Triskandha Kosha Project

Triskandha Kosha is a unique project **where Information Technology, Ayurveda , Sanskrit** have come together/conglomerated to provide **information** from Ayurveda in a **well-classified** manner. It is a **pioneer project** of its kind.

This project received **funding** from **ISM & H (Indian System of Medicine & Homeopathy) (presently Ayush)** in initial phase & later by **CSIR (Council for scientific & Industrial Research)** both under **Health and Family welfare Ministry. Dr. Mashelkar**, with his vision of bringing modern technology & ancient sciences together, is a mentor of the project.

The project has been appreciated by eminent personalities **like Hon. Bhairosinhaji Shekakhavat, then Vice president**, **Late Vd. Shreeramji Sharma former president CCIM, Vd. Ramesh Nanal, Dr. Darshan Shankar from FRLHT (Foundation for revitalization of traditional health systems), Dr C. P. Shukla and Vd. Bindumadhav Katti (Letters attached).**

Unavailability of required resources, constant reshuffling of researchers leading to greater time for training the new researcher to enable him/her to get the vision of project, lack of a pool of researchers with equal fluency in Ayurveda, Sanskrit & Computers loss of the visionary of the project – Late Vd. M. V. Kolhatkar in the initial phase were the major hurdles faced by the project. The loss of Vd. Kolhatkar was a blow to the project. With sudden removal of his guidance the project got a setback. Dr. Gadgil his follower had a difficult task to take the project to completion without his guidance.

Aims & Objective: To create an **electronic database** for fast retrieval of information in an easily accessible format. To **develop a diagnostic & treatment software**.

Ayurvedic texts store a vast pool of information, but it is in a scattered & in an intermixed format. To obtain information on a particular subject one has to read each & every line from all the 4 texts. This is a time consuming, tedious & repetitive task for each information. Triskandha Kosha is a solution to this difficulty.

Methodology: The project was completed phase wise. **Initial** phase was **database creation**. The **later** phase was to **develop a diagnostic & treatment software**.

Database creation: The initial database merely helped word search. Later as experience gathered it was converted to present structure.

Information was collected from the 4 texts namely Charak Samhita, Sushrut Samhita, Ashtang Sangrah & Ashang Hrudaya which are the most ancient authentic texts. Each line of text was classified under 3 headings. Hetukosha- Lakhana Kosha- Aushadha Kosha

Diagnostic Software:-

   Ayuta nidan is diagnostic software developed by the vaidyas for the vaidyas. It uses causes, presymptoms, signs & symptoms, process of disease manifestation & knowledge of factors relieving or aggravating the disease to reach final diagnosis (Hetu, Purvarupa, Rupa, Samprapti and Upashay).

- When a patient comes The **patient** generally mentions **3 to 4 symptoms**.
- Each symptom is present approximately in 50 diseases averagely.
- **The clinician** with **experience** reduces the diseases under consideration to **5-6 diseases**.
- The **computer** has to consider at least **150 disease conditions** for differential diagnosis.
- Computerization of the diagnostic process requires it to be broken down into **simple small steps** which is not a easy task. We have done this **in house**.

   Depending on the presence or absence of identifying symptom of disease the diseases is incluedo or excluded from final diagnosis. The innovative exclusion criteria have been used first time in the field of Ayurveda. We have used this software in our OPD to aid diagnosis.

- Generaly a few known causes are queried in a patient. (since the diagnostic software uses Hetu database, all the causes related to particular diseases are considered. This is useful in complicated cases.
- Symptoms can be selected by clicking on a particular body part making it easier.
- Audio help is provided for each screen.
- Symptoms can be selected under 5 headings (The way they are examined)
1) Rupa (sight – redness etc)
2) Sparsha (touch – hardness, glandular etc)
3) Rasa (taste – sourhess, sweetness etc)
4) Gandha (odour – foulsmell etc)
5) Shabdu (sound hoarceness, breathing sounds etc) which makes it easier to select.
- This software is useful to understand newer diseases. When the diagnosis in the form of disease is not possible it presents with conditions of three dosha, body tissues where ever possible. Based on this information patient can be treated
- Covers all the diseases given in text.

Ayuta Upachar – is an **Ayurvedic Treatment Software**, based on Aushadha Kosha to aid physicians in treating patients. It presents well-classified information of various treatments for a particular disease condition or symptom as well as for maintenance of health. **It is useful for developing new formulations (refer project use-6. pharmaceuticals)**

- It provides 2 Main Options

   **1.Chikitsya - to be treated   2.Chikitsa – the treatment**

   Chikitsya
1) In **Chikitsya** category one can look for "Disease/symptom" & can find all possible treatments namely Panchakarma, other karma, various formulations arranged

according to the type of medicine, viz. Kwatha, Ghruta, Gutika etc., Single medicines, Pathya, Apathya (do's and don'ts) etc.

2) Formulations acting on a particular body part across all diseases.
3) Formulations specific to conditions like pregnancy, post natal, elderly etc.
4) health maintenance and preventive treatment.
5) Treatment for Effects of improper treatment

The **Chikitsa** category provides information about

1) all single medicines along with their use
2) various formulations in which these single medicines are present & the uses of those formulations etc.
3) All formulations with their ingredients & uses in various diseases.

4) It provides information about specific actions such as Medhya, Keshya etc. One doesn't miss any reference from the texts e.g. Tapyadichurna will be found for Apasmara as well, though mentioned in Panduroga

5) Information about Panchakarma and other Karma - indications, contraindications, restrictions, drugs useful etc.

6) Some patients do **not tolerate** Arishta, some Taila or ghruta or it may be contraindicated in some due to other conditions. Some drugs may not be present in Dispensary at that instant. One can easily select **appropriate, palatable and easily assimilated drug** for the patient. On further clicking detail information is provided.

7) This **software** is **totally** created **by the vaidyas for the vaidyas**. Hence it has taken into consideration almost all the angles from which the vaidya will search the data.

Ayuta Upachar
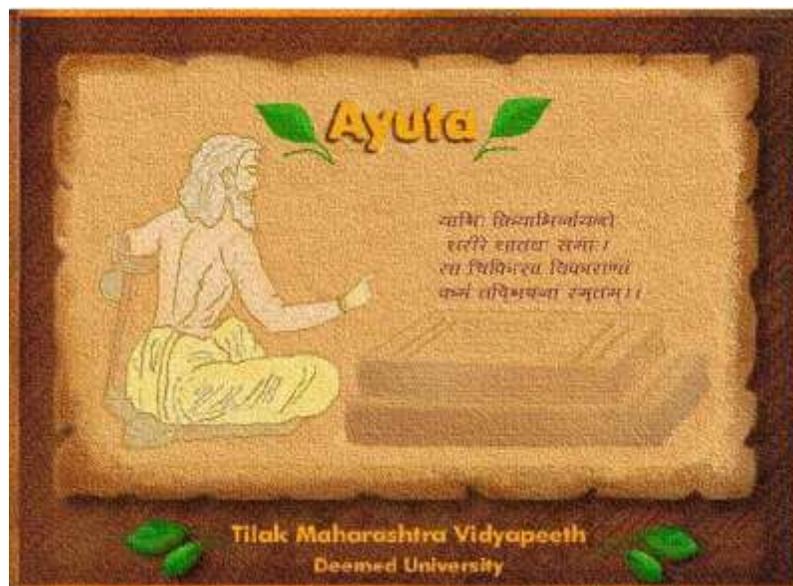
Lakshan Kosha is around 3200 pages of A4 size. It is a very useful tool fast retrieval of information and for **differential diagnosis**. It was published in **Feb 2002** at the hands of **Hon. Dr Murli Manohar Joshi,Minister HRD ministry**

Hetu Kosha is of 3200 A4 size pages. It was published in **March 2004** at the hands of **Late Hon. Vaidyaraj Shreeramji Sharma president CCIM**.

Ayuta Nidan (Diagnostic software) It was published at the hands of **Hon. Mr. Arjun Singhji,** HRD Minister, Govt. of India and **Hon. Mr. Shivrajji Patil,** Union Home Minister, Govt. of India in April 2005
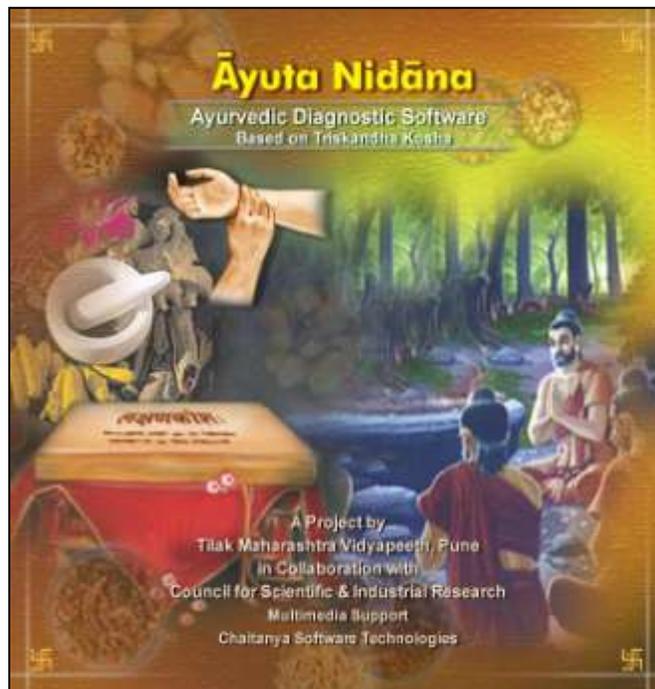
Release of Āyuta Nidāna
18th April 2005 RELEASED AT NEW DELHI

It was published at the hands of **Hon. Mr. Arjun Singhji,** HRD Minister, Govt. of India and **Hon. Mr. Shivrajji Patil,** Union Home Minister, Govt. of India in April 2005

Aushadha Kosha is of 8000 A4 size pages. It was published in 2008 at the hands of **Hon. Monteksing Ahluwalia, and Hon. chief minister Vilasrao Deshmukh.**
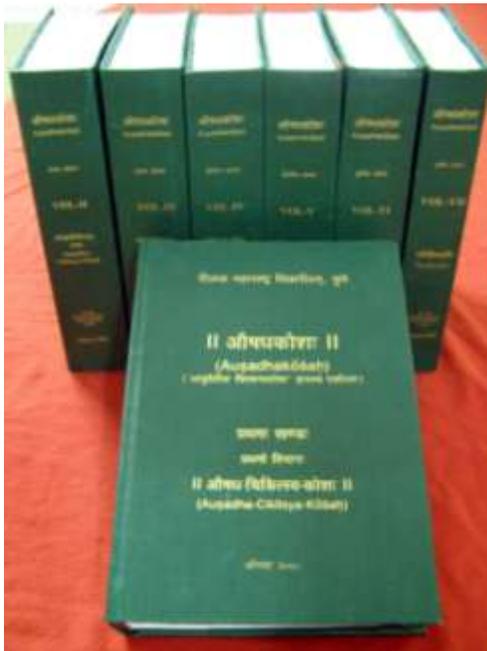
The late vaidya Shivnath Sharma Ayurveda Research Award by Gyan Kalyan charitable trust Delhi was awarded for the year 2001-2002 to the PI Dr. Gadgil at the hands of Dr. Bhairosingh Shekhavat, **vice president of India** on 22 March 2003. **Shreemati Sushma Swaraj, cabinet minister**, family welfare and health ministry was present on the occasion.

In October 2008 **Vaddekar Award** was given by Kesari Maratha trust for the project.

Dr. Moreshwar Narayan and Lakshmibai Agashe Smruti Nyasa Award

Usefulness of Triskandha Kosha Project :-
1. Exhaustive reference guide for lecturers.
2. Researcher – useful to study etiology, symptoms, particular organ, develop newer formulations. Eg. There are 50 symptoms associated with stomach. Stomach is 30 times involved in manifestation of diseases leading to 30 diseases. There are 60 signs & symptoms associated with hand disease conditions associated with hand 37.
3. Diet prescription for diseases possible. Various diets for particular organ mentioned eg. Diet for eyes etc.
4. Case paper / questionnaire can be created for various symptoms/ diseases, on the basis of sign symptoms given and causes mentioned in kosha. Eg. Skin disease (case paper attached, Lakshan Kosha page attached).
5. Patent issues can be tackled with the help of ayuta Upachar.
6. Pharmaceuticals:
    I. According to tradition few formulations are used in different parts of country. Those formulations which are not in practice currently can be re – searched.
    II. Some times rather than mentioning names of drugs, properties are mentioned. Eg. drugs with Sweet taste. Drugs with this property though hot mentioned specifically can be used. This will lead to newer formulations. (slide print attached)

    In Shwasa (difficulty in breathing), Amachikitsa(treatment for Aam- undigested chyle) treatment is advised. Here one can develop newer formulations.(slide print attached)

7. Clinicians: - useful aid for differential diagnosis treatment.
8. Students: - All the information related to a topic provided at a click of a button. The repetitive time consuming, tedious job of collecting all the references related to a topic is totally replaced. The same time can be used for research.

Usefulness of the project

Researchers in Ayurvedic field	Exclusive references from four major texts of Ayurveda in an easily accessible manner. Beneficial for any kind of research viz. Clinical, Basic, fundamental, Pharmaceutical etc.
Teachers	Easy, Comprehensive & Complete explanation of all the subjects. More beneficial to the teachers who are writers too.
Students	To use the Kosha as an exhaustive reference guide.
Practitioners	Information for precise diagnosis and Treatment of the day-to-day as well as uncommon cases.
Software	A diagnostic and treatment software for practitioners, research workers and common people, too.
Patent issues	Marvelous tool for preventing the Biopiracy and handling patent issues regarding medicinal plants.
Researchers in any medical field	Can play an important role to link up Ayurveda and Modern Medical science and watch for similarities and dissimilarities, with the use of glossary.
Portal information	Data-mining and web applications can be done.