. f. (Rakta candana), *Operculina turpethum* (Linn.) S. Manso (Trivrtā), *Crateva nurvala* Buch. -Ham. (el océano agua), *Swertia chirayita* (Roxb. ex Flem.) Karst. (Kiratatikta), *Psoralea corylifolia* Linn. (Bakuci), *Cassia fistula* Linn. (matanza de las abejas amarillas), *Streblus asper* Lour. (Sakhotaka), *Melia azedarach* Linn. (Mahanimba), *Pongamia pinnata* (Linn.) Pierre (Karanja, Naktamala, Udkirya), *Aconitum heterophyllum* Wall. ex Royle (planta venenosa pero altamente medicinal), *Coleus*

# STATUS

<b>Discipline</b>	<b>Current Status</b>
<b>Ayurvedic formulations</b>	<b>85,500</b>
<b>Unani formulations</b>	<b>1,20,200</b>
<b>Siddha formulations</b>	<b>13,470</b>
<b>Yoga</b>	<b>1098</b>

**TKDL ready to safeguard 0.226 million medicinal formulations like Neem and Turmeric in Ayurveda ,Unani and Siddha which are present in 34 million A4 size pages, at International Level**



## **TKDL & WORLD HEALTH ORGANIZATION**

**Regional consultation on Development of Traditional Medicines in the South East Asia Region, Pyongyang, DPR Korea, 22-24 June 2005**

### **Recommendation No.5**

**WHO should develop a model framework on replicating Traditional Knowledge Digital Library (India) suitable for adapting to individual Country needs**



# *Interest Shown by several Countries for getting develop their National TKDL*

- South Africa
  - High level delegation from Department of Science & Technology visited during Dec., 2003
- African Regional Industrial Property Organisation
  - Delegation visited during May – June 2004 for replicating TKDL for ARIPO Member States.
- Govt. of Thailand
  - Delegation visited during July 2009 for Joint Workshop between Public Health Department, Thailand & TKDL Unit, CSIR, India.
- Govt. of Mongolia
- Govt. of Cambodia
- Govt. of Malaysia
- Govt. of Indonesia

The information, along with a photographic scan of the relative verse, is then uploaded to an online database and translated into English, French, German, Spanish, Japanese and Hindi. So far, some 140,000 treatments have been entered into the Traditional Knowledge Digital Library (TKDL), a \$2 million project launched five years ago to provide a direct link to what is regarded in the patent world as prior knowledge. The first of its kind, the TKDL is serving as a

## Natural Healing

Will India succeed in bringing its ancient Ayurvedic plant medicines into the modern world?

By Aryn Baker | Kottakkal

### THIS WEEK'S COVER



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FRIDAY, SEPTEMBER 23, 2005 25 cents  
**India makes moves to reclaim heritage from piracy'**

By David  
LONDON  
September



**BBC NEWS**

**BBC NEWS** Wednesday, 7 December 2005, 13:22 GMT India hits back in 'bio-piracy' battle By Soutik Biswas, BBC News, Delhi

[http://news.bbc.co.uk/2/hi/south\\_asia/4506382.stm](http://news.bbc.co.uk/2/hi/south_asia/4506382.stm) In a quiet government office in the Indian capital, Delhi, some 100 doctors are hunched over computers poring over ancient medical texts and keying in information.....People outside India are not aware of our immense traditional knowledge wealth VK Gupta, project director .....The mammoth Indian encyclopaedia may finally give alternative medicine the shot in the arm it sorely needs

**telegra**

**India adopts yoga poses**  
**By David**  
**(Filed: 19 Dec 2005)**

"Yoga piracy is becoming very common, says Vinod Gupta, whose office is in London. He says the traditional knowledge and intellectual property of the yoga community is being stolen by others, including the art of yoga, and is being used to create a digital library of yoga poses. "No one should be able to copy the art of yoga," says Mr. Gupta. "The internet has made it possible for anyone to copy the art of yoga, and we are moving to do a recently pilloved on traditional knowledge and their patent

"We know of at least 150 asana yoga postures in the UK, Germany and Japan. These were developed by them as their own."

In an effort to protect the domain in India for the postures drawn by Patanjali, the government is taking a small step toward that goal by building a catalog of plants and yoga positions. The institute plans to add traditional Indian food, architecture and farming methods -- all in an effort to establish the provenance of India's natural and cultural property. "At least 150 experts have been working six days a week for the last three years on this," says V.K. Gupta, director of the institute. "Now we have a mechanism through which we can prevent

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The move is part of a larger effort to protect the domain in India for the postures drawn by Patanjali, the government is taking a small step toward that goal by building a catalog of plants and yoga positions. The institute plans to add traditional Indian food, architecture and farming methods -- all in an effort to establish the provenance of India's natural and cultural property. "At least 150 experts have been working six days a week for the last three years on this," says V.K. Gupta, director of the institute. "Now we have a mechanism through which we can prevent



**Eric Bellman** The Wall Street Journal, 19 December 2005  
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# BUSINESS

## Break with tradition

Traditional medicine has spent decades in the wings of pharmacology. Now India is pushing it to centre stage, as **K. S. Jayaraman** reports.

For years, the drug industry has been curious about traditional medicine — especially the venerable systems of India and China. Now, the Indian government has taken a step that could open the way for greater commercial exploitation of its traditions around the world. In the past few years, India has developed a huge electronic database known as the Traditional Knowledge Digital Library. Late last month, the Indian cabinet agreed to give patent offices around the world access to the library, to make sure that patents are not granted on existing Indian remedies. And the government may soon go one stage further, inviting major international drug companies to collaborate with Indian researchers on deriving drug candidates from the library's contents. It hopes to boost the country's public health care in the process.

But the move to share the library's content has sharply divided opinion in India, where the country's cultural and intellectual heritage, knowledge of sharing say that the database, which has been under construction at the National Institute of Science Communication and Information Resources in New Delhi since 2000, could have a major impact on the process of drug discovery. The database has the potential to "slash the cost of drug development", says Vinod Gupta, a computer scientist and director of the institute. "We have a treasure chest of plant-based medicines, created by experimenting directly on man for hundreds of years."

Others are not so sure. They worry that India risks losing out by sharing its knowledge with outsiders. Purveyors of traditional medicine fear that international companies will grab control of the information. "It is hard to believe that the multinational drug companies are interested in collaborating on traditional-medicine research in order to promote it," says P. Ram Manohar, research director of Aryavidya Pharmacy, which produces drugs based on traditional knowledge in Coimbatore. "Their interest would be confined to using it to develop new drugs — over which they could exercise



India's database of traditional medicine has 145,000 formulations

to document digital for agreed to patent search it on any of But c quote v what?



### IN THIS ISSUE NATURE INSIGHT: LAB ON A CHIP

27 July 2006 | www.nature.com/nature | £10 THE INTERNATIONAL WEEKLY JOURNAL OF SCIENCE

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Wound healing induced by electric signals

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NATURE JOBS  
Clinical trials



### IN BRIEF

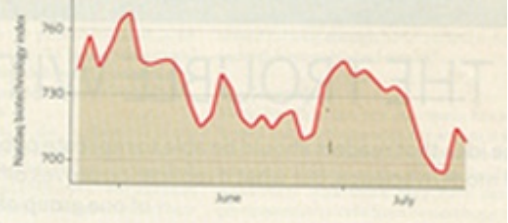
**VACCINE VENTURE** Swiss drugmaker Novartis has announced plans to build a \$600-million, state-of-the-art production plant for flu vaccine in Holly Springs, North Carolina. The plant — more than a third of which will be paid for by the US government — will be the first in the United States to derive vaccines from cell culture rather than the chicken eggs commonly used at present. The company says its facility is designed to produce 50 million doses of seasonal flu vaccine annually, and up to 150 million doses of avian-flu vaccine if required.

**CHINA CRISIS** Amnesty International, the human-rights watchdog, has accused Google and Microsoft of contributing to 'internet repression' in China by cooperating with the country's authorities. "The apparatus of internet repression is considered to be more advanced in China than in any other country and companies are particularly willing to cooperate with the Chinese government," Amnesty says in a report issued on 20 July. Yahoo has faced a consumer backlash in the West, after giving the police the identities of two dissident Chinese writers, who are now in prison.

**GREEN FOCUS** The Ford motor company has said that it will spend £1 billion (US\$1.9 billion) over six years in Britain on research and development into cleaner engines. The company says that 9,500 engineers will be deployed in the effort. It intends to create a version of its most popular car — the Ford Focus — that delivers 70 miles per gallon. The announcement has been welcomed by the government, but unions note that it involves the redeployment of existing resources, not fresh investment.

### MARKET WATCH

#### BIOTECHNOLOGY STOCKS



This week, Wood Mackenzie, an Edinburgh-based research and consulting firm, reviews recent trends in biotechnology stocks.

Biotech continues to retreat from its high point in February, although the rate of decline has slowed. The Nasdaq biotechnology index is down 4% over the past eight weeks, and 12% since the start of the year. Broader indices are also falling in a volatile market.

Amgen of Thousand Oaks, California, has fared particularly badly, falling 5% over the past eight weeks and 20% so far in 2006. Investors believe there is a growing threat to Amgen's erythropoietin drugs for treating anaemia, which generated \$5.8 billion in sales in 2005 — nearly half of total turnover. Rival Roche of Basel, Switzerland, has a second-generation erythropoietin drug, called CERA, which is likely to reach the market in 2007. And the European Union has cleared

a path for the approval of generic versions of some biological drugs, including erythropoietin.

Amgen is given more 'weight' in the index than any other company, so its losses are an important factor in the overall drop. But many other listed firms have suffered.

Shares in Anadys Pharmaceuticals of San Diego, California, lost two-thirds of their value after the company suspended a phase I trial of its hepatitis-C treatment and its chief executive announced his forthcoming departure. Stock prices in another San Diego company, Neuropeptide Biosciences, dropped by three-quarters after problems with its insomnia drug candidate, indipion.

In a period of general market anxiety, biotech shares are particularly vulnerable to bad news. Now, strong second-quarter results will be needed to bolster confidence in the sector.

# *TKDL Access Agreement to International Patent Offices*

(CCEA has approved access to TKDL for International Patent Offices)

- European Patent Office February 2009
- Indian Patent Office July 2009
- German patent Office October 2009
- United States Patent and Trademark Office November 2009  
*Access Agreement with USPTO was signed on the sideline of the state visit of Hon'ble Prime Minister to United states.*
- United Kingdom Patent and Trademark Office February 2010
- Canadian Intellectual Property Office September 2010
- IP Australia January 2011
- Japan Patent Office Earlier scheduled for 25th March 2011, now postponed
- New Zealand IP Office Being Negotiated

# *Access to TKDL*

- **Users**

- Shall not disclose the content to third party
- Shall utilize for patent search & examiners, can give printouts to patent applicants for citation purposes
- No use other than search & examination
- Will provide non-confidential information received from applicant on usage to provider
- Will give feedback for enhancing the features of TKDL

- **Provider**

- Shall provide uninterrupted access
- Training to users (as and when needed)
- Render assistance in search & examination (as & when needed)
- Free to utilize for itself & can grant access to others

# TKDL Access (Non-disclosure) Agreement

## Responsibilities of CSIR (Provider)

- CSIR shall provide uninterrupted access to its website to use *TKDL* for the purposes of all phases of patent grant procedure including the inspection of files.
- CSIR shall provide training to User to use *TKDL* tools for search and examination as and when needed.
- CSIR shall render assistance through *TKDL* in search and examinations as and when needed by the User.
- CSIR shall remain free to grant access of *TKDL* to other patent offices on a non-exclusive basis for search and examination purposes.

# TKDL Access (Non-disclosure) Agreement

## Responsibilities and Obligations of User

- The User shall not disclose any information of *TKDL* contents to third parties unless it is necessary for the purposes of patent grant procedure. Except as mentioned above, the User undertakes to preserve the secrecy and/or confidentiality of the information.
- The User shall use *TKDL* information only for the purposes of the patent grant procedure in all its phases including the inspection of files and for no other purpose.
- The User shall on a quarterly basis send the number of times content of *TKDL* was cited by the User's examiners during the search process relating to published patent applications.
- Survival of obligations for maintaining the secrecy and confidentiality of *TKDL* shall remain even after the termination of this Agreement.





# Views of EPO After Access to TKDL

- An improved patent granting process at an early stage of patent examinations.
- A unique encyclopedia
- Shedding light on grey areas
  - TKDL is precise and TKRC ensures meticulous documentations
  - Thanks to TKDL, patent examiners can prove exactly when and where a medical treatment became public knowledge

# After Signing of Access Agreement with USPTO

- USPTO got its patent examiners trained by CSIR for Search and Examination of TK based patent applications in October 2010 at TKDL facility in Ghaziabad.
- A team of TKDL experts would visit USPTO to train larger number of USPTO's examiners.
  - Interaction with USPTO resulted in enhancing the features of TKDL and revised search & assistance manual.

# Access Agreement with EPO

- **First Request received for TKDL Access in July 2005**
- **Interministerial TKDL Access Policy Issue committee (APIC) could not arrive at consensus since MHRD desired a national Access policy as a pre-requisite and took a view that 2001 cabinet approval was only on creation of TKDL**
- **Hon able Health and Family Welfare Minister convened an Interministerial meeting in Jan 2006**
  - **All departments, AYUSH, CSIR, DIPP, Department of Commerce, Law and Justice and Environment and Forest were of the view that Access be initiated without delay since cabinet approved existed implicitly.**
  - **MHRD did not change the stance**
- **CCEA approved Access to International Patent offices in June 2006 under TKDL Access Agreement**
- **Access Agreement with EPO is being negotiated since June 2006**
- **India has not agreed to EPO's request for TKDL database to be resident in EPO's servers**
- **Conditions of access by EPO under the Access Agreement are**
  - **No third party disclosure except the print outs to the applicant(s) for the purpose of citation only**
  - **Utilization for the purpose of Patent grant procedures**
  - **Preserve the secrecy and/or confidentiality of information**
  - **Agreement for a period of 3 years**
  - **India shall provide training and render search and examination assistance in case desired by EPO**
  - **Annual joint review**

# TKDL Access Agreement with other International Patent Offices

- **United States Patents & Trade Mark offices**
  - **Negotiation were initiated in Dec.2006**
  - **USPTO considers TKDL established by India is part of the very important work being done internationally w.r.t Traditional Knowledge databases. These databases will help to compliment the extensive prior art searches done by the patent examiners in the united states & around the world.**
- **Last response from India was sent on 27.10.2008. There is an agreement on all issues except giving access to TKDL in USPTO`s public search area for members of public.**
- **11, other International search Authorities (Australia, Japan, Russia, Korea, China etc)**
  - **Propose to associate WIPO**
  - **Former Secretary AYUSH (Mrs Anita Dass) had a fruitful discussions in this regard in September 2008 with Dr. Francis Gurry DG. WIPO along with Ambassador PMI India.**
  - **Agreement Signed with USPTO in November 2009.**
- **Balance International Patent offices**
  - **Agreement concluded with major International Patent Offices**
- **Would protect globally Indian Traditional Medicinal open domain documented knowledge.**

# *Technical Measures on Protecting TKDL*

- *Securing the Content*
- *Protecting Database Servers*
- *Hosting in a Secured Data Centre*
- *Disaster recovery with multiple Site Option*
- *Protecting the Website*
- *Periodic Third Party Audit*

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# *TKDL Specificity on Security Concern*

- **TKDL Developmental Servers**  
(Not on Internet)
- **TKDL Servers are Search & Retrieval Servers and not Transaction Servers**
  - **In expensive: 4000 – 10,000 US\$**
- **Co-hosting in Third Party Data Centers at multiple Sites**
  - **Saves high cost on maintaining a data centre and its complexities**
- **Content Security**
  - **Data in form of symbols & meta data directories**
  - **Encryption**
  - **Utilize intrusion prevention / detection tools**
- **24 X 7 monitoring of Access logs**

# *Concerns being raised on TKDL*

- **TKDL permits content in public domain through citation and/or third party observations.**
- **TKDL is based on 148 books easily available at a cost of Rs.50000.** 
- **Any Individual/Organisation, National/International can create TKDL in case they are able to develop TKDL Technology.**
- **TKDL provides only defensive protection.**
- **TKDL is a prior art tool and breaks the Novelty of wrong patent applications.**
- **TKDL as a tool is a source of new Medicines, thus can create new IP**





Thank You

## List of Unani Books

S. No.	Name of Book	Author / Editor	Cost in Rs.
1.	Al-Qaanoon-fil-Tibb , Vol. V (11th century AD)	Abu Ali Ibn Sina	1200
2.	Kaamil-al-Senaa'h, Part I (10th century AD)	Ali Ibn Abbas Majoosi	1000
3.	Quarabadeen Azam (19th century AD)	Mohd. Azam Khan	700
4.	Miftaah-al-Khazaain (20th century AD)	Mohd. Najmul Ghani Khan	200
5.	Khazaain-al-Advia, Vol. I (20th century AD)	Mohd. Najmul Ghani Khan	1500

***Total No. of Books- 10***  
***Total Cost of Books- Rs. 19000 /-***

## List of Siddha Books

S. No.	Name of Book	Author / Editor	Cost in Rs.
1	Agasthiyar Paripooranam - 400 [700 A.D -1000 A.D]	Agasthiyar	50
2	Boga Munivar Vaithyam - 700 [700 A.D -1300 A.D]	Bogar / V.Ayodiyathasar	102
3	Therayar Yamaha Venba, Part - 2 [10-15thCenturyAD]	Therayar / Dr.R.Thiyagarajan	25
4	Agathiyar Gunavaagadam (INA) [700 A.D -1000 A.D]	Agathiyar/Dr.C.P.Samy	35
5	Therayar Yamaha Venba, Part - 1 [10-15thCenturyAD]	Therayar / Dr.R.Thiyagarajan	80

***Total No. of Books- 50***  
***Total Cost of Books – Rs. 2900 /-***

## List of Ayurveda Books

S. No.	Name of Book	Author / Editor	Cost in Rs.
1.	Charaka Samhita (Time of origin 1000 BC-4th century )	Agnivesh	2050
2.	Sushruta Samhita (Time of origin 1000 BC-5th century) Vol.-I, II)	Sushruta	2000
3.	Rasayoga sangrah-I,II	Vaidya Pandita Hariprapanna	1150
4.	Bharat Bhaishajya Ratnakarah- Vol-I,II,III,IV,V.	Naginadasa Chaganalala saha	1500
5.	Ayurvedic Formulary of India – Part I	Govt of India	250

***Total No. of Books- 75***  
***Total Cost of Books- Rs. 27000 /-***

## List of Yoga Books

S. No.	Name of Book	Author / Editor	Cost in Rs.
1	Shatchakranirupanam	Bharata Bhushana	100
2	Hathapradipika (14th - 16th century)	Swami Digambaraji	150
3	Gheranda Samhita (17th - 18th century)	Swami Digambaraji	150
4	Gorakshashatakam (10th century)	Swami Kuvalyananda & Dr. S.A. Shukla	75
5	Nathamunias Yoga Rahasya	T. Krishnamacharya	250

***Total No. of Books- 13***  
***Total Cost of Books – Rs. 1800 /-***

