# Traditional Knowledge Systems of India and Sri Lanka

Papers presented at the COMPAS Asian Regional Workshop on Traditional Knowledge Systems and their Current Relevance and Applications

3-5 July 2006, Bangalore

A. V. Balasubramanian and T. D. Nirmala Devi (eds)

Compas series on Worldviews and sciences 5

Centre for Indian Knowledge Systems, Chennai September 2006 This book is the fifth in the Compas series on Worldviews and sciences

#### Other volumes are:

1. Education Intra e Intercultural: Alternatives a la Reforma Educativa Neocolonizadora

(Intra- and intercultural education: Alternatives for neo-colonialist educational reforms)

Edition Plural, La Paz Bolivia 2006

Editors: Freddy Delgado B and Juan Carlos Mariscal C

2. Dialogo Intercultural e Interscientifico para el Fortalecimiento de las Ciencias de los Pueblos Indigenal Originarios

(Intercultural and interscientific dialogue for strengthening the sciences of the original peoples in the Americas)

Edition Plural, La Paz 2006

Editors: Freddy Delgado B and Cesar Escobar V.

3. African Knowledge and Sciences: a potential for endogenous development UDS / Compas / CTA 2006

Editors: David Millar, Stephan Bugu Kendie, Agnes Atia Apusiga and Bertus Haverkort

4. Moving worldviews: Reshaping sciences, policies and practices in Europe ETC / Compas, Leusden 2006

Editors: Bertus Haverkort and Coen Reijntjes

5. Traditional Knowledge Systems of India and Sri Lanka COMPAS / CIKS September 2006

Editors: A. V. Balasubramanian and T. D. Nirmala Devi

6. Endogenous development and bio-cultural diversity: the interplay between worldviews, globalisation and locality

Compas / CDE (in preparation)

Title Traditional Knowledge Systems of India and

Sri Lanka

Publication September 2006

Editors A.V. Balasubramanian and T.D. Nirmala Devi

Copy - editing Sashikala Asirvatham

Editorial Assistance R. Sridevi

Design & Layout Anand Ramachandran

Layout Assistance S. Ramesh

Financial Support Produced as part of the COMPAS programme for

Endogenous Development and Cultural Diversity supported by The ETC Foundation, Netherlands

Publisher & Copies can be

had from No

Centre for Indian Knowledge Systems (CIKS) No: 30, Gandhi Mandapam Road

Kotturpuram, Chennai - 600 085 Ph: (044) 24471087, 24475862

Email: info@ciks.org

Printers Unique Graphic Printers

No.41, (Old No. 49), Nallanna Street

Royapettah, Chennai – 600 014

#### Illustration on the cover

#### Kalamkari painting by artist C. Subramanian of Sri Kalahasthi, Andra Pradesh

The cover depicts the story from our *Puranas* about the Neem tree. When the *Devas* and the *Asuras* (representing the divine and the demonic forces respectively) churned the ocean of milk, Lord *Dhanvanthri* (the patron saint of traditional medicine) appeared with a pot of *Amritha* (ambrosia). A few drops of this ambrosia dropped on the Earth and from these drops was born the Neem tree. It has been revered in our Tradition, as *Sarva Roga Nivarani* – the cure for all diseases. Even today it is widely used in traditional agriculture for crop protection and enrichment of soil.

# **CONTENTS**

1.	Background	8
2.	Programme schedule	11
3.	Conference papers	15
	Inaugural session Bertus Haverkort, Knowledge and Sciences in the Global Context: Contradictions, Competition, Coexistence, Complementarity, Coevolution	16
	Agronomy	
	Nene, Y.L., Utilizing Traditional Knowledge in Agriculture Malkanthi Gunaratne, Nawakekulam – A traditional agricultural	32
	practice of Sri Lanka <sup>w</sup>	39
	Ranganathan, T.T., Documentation and Validation of Traditional Agricultural Practices	40
	Sridevi, R. and Subhashini Sridhar, Traditional Agricultural Practices for Crop Protection – Testing and Validation	62
	Gowtham Shankar, K.J.N., Endogenous Development in Tribal Agriculture	68
	Livestock and Veterinary Sciences	
	Balakrishnan Nair, M. N., Documentation and Assessment of Ethnoveterinary Practices from an Ayurvedic Viewpoint	78
	Veena Ganesaiah, T., Punyakoti Test – An Ancient Egyptian Test (2200 BC) Extended to Diagnose Pregnancy in Cattle Hariramamoorthy, G., Promotion of Ethnoveterinary Medicine in	91
	Dakshina Kannada District, Karnataka Aruna Kumara, V.K., An Initiative towards the Conservation and	94
	Development of Indian Cattle Breeds	104
	Kahandawa, K.A.J., Traditional Veterinary Knowledge of Sri Lanka Vivekanandan, P., Towards A Pastoral Policy: For Protection of	114
	Pastoralists' Rights and for Conservation of Local Animal Breeds	119
	Traditional Methods of Weather Forecasting	
	Kanani, P.R., Testing of Traditional Methods of Weather Forecasting in Gujarat Using the Participatory Approach	125
	Traditional Healthcare Methods	
	Nimal Hewanila, Reclamation of Traditional Knowledge on Snake Bite Treatment $^{\Psi}$	145

The full text of these papers are currently not available and hence the abstract alone has been presented here.

Unnikrishnan, P.M., Traditional Orthopaedic Practices of Southern	
India - A Pilot Study	148
Smita Bajpai, Advocacy for Recognition of the Dai	156
Jayasinghe Perera, Traditional Medicine and Food Today	174
Harish Naraindas, Conflict, Co-existence and Translation: The	
Question of Innovation in Contemporary Traditional Medicine <sup>₩</sup>	177
Discussion on Policy Issues Working in Smaller Groups	178
Group I - University teaching and research	
• Group II - Generation and validation of traditional knowledge	
• Group III - Upscaling and translating endogenous development (ED) into action	
Group IV - Advocacy forum	
Methodology of Traditional Sciences and Technologies	
Balasubramanian, A.V., Is There an Indian Way of Doing Science?	183
Rama Jayasundar, Research in Ayurveda	193
Ram Manohar, Methodological Rigour in Knowledge Building –	105
Ayurveda and the Scientific Challenge Padma Venkatasubramanian and P.M. Unnikrishnan,	195
Traditional Knowledge Guided Research and Standardization of	
Traditional Medicines	204
Sarat Bandara, J.M.R., Indigenous Methods in Sri Lankan	
Agriculture: Beliefs, Mysteries, Myths or Science \(^{\psi}\)	212
Coen Reijntjes, Universities: From Assessment of Traditional	
Knowledge to Intra- and Intercultural Dialogue and Coevolution	213
Chitra Krishnan and Srinivas V. Veeravalli, Tanks and Anicuts of	
South India: Examples of an Alternative Science of Engineering	220
Nimal De Silva, Concepts and Principles used in Traditional Houses	
and their Modern Adaptations in Sri Lanka	227
Ananda Wood, New physics and Old Sciences	230
Creating an Enabling Policy Environment for	
Strengthening Traditional Knowledge Systems	220
Bhargava, P.M., How to make India a Knowledge-based Society?	239
Concluding session	250
Brief Bio-Data of Participants	252
List of Participants	258

\_

4.5.6.

<sup>♥</sup> The full text of these papers are currently not available and hence the abstract alone has been presented here.

# Traditional Veterinary Knowledge of Sri Lanka

**K.A.J. Kahandawa,** Future In Our Hands, 325/A/3, Kanupelella, Badulla, Sri Lanka Email: fiohfund@gmail.com / future@wow.lk

#### **Abstract**

Ethnoveterinary practice (EVP) is a practice that has come a long way in the history of Sri Lanka. This has been carried out particularly by farmers in remote areas. Indigenous veterinary medicinal treatments are low cost, easily accessible and environment friendly as the necessary herbal plants and extracts can be found in the surrounding lands. After the arrival of western medicine, EVPs gradually started eroding, because of which cattle farmers now face lots of problems such as difficulty in accessing veterinary personnel, unbearably high treatment costs etc.

# Historical background

Before the intervention of the British, Sri Lankan kings were very interested in livestock and EVPs. Therefore, they extended immense support and co-operation to EV practitioners. Ethnoveterinary practice became very popular not only for cattle but also for elephants and other animals. By way of appreciation, the kings awarded lands to EV practitioners and gave them the prestigious name of "Wana Sundara".

Rural farmers still prefer indigenous veterinary practices to western treatment methods. Therefore, Future In Our Hands (FIOH) has gathered information for the purpose of revitalizing these practices.

Since the year 2003, FIOH has identified more than 25 EVPs in their operational areas. Various cattle diseases and the symptoms of those diseases were identified by the EV practitioners, farmers and healers of Uva Province by having meetings and discussions. As alternatives to western medicines, various simple home remedies and simple herbal treatments are used by the rural community of Sri Lanka.

These practices are carried out with a combination of spiritual, astrological and physical aspects.

The identified diseases and treatments were discussed with experienced and knowledgeable cattle farmers, and they too agreed that these methods were very effective and successful. Thereafter, the collected data were published in a booklet, and workshops were conducted for cattle farmers, and also these data were brought to the attention of the Uva Provincial Council Members, veterinary surgeons and the Commissioner of Ayurveda. This presentation highlights the experiences and some of the interesting findings of the study.

The relationship between animals and human beings can be traced back to the beginning of civilization. Each civilization had its own space for animals. Certain civilizations saw animals as divine beings and even worshipped them.

Medical treatment for animals basically started with their domestication. The traditional knowledge related to ethnoveterinary practices (EVP) should be seen in the background of the world-view of the communities that developed and perfected them.

Sri Lanka had a rich knowledge of animal health and treatment methods. According to the legends, the history of EVPs goes back to the Ravana era, when there was a famous doctor "Sushena" who treated animals. It was also known that when Arahat Mahinda brought Buddhism to Sri Lanka, he was accompanied by Ayurvedic doctors who treated domestic as well as wild animals.

There was king called Buddhadasa (337–365 BC), who was a well-known physician and who treated both humans and animals. This indicates the social status given to medical practitioners at that time. Some of the kings in Sri Lanka paid special attention to animal treatment. The kings in Sri Lanka, awarded lands to EV practitioners, and for their services, they were given the prestigious name *Wana Sundara*. The house of a practitioner was known as *Weda-Gadera*, "medical house", and the practitioner was known as *Weda Mahattaya*, "medical practitioner".

#### The world-view

In general, the world-view of communities influenced the way people looked at and treated animals. Since the introduction of Buddhism, Sri Lankan society respected *ahimsa* with respect to human beings as well as animals. Killing animals was considered a sin and eating meat was unacceptable and thought sinful. (The first of the five precepts a Buddhist should follow always is "refrain from killing".) *Karaniya Mettta Sutta*, a well-known discourse of Lord Buddha, is a household name in Sri Lanka even today. The *Sutta* is about spreading loving kindness to all beings. So, in general, according to this world-view, animals should be looked after, and in case of illnesses, they should be treated the same as human beings.

In the case of human beings, health aspects were combined with the belief system of "good living", which mostly meant "religious living". Specifically, it included "refraining from eating meat". At the same time, a major part of good living was ascribed to the previous *kamma* of a person. And in order to sustain good living, the person also had to accumulate *kamma* through good deeds. One of the major good deeds was to refrain from killing, and killing was a deed that accumulated bad *kamma* (papa).

Traditional treatment methods for human beings were combined with astrology, spiritual practices and then the physical medical treatments.

Traditional EVPs in Sri Lanka should be viewed in the light of the above belief system. As the killing of animals was taboo, raising animals for meat was not accepted. In order to accumulate good *kamma*, a person should not only refrain from killing but he should also treat and look after the welfare of animals. So, treating animals was considered as important as treating human beings.

A medical practitioner whether for humans or for animals had equal importance in society. Both were revered as *Weda Mahattaya* (medical practitioner). In most cases, the practitioner treating human beings was also able to treat animals.

This healing art and its practices were carried from generation to generation, both in written and oral forms. These practitioners played a vital role in society. They were considered to be of great service, and society respected them.

With the western influence, these practices started gradually eroding. "Veterinary doctors" were trained according to the western culture where animals are looked at as a major source of direct food (meat and milk). The government began to

patronize western treatment systems, and local knowledge was not recognized. The value given to EVPs was very low, and governmental support for developing or sustaining them was almost non-existent.

The farmers and animal keepers also began to depend on western treatment methods, at very high costs. The impact of using western veterinary knowledge was later understood by them. Western treatment methods have side effects such as the inducing of allergies, and they are very expensive and depend on imported drugs. Traditional EVPs are environment friendly, low cost, not money oriented and have no side effects. There is a mutual understanding between people and healers and the natural environment in the traditional system.

# FIOH programme on revitalization of traditional knowledge and practices

Future In Our Hands (FIOH) has been involved in developmental activities in the rural areas of Uva Province for the last 20 years. Through its mobilization programme, it has found many indigenous knowledge based practices that exist in these areas related to agriculture and human and animal health.

Cattle rearing is practiced on a small scale and is popular among the rural community. Cattle are useful in many ways – in agriculture, transportation and milk production. The number of farmers who use traditional knowledge in farming has reduced in the post-colonial era. But there are farmers who are still using some form of traditional agricultural practices because they have seen the benefit of them. As in the case of agriculture, there are some cattle farmers still using EVPs, and the traditional knowledge has been preserved within the communities.

A few years ago, FIOH conducted participatory rural appraisal (PRA) programmes to identify and plan developmental activities. During this programme, the participating cattle farmers mentioned the problems they faced of inaccessibility of veterinary personnel and the high cost of western medical treatment.

During the same programme, FIOH also found many EV practitioners in these villages, but they were inactive because the wider community was unaware of their knowledge and practices. Some farmers used traditional methods for the primary healthcare of animals.

# Documentation and highlights of findings

More than 20 healers, who possessed ethnoveterinary knowledge, were identified in FIOH operational areas. They inherited this healing art mostly orally from their forefathers. There are not many texts about these practices. Therefore, the healers together with FIOH decided to document this traditional practice.

With the identification of EV practitioners, FIOH started documentation of their knowledge and experiences.

This was done through individual discussions with the practitioners and by organizing a forum for them so that they could come together periodically and conduct group discussions. At the same time, information was also collected from the farmers about the remedies they used for cattle ailments.

# The treatment system

The treatment system can be categorized into three parts.

- 1. **Using spiritual powers:** Chanting *pirith* (Buddha mantra), making offerings to local deities, yantras and mantras and kem rituals are used widely in EVPs.
- 2. **Using cosmic powers:** Use of astrology is also seen in this aspect. *Neketh* and *Karana* are widely used in the treatment of animals.
- 3. **Physical resources:** Plant components are used for the preparation of medicine. This is connected to the use of cosmic powers too. For example, extracting leaves or roots from plants is carried out using particular methods in order to enhance their healing qualities.

Documentation was carried out for the following diseases, symptoms and treatments: fever, diarrhoea, mucous diarrhoea; bloat, worm infection, cough, eye diseases, urinary disorders, mastitis, uterine disorders, snake bites, infertility, decreasing milk yield, hoof and mouth diseases, respiratory diseases, fractures, wounds, for easy removal of the placenta and some other diseases locally known as *Veppu* and *adappa* (there are 4,448 treatment conditions of *Veppu and adappa* in their practice).

One hundred and forty-eight treatments have been recorded for the above diseases/conditions. For each disease/condition, there are a number of treatments. They are based on locally available herbs and on the practical experience of the medical practitioners.

The treatment methods include oral drugs as well as applications of different preparations over the body/affected area.

Most of the treatments are combined with astrology, spiritual powers and cosmic powers.

#### Validation

Validating EVPs is a challenge. Most practices have a non-physical side that cannot be grasped in a western way of "validation". It is possible to carry out chemical analyses of most of the herbs used in treatments but that will not throw any light on the holistic nature of the treatment methods. Therefore, FIOH used the following methodology.

After collecting this information, the validation was conducted in the following ways. Firstly, the collected information was discussed among the cattle farmers who were the real users of the techniques. The farmers could clarify some of the methods during these discussions. At the second stage, the information was discussed with the selected experienced healers. During these discussions, consensus was reached and the methods were generally accepted as valid.

These discussions were facilitated by "resource persons" who possessed knowledge of traditional healing methods and were trained in western treatments.

After documentation, a few workshops were conducted for cattle farmers as well as for EV practitioners to share this knowledge. Through this process, farmers as well as practitioners shared and confirmed the effects of the healing methods documented during the research.

#### Promotion

The 20 selected diseases and treatments were published in a booklet, which is now available in the local language and is widely used by farmers. An English translation will be available shortly.

Rare medicinal plants were given to the *vaidya*, or healers, to develop their home gardens.

Support is provided for the preparation of readymade medicines, which are useful for easy treatment.

FIOH conducted workshops and training programmes to share the experiences of cattle farmers and EV practitioners and to learn to identify the biological conditions of animals from western veterinary surgeons.

# Mainstreaming

FIOH organized an awareness programme on EVPs in Uva Province. This was attended by the Chief Secretary of Uva Province, Secretary to the Ministry of Indigenous Medicine, the Commissioner of Ayurveda, veterinary surgeons and farmers and healers who participated in this programme.

In this programme, the Indian experience on EVPs was also shared through a presentation made by the FRLHT team from India.

FIOH has supported a programme for handing over the knowledge to the next generation. Most of the healers have selected their sons or daughters to train to continue this practice; to encourage the young generation, FIOH is providing educational support.

To popularize these activities, FIOH has conducted/broadcast radio programmes on indigenous knowledge practices in agriculture and animal health on Uva Radio.

Attempts are being made to co-ordinate with Veterinary Department and university personnel and ministry officials to get recognition for these healing practices.

Farmers have indicated that most of these treatments can be used for primary healthcare of animals.

#### Kahandawa, K.A.J.

K.A.J. Kahandawa has a B.A. (Hons) in sociology from the University of Ceylon, Peradeniya. Founder and President of Future In Our Hands (FIOH) Development Fund, a leading NGO operating in the Uva province of Sri Lanka, he is also the Programme Director of Operation Days Work, Sri Lanka, and is a visiting lecturer – "Sub-national Level Development Planning" – at the University Of Colombo, Sri Lanka.