CHAPTER IV

KNOWLEDGE OF TRADITIONAL MEDICINE-

A SCANNING IN GLOBAL SETTINGS

The togetherness of ‘Man’ and ‘Nature’ existed from the time of origin of man, followed by development of community structure and civilizations, with mechanisms for the securities for survival and sustenance\(^1\). The essential components of which consisted of Health and Habitat. In fact, health is wealth, which is linked with food and habitat.

The health care industry with its overburdening reliance on innovation, and patents, depends on medicinal ecological knowledge to derive eco-friendly products with minimum side effects from plants and other natural genetic resources\(^2\). Most indigenous and local communities are situated in world’s most biological rich and diverse, areas with abundance in natural resources, however economically disadvantaged. To them this natural environment is a way of life and a part of their cultural existence.

The third world countries are bestowed with a unique wealth of medicinal plant resources and indigenous knowledge systems\(^3\). This herbal tradition exists in various forms throughout the country and the preventive and promotive aspects of the traditional herbal system are gaining popularity throughout the world. Thus, the scope for developing plant based drugs for dreadful human diseases assume great significance.

The WHO has listed over 21,000 plant species used around the world for medicinal purposes. Over 7500 species of plants are estimated to be used by 4365 ethnic communities for human and veterinary health care in India\(^4\) and about 2,500 plant species belonging to more than 1000 genera are being used in indigenous systems of medicine\(^5\).
India is 10th among the plant rich countries of the world and fourth among the Asian countries. The Eastern Ghats and Western Ghats harbours about 5,332 endemic species of higher plants. Twenty five global hot spots have been identified so far, of which the Western Ghats and Eastern Himalayas are located in India are of significance.

Macro analysis of the distribution shows that medicinal plants are distributed in diverse habitats, with around 70 per cent of the resource are found in the Indian Sub-Continent spread over Western and Eastern Ghats, the Vindhyas, Chotta Nagpur Plateau, Aravallis, the Terai Region in the foothills of the Himalayas and the North-East. Less than 30 per cent of the medicinal plants are found in the temperate forest and higher altitudes. Micro-ecological studies show that larger percentages of medicinal plants are occurring in dry and moist deciduous forest as compared to the evergreen or temperate forests.

From time immemorial, plants and its allied products has been used in the treatment of various ailments all over the world especially in local communities in developing countries. Traditional Medicine knowledge is that aspect of IK of people in local communities which relates to the use of plants and other natural resources in the treatment of health related conditions. Traditional Medicine knowledge begins with the study of local plants species to identify edible, medicinal and poisonous ones. Plant forms the main ingredients of medicine in traditional system of healing and has been the source of inspiration for several major pharmaceutical drugs. Traditional Medicine knowledge goes beyond knowledge of what plant species is used for treatment of a particular ailment.

Traditional Medicine is now a well-known and respected field. Many multinationals no longer denigrate TRM and have in fact been trying to secure patents on Indian medicine without acknowledging the source. Much re-legitimizing of Indian medicine has already been done.

In many developing countries, a large part of the population, especially in rural areas, depends mainly on TRM for their primary health care. For example, 65 per cent of the Indian
population only has access to traditional systems of medicine, and in Africa 80 per cent of the people use TRM. In most Asian countries, though allopathic medicine is available, TRM is still very popular, including in highly developed countries like Japan. In other industrialized countries the use of ‘alternative medicine’ is increasing\textsuperscript{11}. In 1993, a survey found that one in three adults in the US used alternative medicine. As a result, the world market for herbal medicines has been estimated at 60 billion US dollars\textsuperscript{12}. But while herbal medicines represent an alternative, an option, for people in industrialized countries, they often are the only alternative for people in developing countries.

1. Definition of Traditional Medicine

Traditional Medicine can be seen as a subset of TK\textsuperscript{13}. A multifaceted concept, TK embraces every walk of life from genetic resources, farm produce, personal and spiritual aspects like yogic practices to TRM\textsuperscript{14}.

World Health Organisation has given three different definitions for TRM\textsuperscript{15}.

- The sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement or treatment of physical and mental illnesses.
- The sum total of all knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical mental or social imbalance and relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing.
➢ To include a diversity of health practices, approaches, knowledge, and beliefs incorporating plant, animal, and/or mineral-based medicines; spiritual therapies; manual techniques; and exercises, applied singly or in combination to maintain well-being, as well as to treat, diagnose, or prevent illness\(^6\).

Knowledge of TRM is an integral part of the indigenous knowledge of local communities which according to Sithole\(^7\) is a complete body of knowledge, know-how and practices maintained and developed by the people, generally in rural areas, who have extended histories of interaction with the natural environment\(^8\). This interaction sets understandings, interpretations and meanings that are part of a cultural complex\(^9\).

The Report of the Royal Commission on Aboriginal Peoples defines traditional healing as\(^10\);

“…practices designed to promote mental, physical and spiritual well-being that is based on beliefs which go back to the time before the spread of western ‘scientific’ bio-medicine”.

When Aboriginal Peoples in Canada talk about traditional healing, they include a wide range of activities, from physical cures using herbal medicines and other remedies to the promotion of psychological and spiritual well-being using ceremony, counseling and the accumulated wisdom of elders\(^11\).

2. Historical Background of Traditional Medicine

Primitive man lived at the mercy of nature, in constant terror of diseases. From time immemorial, the tribal priests and medicare practitioners used various plants, minerals, and
animal organs, usually in association with strange rituals to drive out the evil spirits, which they believed to be the cause of diseases. This theory of demonical possession lasted for many centuries and exists even today in areas where people live in primitive societies. Records of early civilizations of the world reveal that a considerable number of drugs used in modern medicine were in use even in ancient times\textsuperscript{22}. The use of plants for curing various diseases figured in manuscripts such as The Bible, The Rig-Vedas, the Iliad, the Odyssey and the History of Herodotus\textsuperscript{23}. The ancient Chinese used medicinal plants 6000 years ago\textsuperscript{24}.

The Babylonians, Egyptians, Greeks, Romans and Sumerians, all developed their respective characteristic Materia Medica. On the other side of the world, the Aztecs, Mayans and Incas had developed primitive medicines\textsuperscript{25}. The oldest and most comprehensive Chinese work about herbal drugs the ‘Yellow Emperor's Internal Classic’ was dated 300 B.C. Ancient Egyptian textbooks ‘Papyri’ (such as Edwin Smith Papyrus and the Ebers Papyrus), written as early as 1600 B.C., indicate that the Egyptians had an amazingly complex Materia Medica\textsuperscript{26}. These textbooks contained names of medicinal plants then known and prescriptions for several diseases.

Hippocrates (460-370 B.C.), Aristotle (384-322 B.C.), Theophrastus (370-287 B.C.), Pliny and Elder (A.D. 23-79), and Galen (A.D. 131-201) were familiar with many of the present day drugs\textsuperscript{27} and they wrote extensively about medicinal herbs, giving their names along with description of each plant, healing properties and preparation of medicine\textsuperscript{28}. Dioscorides treatise on medicinal plants \textit{De Materia Medica} published in the first century remained the supreme authority for over sixteen centuries during which the manuscript was laboriously copied and recopied with a few additions. During the Dark Ages (A. D. 400-1000), little progress was made on the subject\textsuperscript{29}. The botanical progress in general made during the Middle Ages (A. D. 1000-1500) was meager. In the beginning of sixteenth century, several herbals of considerable merit were published such of those Brufels (1530), Bock (1539) and, Cordus (1561)\textsuperscript{30}. 
Western scientists were attracted by the richness of Indian medicinal plant wealth long time ago, the first one being Garcia de Orta (1563), a reputed pharmacist, who adopted over a dozen of the Indian species into his persotial *Maleria Medica*. The Dutch Governor to Malabar Henderik Adriaan Van Rheed, during the period 1678 to 1693, published *Hortus Malabaricus* in 12 volumes. It contains the description of 791 species, illustrations of 742 species and information on medicinal and other uses of these plants of the Malabar region, and the book is a landmark in Indian botany and medicinal plants. *Doctrine of signatures* advocated by an eccentric genius Paracelsus (1493-1541) suggested that plants possessed certain signs given by God, which indicated their usefulness in treating diseases of similarly shaped organs in the human body. Plants, for example, with heart shaped leaves were used for heart diseases. The *lanecolate* leaves of *Sansevieria roxburghiana* with transverse striations have some likeness to the striated body surface of vipers and the plant has been used by the Kani tribes of Kerala as a remedy for snake poison. Around 90 per cent of the medicines were of plant origin until 1930. The period of chemotherapy began in the 1930s, with the synthesis of sulphonamides. The era of antibiotics began in the following decade, and when the Second World War ended. Since 1960s, over 75 per cent of all standard medicines are of synthetic origin, lowering medicines of plant origin to a secondary role. With the advancement of western medicine, the indigenous systems were overshadowed, although it survived the test of time and competition from vastly popular allopathic system.

With the emergence of environment concept and popularization of environment friendly activities, the herbal medicare system also got reprieve with the result that a sudden herbal drug boom has emerged during last three decades. The western society now recognized the great potential of the herbals in healing many present day ailments. This has now resulted in high-level market demand for such herbs and herbal derived products.
3. Indian Heritage of Medicine

The knowledge on the curative value of plants is as old as the human race itself\(^3^5\). But an organized beginning in the medicare systems may be attributed to ‘Ayurveda’\(^3^6\), with over 5000 year’s old history. The Indian medical heritage came through two streams namely Codified tradition (including Ayurveda, Unani, Siddha, and Tibetan Systems\(^3^7\)) and Folk tradition\(^3^8\). The Folk tradition is purely empirical and does not have a formal base, as the practices are passed on by word of mouth from generation to generation. Ayurveda is the oldest medicare system with an antiquity between 4500 B.C. and 1600 B.C. with ‘Rig Veda’ providing the richest compendium of knowledge generated by the Indian sages\(^3^9\). The ‘Rig Veda’ was followed by ‘Atharva Veda’, which threw light on the medico-religious uses of plants in India, the home of Chyavana, Charaka, Susruta, Aryabhatta, and Jeevaka. It may be interesting to record that the ‘Panchavati’ initiative mentioned in ‘Ramayana’ with 5 tree components (\textit{Ficus benghalensis, F. religiosa, Aegle marmelos, Emblica oiiicinalis and Saraca indica}) could be the first pre-historic eco-development activity for establishing medicinal plantations\(^4^0\).

The Siddla\(^4^1\) system of medicine is rooted in the Dravidian culture of the pre-vedic period. This system is concerned and practised by 18 Siddhars. Of the 10 Siddhars, Agasthyar, Tirumular, Bhogar, Ramadevar, Idaikkar, Yugimuni, Karunaver, Theriyar, Konganavar and Pambatti Sidhars deserve a special mention. Siddha system received the patronage of Tamil kings and chieftains as well as the public. It is predominant in Tamil Nadu and popular in other States and outside India.

The Unani\(^4^2\) system of medicine developed during Arab civilization and was introduced by the Arabs during Islamic rule. Among those who made valuable contributions to this system, to name a few, are Abu Bakr, Bin Ali Usman Kashmiri, Bahwa bin Khwaskhan, Ali Geelani, Akbar Arzani, Mohammad Hashim Alvi Khan. The Unani pharmacopoeia has a rich armamentarium of natural drugs, consisting of mostly herbs in addition to materials of animal,
There are over 2000 species of plants mentioned in Unani *Materia Medica*, in which many species occurring in India found a place. It is estimated that there are about 4,00,000 registered traditional medical practitioners in India now working in Ayurveda, Siddha, Unani and Ethnic health care systems.

4. India and Traditional Medicine Systems

To prevent foreign companies from patenting indigenous medicine, the Indian government has made 200,000 TRM ‘public property’ available for anyone to use but no one to sell as a brand. Indian authorities have become concerned about the growing practice of foreign companies patenting medicinal plants and other components of TRM systems. Five thousand patents for TRM have been issued in global trademark offices, 2,000 of which belong to the Indian Ayurveda, Unani and Siddha systems of medicine. The 200,000 medicines are listed in the TKDL, which took 200 researchers eight years to compile by translating ancient Indian texts.

The EPO will now use the database to check that patent applications from companies are valid. India has long faced attempts to patent its traditional remedies. It spent US$5 million fighting patents taken out on the spice turmeric and the Indian tree neem - a battle that took ten years. In Brussels alone there have been 285 patents for medicinal plants well known in Indian medical systems, principally ayurveda, unani and siddha, the investigation revealed. Ayurveda is a traditional medical treatment. Unani is believed to have come to India from ancient Greece, whilst siddha is one of the oldest medical systems originating from the southern India. In this regard, Gupta, head of the TKDL is requesting that the Belgian government lift these patents, as they have already shown the authorities the medicinal uses of these systems were known in India. Another major concern of the Indian government is the billion dollar industry of yoga, an ancient Indian practice that has recently gained a large following, particularly in the US.
5. Salient Features of Traditional and Modern Medicine

Ardales and Harder discovered that the coexistence of modern and various TRM in societies is a well recorded phenomenon\textsuperscript{49}. TRM is strongly embedded in the culture and beliefs of the local people and focuses on the patient as a whole human being and not only on the biological aspects of disease. Modern medicine on the other hand has several shortcomings\textsuperscript{50}.

- Firstly, modern medical education and care in the less developed countries were closely copied from western models and are often seriously irrelevant\textsuperscript{51}.
- Secondly, scientific medical system that divide the human being into various sections such as physical body, soul and spirit are ill-suited to take the meaning of illness into account or meet patients’ psychological needs\textsuperscript{52}.
- Thirdly, the technological advances in western medicine have resulted in the erosion of the human quality of care\textsuperscript{53}. The biomechanical reductionism and technological ‘fixes’ in health care are inadequate to understand most problems in health care and in particular, modern medicine is presently unequipped to handle the rapidly growing caseload of mental and sociopathic disorders\textsuperscript{54}.

Another negative aspect has been the inability of the western medical system to meet even basic health care requirements\textsuperscript{55}. Government in some developing countries having enacted legislation to make the practice of TRM illegal, were not able to provide official health services that adequately covered the population were reliably supplied with drugs or were appropriately responding to the health needs people perceive them\textsuperscript{56}. 

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Modern medicine has not been able to replace TRM, and in many countries of the world 80 per cent or more of the population living in rural areas are still cared for by traditional birth attendants. In addition the so called orthodox health services devised for Third World populations remain culturally unacceptable and economically unobtainable. Barriers to accessibility are not only geographical but also linguistic and cultural in nature. In this sense, then, equitable distribution of highly professionalized, physician-dominated, hospital based health services is not feasible, sustainable or even desirable.

One of the reasons for the resurgence of interest in TRM has, therefore, been the fact that there are inadequate health care resources to meet existing needs. However, the revival of traditional and other unorthodox systems of health care is by no means confined to the so-called developing countries in all parts of the world, health care is being sought from and provided by official and unofficial practitioners, and in some wealthy countries self-care has become a major public health issue.

6. Possession and Disclosure of Traditional Medicine

TRM knowledge is produced by individuals without any interface with the community or outsiders. It may hence be held by individuals (individual knowledge). For instance, healers use rituals as part of their traditional healing methods, often allowing them to monopolize their knowledge, despite disclosure of the photochemical products or techniques used. In addition individuals continuously improve or innovate on existing knowledge.

In other cases knowledge is in the possession of some but not all members of a group (distributed knowledge). Knowledge is asymmetrically distributed among individuals within a group, even though such individuals may not be aware that others share the same knowledge. Individual and distributed knowledge are often interconnected. In some TRM systems healers compare notes and share remedies across quite wide geographic areas. Certain knowledge may be available to all the members of a group (common knowledge), such as where knowledge of
herbal home remedies is held by millions of people, often concentrated among women and the elderly. This ‘common knowledge’ may not be confined to one group or country, and may even be held across national boundaries.

Possession of knowledge by individuals, in effect does not mean that such knowledge is perceived by communities as not belonging to them. Though at one time, the knowledge may only be held by a handful of people with special roles in the community, in the course of the history of that community, it is essentially communally held knowledge. Those with the special knowledge do not ‘own’ it as such, and many have obligations to share the knowledge within the community at different intervals. There may exist, for instance, community standards for when the information must be passed, such as during initiation rituals. These features indicate slight but important differences between the meaning of individual property in Western culture, and knowledge held by individuals within a non-western community context.

A significant part of Traditional Medicine has been disclosed as a result of codification, wide use, or through collection and publication by anthropologists, historians, botanists or other researchers and observers. The longer TRM knowledge has been around, the more likely it is to have been disclosed through use and publication. The codified TRM tradition consists of medical knowledge with sophisticated theoretical foundations. The Ayurvedic system of medicine is a particularly good example, as it is codifies in 54 authoritative books. Codified TRM has been made publicly available and, hence under current Intellectual Property Rights rules it could not be appropriated, either by its traditional holders or third parties. As indicated previously, non-codified systems include what have been termed ‘folk’, ‘rural’, ‘tribal’, and ‘indigenous’ TRM which has been handed over orally from generation to generation. Such systems of medicine are generally based on traditional beliefs. Norms and practices based on centuries old experiences or trials and errors, successes and failures at the house hold and community level. These are passed through oral tradition and may be called ‘people’s health culture’.
However there are cases in which TRM is and has always been kept secret. In specialized areas, such as knowledge dealt with by bone setters, midwives or traditional birth attendants and herbalists, including knowledge of healing techniques and properties of plants and animal substances access is restricted to certain classes of people.

7. Components of Traditional Medicine

Traditional Medicine encompasses knowledge and practices used for diagnosis, prevention and cure. An important part of TRM knowledge refers to the properties of natural materials used in their wild form, or as part of a preparation or mixture. Such materials include plant based or herbal medicines, as well as animal parts and minerals. Folk traditions as well as other systems of TRM use a large number of medicinal plants. As a result of this extensive use of plants, the concept of Traditional Medicine is more often known as being linked to plant based medicines. However, animal based medicines have played a significant role in healing practices, magic rituals and religions of many societies. In fact, of the 252 essential medicines selected by the WHO, 11.1 per cent come from plants and 8.7 per cent are derived from animals.

In addition, TRM encompasses a great variety of methods of diagnosis and treatment including physical, mental and spiritual therapies. The application of such method is strongly influenced by the culture and beliefs dominant in a particular community to the extent that they may be ineffective when applied in a different context. TRM include thus, knowledge concerning medicines and their use (appropriate dosage, particular forms of administration etc.), as well as the procedures and rituals applied by healers as part of their traditional healing methods. In some cases therapies are primarily applied without the use of medication, such as Acupuncture, Chiropractic, Qigong, Tai Chi, Yoga, Naturopathy, Thermal therapy and other physical, mental, spiritual and mind body therapies.
8. Role of Traditional Medicine in the Modern World

Role of TRM in today’s globalized world is multifaceted, which is explained under following heads:

8.01. Human Health Care

Whatever the commercial value of TRM may be, it is well established that TRM plays a crucial role in health care for a large part of the population living in developing countries. The 20th century has witnessed a revolution in human health care. The dramatic decline in mortality, increase in life expectancy and the eradication of smallpox are all part of this success. Scientific innovation leading to the development of new drugs and medicines has played a major role. However despite these achievements, it is estimated that over one third of the world’s population lacks regular access to affordable essential drugs. For these people, modern medicine is never likely to be a realistic treatment option. In contrast, TRM is widely available and affordable, even in remote areas and generally accessible to most people. As a consequence, today TRM and complementary and alternative medicine play an increasingly important role in health care and health sector reform globally.

In developed countries, a resurgence of interest in herbal medicines has resulted from the preference of many consumers for products of natural origin. The arsenal of western medicine can no longer cope with the many different health problems and the medicines are less and less available. Herbal medicine use has increased dramatically over the last decade. Many users of non-conventional medicines use them on the recommendations of their health care provider. Most patients seeking treatment by non-western medical providers in the developed countries do so for the relief of signs and symptoms related to chronic illness while they are under the care of a physician who will be guided by clinical data derived from appropriately conducted clinical trials that will support the use and value of the herbal medicines.
8.02. Pharmaceutical Industry

Plants have played a major role as the basic source for the establishment of several pharmaceutical industries, which are important for stabilizing and enhancing the economy of a developing country like India. The importance of plants as a valuable source for chemical components of medicinal value is well known from ancient times. Several therapeutic properties have been derived from sources like Herbalism and Folk medicine. The development of this pharmaceutical industry has been linked with proper elucidation of the structure of plant drugs widely used in medicine today. Many medicinal plants occurring in India have yet to be subjected to rigorous chemical, pharmacological, and clinical Investigations. Herbs provide the foundation for drug development and therefore the documentation of medicinal wealth and knowledge on medicinal value is crucial for the sustainable development of biodiversity.

For pharmaceuticals, the estimated market value of plant-based medicines sold in Organisation for Economic Co-operation and Development (OECD) countries in 1990 was $61 billion. According to the WHO, up to 80 per cent of the world’s population depends on TRM for its primary health care needs. For those comprising the poorest segments of developing country societies, TK is indispensable for survival. Of the 119 plant-based compounds used in medicine worldwide, 74 per cent had the same or related uses as the medicinal plants from which they were derived. During the past two three decades, prima facie there has been an increasing demand for more and more drugs from plant sources. World demand for herbal products including natural products of medicinal value, pharmaceuticals, food supplements and cosmetics has been growing steadily at the rate of 10 per cent to 15 per cent per annum in the last decade. In recent years, the misappropriation of folklore, Traditional Knowledge, and indigenous practices have become an increasingly important issue in global politics.

The Secretariat of the CBD has estimated that the world market for herbal medicines has reached US$ 43 billion, with annual national growth rates of between 5 and 15 per cent. It
further estimated that sales of herbal products increased by 10.1 per cent in markets in the United States\textsuperscript{83}. In the EU, it has been estimated that annual sales were estimated to have increased to US$ 5.1 billion from US$ 200 million\textsuperscript{84}. For developing Countries, TRM forms the basis for an important domestic industry and for export. For example, it has been estimated that the sales of traditional pharmaceutical products in China in 1996 consisted of 43.8 per cent of the total medicine sales and 11,360 commercial enterprises and 35,339 business units have been set up\textsuperscript{85}. The output of traditional Chinese pharmaceutical products annually is 199 thousand tons. 5.8 billion dollars can be earned by the export of traditional Chinese pharmaceutical products\textsuperscript{86}.

Pharmaceutical companies have shown an interest in acquiring and developing TRM, since ‘promising species’ can provide important leads for the discovery of new drugs. In some cases, companies have obtained considerable benefits by exploiting TRM; an example is the development of the anticancer drugs vincristine and vinblastine from Madagascar’s rosy periwinkle plant.

**8.03. Land, Language and Culture**

Indigenous literature on the topic of Indigenous medicine emphasizes the ties to land, language, and culture. The natural environment shapes the medical expertise and practices employed by each Indigenous group. According to Battiste and Henderson\textsuperscript{87},

“The traditional ecological knowledge of Indigenous People is scientific, in the sense that it is empirical, experimental, and systematic. It differs in two important respects from western science, however, TEK is highly localized and it is social. Its focus is the web of relationships between humans, animals, plants, natural forces, spirits, and land forms in particular locality, as opposed to the discovery of universal laws”.
Another Indigenous scholar, Gregory Cajete\textsuperscript{88}, coined the term ‘ethno-science’. He articulates indigenous epistemology as tied to the land, the spiritual laws that govern that land, and how co-existence between animal, plant and human life interrelate to a collective balance\textsuperscript{89}. He explores how ethno-science reflects the uniqueness of place and thus, IK of TRM would inherently be tied to land and expressed through language and culture\textsuperscript{90}.

9. Traditional Medical Practitioners

The traditional medical practitioner has been defined by a regional committee of the African region of the WHO in 1976 as being\textsuperscript{91};

“…a person who is recognized by the community in which he lives as competent to provide health care by using vegetable, animal and mineral substances and certain other methods. Those methods are based on social, cultural, and religious backgrounds as well as on the knowledge, attitudes and beliefs that are prevalent in the community regarding physical, mental and social wellbeing and the causes of disease and disability”.

Traditional Medical Practitioners are the custodians of indigenous knowledge concerning healthcare and in particular medicinal plants. They are much respected by their communities and accorded positions of great importance in the society. They have the patronage of every stratum of society and are consulted not only on health problems but also on almost any other need and perplexity. They are the first port of call in cases of ill health as well as in cases of spiritual, moral, psychological and social problems. They are often coerced into the practice by ancestral spirits who may send illness or other trials that can only be resolved by engaging in the traditional medical practice\textsuperscript{92}.  

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According to Coulehan, ‘healer’ is a term used to describe traditional healing practitioners, shamans or doctors in the literature. This is in contrast to descriptions of western biomedicine which rarely self-defines physicians, doctors or surgeons as ‘healers’. Most references to western biomedicine do not refer to curing as healing since, as one another states, both terms have a somewhat unscientific aura about them, conjuring up a vague notion of quackery.93

According to Waldrum, the healer is central to the process of symbolic healing, and in this sense Aboriginal Elders are central to Aboriginal spirituality. However, the status of ‘healer’ or ‘Elder’ is ambiguous and never clearly defined. Indeed, it must be negotiated in each therapeutic or spiritual encounter. The question of who is an ‘Elder’ is a thorny one. The general standard is acceptance by the ‘community’ as an ‘Elder’.94 Within the literature, the terms ‘Elder’ and ‘healer’ are used interchangeably since traditional teachings are considered healing for the mind. ‘Elder’ is another term attached to TRM that is discussed in a vague and inconsistent manner. In short the ‘Elders’ are keepers of tradition, guardians of culture, the wise people, the teachers. While most of those who are wise in traditional ways are old, not all old people are elders, and not all elders are old.95 According to the Report of the Royal Commission on Aboriginal Peoples96.

“…elders are respected and cherished individuals who have amassed a great deal of knowledge, wisdom and experience over the period of many, many years. They are individuals who have also set examples, and have contributed something to the good of others. In the process, they usually sacrifice something of themselves, be it time, money or effort”.

Traditionally, we referred to these individuals as ‘old folks.’ They were really clan leaders and they had to earn the respect of others and to have good sound reputation. A key characteristic
is that Elders do not seek status, instead, it flows from the people. The numerous terms used within the Native languages refer to people who have earned their title.

10. Special Fields of Practice in Traditional Medicine

Traditional Medicine covers a wide and heterogeneous field of medical practice. Attempts have been made to categorise traditional healers on the basis of their method of healing or the ailments they treat. Once categorization based on type of healing divides healers into pure herbalists, herbalists, ritualists and spiritualists. It then sub-divides these categories into generalists and specialists according to their degree of polarization in treating one or more illnesses. The degree of training and qualification of these healers varies, with some having undergone quite a vigorous and lengthy period of training, others having been initiated or having had a calling, while others have little training and low ethical standards, making it easy for critics to label them unscientific and charlatans.

10.01. Spiritualist

A practice that focuses on the spiritual health of an individual and intervenes on his or her behalf. Diagnosis often includes lifestyle changes of the individual or family and offerings to various benevolent spirits. Also, this person often serves as a counselor, mentor or teacher to individuals and families. Their primary focus is on the spiritual wellbeing of people. Their knowledge of cultural spiritual practices is expansive and highly respected by the community, and they often carry titles of honor such as ‘Faith keeper’, ‘Holy Person’ or in South America, (Traditional) ‘Priest’.

10.02. Herbalist

A practice that emphasise botanical and pharmacology knowledge of the indigenous plants and fauna. Often these individuals work closely with other Indigenous doctors and assist in providing remedies for individuals whom they or others have diagnosed. Their practice can be
highly specialised in one field, such as remedies for snake bites, or as diverse as the illnesses themselves\textsuperscript{100}.

\textbf{10.03. Diagnosis Specialist}

A practice that often involves communication with spirits, the supernatural and the physical entities that assist in the diagnosis. Diagnosticians are often the ‘seers’ or communicators through ceremony who identify the ailments, remedies or ceremonies that are required to restore good spiritual, emotional, and physical health, and wellbeing. Often they work as referrals to other specialists\textsuperscript{101}.

\textbf{10.04. Medicine Man or Woman}

A practice that may and often does possess all of the above gifts and more. Their work usually engages in ritual, ceremonial activity and prayer. In some societies they are identified as ‘medicine men or women’ because they possess sacred bundles, sacred pipes, sacred masks, and the rights to rituals, songs and medicines that have been inherited from their parents, grandparents, or that they earned through apprenticeship with a respected medicine man or woman. Depending on their nation, they are also conductors of community ceremonies such as Sundance, Dark Dances, Horse Dance, False Face, Shaking Tent, and Sweat Lodge, to name a few. It is normative for these individuals to sacrifice their daily lives to ritual, prayer and healing\textsuperscript{102}.

\textbf{10.05. Healer}

A gifted individual who may heal in a variety of ways, including all of the above and or a ‘gift’ of touch, or energy work meaning that ritual is not always needed. Healer scan be ritualistic, but also may have an ability to use a variety of therapies to heal people spiritually, emotionally or physically\textsuperscript{103}.
10.06. Midwife

Often, these practitioners are women with specialized knowledge in prenatal care, birthing assistance and aftercare. The midwife may employ the use of massage, diets, medicines and ritual, prayers and or counseling. Traditional midwifery exists worldwide and involves a variety of skills, often biophysical, but can also include spiritual and ritual activity as well\textsuperscript{104}.

Thus none of the specialised categories are solely exclusive rather, they are often interdependent and some practitioners may hold a number of specialised knowledge\textsuperscript{105}.

11. Current Scenario of Traditional Medicine Around the Globe

The current scenarios of TRM in different countries are discussed below.

11.01. China

From the beginning of the Christian era until very recently, traditional Chinese medicine was the most advanced therapeutic system in the world. Traditional Chinese medicine comprises a range of practices including acupuncture, moxibustion, herbal medicines, manual therapies, exercises, breathing techniques and diets. Some original non medicinal methods, such as acupuncture, moxibustion and massage were introduced over three thousand years ago\textsuperscript{106}. Acupuncture is a technique whereby needles are inserted into specific sites of the body surface to improve the flow of energy around the body, thereby preventing and treating disease and disability. Moxibustion refers to the burning of rolled cones of dried Artemisia (Mugwort) over acupuncture points in order to affect the flow of energy at those points. China has vast experience in the use of natural herbal medicines and a large store of books on pharmacology\textsuperscript{107}. The earliest recorded history of TRM in China dates back to 1800 B.C. The Book of Rites, a manual of ceremonies written in the Zhou dynasty (1100 to 800 B.C.), records that there are very specialized doctors in four fields, namely nutrition, internal medicine, surgery and veterinary medicine. The oldest and most comprehensive work of medicine still extant, ‘Internal Classic’,
appeared around 300 B.C. and is a combination of medical theory and clinical practice. It has remained an essential textbook in the colleges and schools of traditional Chinese medicine\textsuperscript{108}.

The unique features of traditional Chinese medicine were formed and passed down through several thousand years, and to date traditional Chinese medicine has generated over 10,000 medical books, 5,000 kinds of herbal drugs, and a wide range of clinical therapy. At the same time, the production of Chinese herbal medicines has increased and gradually developed into an industrial system over the last thirty years\textsuperscript{109}. According to the WHO, there are 800 manufactures of herbal products in China, with a total annual output worth US $1800 million, over 600 manufacturing bases, 13,000 central farms specialising in the production of materials for TRM, and 34,000 farmers who cultivate medicinal plants, on a total planting area for medicinal herbs of 3,48,000 acres\textsuperscript{110}. There are 170 research institutions across the country. Traditional Chinese medicine and pharmacology have not only contributed to the development and prosperity of the Chinese people, but have also had a significant influence on the development of medical science in general.

11.02. Sri Lanka

In Sri Lanka various systems of indigenous medicine are widely practiced in rural areas. It was observed that the existence of the different systems is conditioned and supported by the vast variation in the ecology of the country and in cultural patterns. The accumulated wisdom of the people and their experiences constitute the substantive knowledge and skills used in Traditional Medicine. Over the centuries there has definitely been some change, albeit gradual. As a result of the various system of medicine being the major source of health care, there is quite a variety as well as large number of TRM practitioners at work in the country. Ten thousand practitioners are already registered and six thousand more are being considered for registration. The therapeutic scope of the practice is wide and includes preventive, curative, and specialized aspects. Most of the traditional systems follow the classical pattern of taking a history,
determining the etiological factor complex, making a diagnosis, providing appropriate rehabilitative measures. The traditional system of medicine in Sri Lanka meets the basic health needs of about 70 per cent of the population. Most of the traditional physicians run their dispensaries in their homes a few are employed by the Government authorities as specialists in hospitals. Some 80 per cent of patients live within about 10 kilometers of their dispensaries\textsuperscript{111}.

11.03. Sudan

The Sudan presentation focused on the psychosocial aspects of TRM. It was reported that TRM is so successful in the Sudan that it is extensively used in the control of neuroses and alcoholism, and as such possess a potential for research on the treatment and rehabilitation of neurotic reactions, alcoholism and drug dependence. Traditional Medicine represents several valuable solutions to the management of culturally linked diseases and other health problems, and the reasons for this spectacular success is that it is an integral part of the people’s culture and they have deep confidence in it. The methods and techniques employed are at present closely guarded secrets\textsuperscript{112}.

11.04. Nepal

Ayurveda is practiced as a traditional form of medicine. There are 82 Ayurvedic clinics and a 50 bed Ayurvedic hospital. About 75 per cent of the population resort to Ayurvedic treatment. Facilities are available for intensive education in this system, for example a three year certificate course. There are 200 institutionally qualified practitioners and about 1000 traditionally trained healers\textsuperscript{113}. The Ayurvedic medical council was established in terms of the Ordinance of 1988 with the mandate to register suitably qualified physicians to practice Ayurvedic medicine. The ordinance makes provision for four categories of practitioners according to qualifications and experience in Ayurvedic science, registered Ayurvedic practitioners to issue birth and death certificates as well as certificates of patients’ physical and mental fitness and the range of Ayurvedic medicines that a practitioner is permitted to prescribe.
In terms of government policy there is a system of integrated health services in which both allopathic and Ayurvedic medicines are practiced\textsuperscript{114}.

11.05. Bangladesh

The Unani and Ayurvedic practitioners’ ordinance of 1972 established the board of Unani and Ayurvedic systems of medicine which is responsible for maintaining educational standards and the registration of duly qualified persons. The ordinance of 1983 prohibits the practice of Unani and Ayurvedic medicine by unregistered persons\textsuperscript{115}.

11.06. Europe

In a review of the health care systems in Europe, the British Medical Association (BMA) found a vast number of both official and unofficial healing methods in use and a revival of a variety of non-conventional and traditional forms of medicine throughout Europe. Many continental therapeutic practices are not really traditional, since the traditional elements have been diluted over the centuries by official medicine\textsuperscript{116}. The term ‘folk medicine’ is therefore more appropriate in this context. In addition the survival of true folk medicine in Europe no longer belongs to a genuine medical system. Independent manifestations can be found in individual households all over the continent, mostly in rural areas. The more popular traditional therapeutic practices include herbalism, balneotherapy, the use of mud and clay, as well as cupping and bleeding\textsuperscript{117}. Balneotherapy refers to the healing powers of medicinal springs, and spas that were already in use in Roman times, are still popular today. Although the spiritual aspect is still strong in folk medicine, magic has generally been replaced by mysticism or religion. Christianity, for example, brought faith in saints with special healing powers\textsuperscript{118}.

Side by side with folk medicine, manifestations of popular medicine (home remedies and practices of ancient or more recent origin) and alternative medicine are found. Alternative medicine comprises all forms of health care provision which usually lie outside the official health
The BMA states that alternative medicine is a global description which embraces formalized traditional systems of medicine, (eg. Ayurvedic, Traditional Chinese etc.) traditional healers and medicine men, Chiropractic, Naturopathy, Osteopathy, Homeopathy and even ‘Christian science’. The practices are loosely grouped together under the umbrella of non-conventional therapies, while conventional medicine is treatment delivered by a registered medical practitioner. Folk medicine, popular medicine, and alternative medicine in Europe are classified together as unofficial medicine as opposed to scientific western medicine. They also draw attention to the fact that not all the traditional therapeutic methods practiced in Europe are of European origin, next to true folk medicine there are manifestations of imported TRM, such as acupuncture as practiced in China, and Asian TRM as practiced by the practitioners of the Unani system. In addition there are over 5000 acupuncturists in Europe who are either tolerated or partly accepted by official medicine. In most European countries there is ongoing discussion on whether the authority to practice acupuncture, for example, should be limited to physicians. In recent years Asian TRM has gained ground particularly in Britain due to the large number of immigrants from Bangladesh, Pakistan and India, not all the clients of the traditional practitioners are of Asian origin, but also include white patients, mainly young people dissatisfied with modern medicine or patients with chronic diseases.

11.07. Africa

Traditional Medicine is part of African culture and intricately linked with the African World view. The WHO defines TRM as the sum of the practices, measures, ingredients and procedures which, from time immemorial, have enabled the African to guard against disease, to alleviate his suffering and to cure himself. Healing practices between African countries vary widely according to their particular socio cultural heritage. Although it is not possible, therefore to speak of a single African traditional health care system, differences between cultures south of the Sahara are sufficiently small for generalizations to be made within certain limits.
The modern health care system based on western science and technology is of recent origin in the greater part of the third World\textsuperscript{125}. In Africa, its use dates back to the late nineteenth century, the period of colonialism and Christianisation, and the rise of capitalism. With the advent of the early missionaries in Africa, it was believed that the African could be won by demonstrating that western medicine was superior to TRM. Traditional healers were regarded as ‘witch doctors who exploit the ignorance and superciliousness of the unenlightened local people’\textsuperscript{126}. On the whole, the colonial administrations prohibited traditional medical practices and condemned them as ‘heathen’ and ‘primitive’.\textsuperscript{127} At the same time, official health care activities were limited to looking after the interests of the local European sectors and their indigenous labor force\textsuperscript{128}. Only after independence, that is from 1975 onwards were conscious efforts made to spread orthodox medicine to indigenous populations through health centers and hospitals. Modern medicine has been established not so much by displacing Traditional Medicine as by increasing medical options. Traditional African medical system survive because they satisfy four basic user requirements; accessibility, availability, acceptability and dependability. Even where biomedical health care facilities are physically present, actual utilization patterns indicate that biomedicine is not preferred for many illnesses or for common events such as childbirth\textsuperscript{129}.

Although the use of traditional healers tends to diminish as people become urbanized, their influence runs very deep, and in times of stress even the most westernized of African people might consult them\textsuperscript{130}. Students and hospital workers in Ghana maintain a belief in the spiritual causation of certain illnesses, and how they are best treated by traditional priests or priestesses or in Christian spiritual churches. Similarly educated people living in urban areas continue to consult traditional practitioners. Demands for these services may even increase with modernization since healers are skilled in helping people to cope with the psychological and social stresses that often accompany rapid social and economic change\textsuperscript{131}. While the limits of modern medicine and the efficacy of traditional healing have, to some extent, been accepted in academic circles, the modern western system with science and progress, and the indigenous
system are still associated with ignorance and backwardness. African governments tend to regard indigenous practitioners as an embarrassing anachronism, because they project an image of the backward, the primitive, the heathen, even the illegal. Western planners are inclined to think of traditional systems as archaic, dysfunctional, as a way of life to be overcome if there is to be progress.

12. Challenges Involved in Protecting Knowledge of Traditional Medicine

The protection of TRM is subjected to certain challenges. They are:

- How should the benefits derived from the use of TRM be shared?
- How can the IPR of the holders of TRM and scientific researchers be protected when the TRM of the former is used by the latter to create modern drugs? (In most cases knowledge of TRM originates in developing countries and is appropriated, adapted, utilized and patented by scientists and industry from developed countries, with little or no compensation to the custodians of this knowledge and without their PIC. In recent years, the protection of TK, the innovations and practices of indigenous and TRM and the equitable sharing of benefits have received increasing attention, and they are being discussed in many international forums).
- How can we stop the loss of biodiversity caused by the widespread use of TRM and the rapidly expanding international market for herbal products? (The production of herbal pharmaceuticals requires large quantities of medicinal
plants, which has resulted in over collection of many plants and has made them endangered species. For example, a particular species of African potato that in 1997 was found to combat AIDS disappeared completely from its native land, the Democratic Republic of the Congo, within two years of this finding.)

12.01. Traditional Medicine- Piracy and Conservation

Today, TRM knowledge has either by fraud, misrepresentation been exploited by transnational corporations making unconceivable profits by a mere access to such components in the knowledge base\textsuperscript{135}. The importance of TRM stands renewed due to recent high profile cases of misappropriation of knowledge without consent and sharing of benefits with the community\textsuperscript{136}. For any invention to be patentable it has to satisfy three criteria, i.e., novelty, inventiveness and industrial applicability (utility). TRM does not satisfy any of these criteria thus making it unique and a special case of study\textsuperscript{137}.

Recently, the exploitation and appropriation, under western IPR, by unauthorized parties, of biological and genetic resources and/or associated TRM knowledge, without the approval or consent of their holders, and without adequate compensation (sometimes called ‘bio-piracy’) has raised significant concerns, particularly in developing countries with a long tradition in TRM.

An example is the turmeric patent which was granted in the US in March 1995, for ‘use of turmeric in wound healing’. However, in India, the wound-healing properties of turmeric powder are well known, and have ‘been applied to the scrapes and cuts of generations of children’\textsuperscript{138}. While, following a challenge by the CSIR of India, this particular patent was, eventually, invalidated for lack of novelty, such a challenge is expensive; moreover, developing countries may find it difficult to monitor for ‘bio-piracy-patents’\textsuperscript{139}.
Researchers or companies may also claim Intellectual Property Rights over biological resources and/or TK, after slightly modifying them. Examples of this include patents issued related to the neem tree, kava, barbasco and endod. These and other, similar cases have raised concerns and questions in developing countries, notably with regard to the options to protect their TK and/or to prevent such piracy, and with regard to equitable sharing of benefits derived from this knowledge. It has equally highlighted the need to clarify ownership of biological resources and associated knowledge.

Governments of biodiversity-rich countries can deal with bio-prospecting / bio-piracy in one of two ways: prevent it or organize it. The latter requires considerable efforts and investments in order to regulate and facilitate access and to negotiate credible agreements, in return for uncertain future benefits. The principal strategy for the alternative option-prevention of bio-piracy is publication of TK.

Nonetheless, since ‘bio-piracy’ is usually understood as encompassing unauthorized use as well as misappropriation of biological resources and/or associated knowledge, it is worth noting that publication may prevent misappropriation of such knowledge, but cannot prevent and, in fact, may even facilitate unauthorized use. It should also be noted that many medicinal plants face extinction. Overexploitation of such plants in order to satisfy industrial and/or export demands can aggravate this risk. Hence, trade in medicinal plants should be regulated, preferably within a broader policy framework dealing with conservation and sustainable use of biological resources. Yet, while industrial or commercial access/use is likely to have an impact on conservation efforts, there also is a different link between traditional access/use and conservation: in order for traditional communities and individual healers to continue preserving biodiversity, it is important that they be allowed to continue to access and use (medicinal) plants. Failure to ensure this will ultimately lead to erosion of their knowledge. Once this knowledge has vanished, plants lose value, and the risk of extinction may be even higher.
Thus, apart from complexities related to the trade-off between the public health interest of ensuring access to TRM and the potential economic benefits from their (industrial) development, TRM intersects with biodiversity conservation and indigenous peoples’ rights. Furthermore, the issue should be considered in the context of two major, pertinent international agreements the TRIPS Agreement and the CBD.

13. Conclusion

Increased commercial interest in TRM has made international and national communities to revise and amend their laws to protect unique systems and reward local indigenous communities to whom knowledge essentially belongs. There exists a vacuum in the overall framework that can provide comprehensive protection to traditional medical knowledge. In such a situation the interests of the nations cannot be protected unless presence of international framework that recognizes and respects national laws. Besides international action, there is a need for nations to protect their communities by making national laws and addressing relevant issues like documentation of knowledge, ABS and PIC. A need of the hour is that nations should show mutual respect for national legislations, for the benefit of mankind.


6 P. Lokesha and R. Vasudeva, “Pattern of Life History Traits Among Rare/Endangered Plants of South India” 73 *Current Science* 171 (1997)


8 Ibid


10 Ibid


12 Supra n. 4


14 Ibid

15 Supra n. 4


18 Ibid

19 Ibid

20 RCAP (3) 348 (1996)

21 Id. at 348


23 Supra n. 5


25 J.B. Calixto, “Twentyfive Years of Research on Medicinal Plants in Latin America” 100 *J. Ethnopharmacol* 131 (2005)

26 M. Fuchs, “Use of Traditional Indian Medicine Among Urban Native Americans” 13(11) *Medical Care* 915 (1975)


Ayurveda means the complete knowledge for long life. Ayurvedic medicine is a system of Traditional Medicine native to India. In Sanskrit, words ‘ayus’ meaning ‘longevity’ and ‘veda’ meaning ‘related to knowledge’ or ‘science’. The earliest literature on Indian medical practice appeared during the Vedic period in India, i.e., in the mid-second millennium BC. The Susruta Samhita and the Caraka Samhita are great encyclopedias of medicine compiled from various sources from the mid-first millennium BC to about 500 BC. They are among the foundational works of Ayurveda. Over the following centuries, Ayurvedic practitioners developed a number of medicinal preparations and surgical procedures for the treatment of various ailments. Ayurveda classified as a system of complementary and alternative medicine that is used to complement, rather than replace, the treatment regimen and relationship that exists between a patient and their existing physician. At an early period, Ayurveda adopted the physics of the five elements, earth, water, fire, air and Sky that compose the universe, including the human body. Chyle or plasma (called rasa dhatu), blood (rakta dhatu), flesh (mamsa) ( dhatu), fat (medha dhatu), bone (asthi dhatu), marrow (majja dhatu), and semen or female reproductive tissue (sukra dhatu) are held to be the seven primary constituent elements-saptadhatu of the body. Ayurvedic literature deals elaborately with measures of healthful living during the entire span of life and its various phases. Ayurveda stresses a balance of three elemental energies or humors: vata (air and space -'wind’), pitta (fire and water -'bile’) and kapha (water and earth- ‘phlegm’). According to ayurvedic medical theory, these three substances-doshas (literally that which deteriorates) are important for health, because when they exist in equal quantities, the body will be healthy, and when they are not in equal amounts, the body will be unhealthy in various ways. One ayurvedic theory asserts that each human possesses a unique combination of doshas that define that person's temperament and characteristics. Another, view, also present in the ancient literature, asserts that humoral equality is identical to health, and that persons with preponderances of humours are proportionately unhealthy, and that this is not their natural temperament. In Ayurveda, unlike the Sankhya philosophical system, there are 20 fundamental qualities, guna (meaning qualities) inherent in all substances. Surgery and surgical instruments were employed from a very early period, Ayurvedic theory asserts that building a healthy metabolic system, attaining good digestion, and proper excretion leads to vitality. Ayurveda also focuses on exercise, yoga, meditation, and massage. The practice of pāñcakarma is a therapeutic regime of purgation, sweating and massage that aims at eliminating toxic elements from the body. As early as the Mahabharata, ayurveda was called ‘the science of eight a classification that became canonical for ayurveda. They are; Internal medicine (Kaya-cikitsa) Paediatrics (Kaumarabhyam), Surgery (aalya-cikitsa), Eye and ENT (Śālākya tantra), Fear possession (Bhuta vidya): Bhuta vidya has been called psychiatry.Toxicology (Agadatantram), Prevention diseases and improving immunity and rejuvenation (rasayana), Aphrodisiacs and improving health of progeny (Vajikaranam) In Hindu mythology, the origin of ayurvedic medicine is attributed to the physician of the gods, Dhanvantari. See generally, J.H. Morrison, The book of Ayurveda New Mexico: Simon and Schuster (1995), Dr. Vasant Dattatray, Secrets of Pulse New Mexico: The Ayurvedic Press (1996) and Dr. S. Ranade, Health and Disease in Ayurveda and Yoga Pune: Anmol Prakashan (1997)
Traditional Tibetan medicine is a centuries-old traditional medical system that employs a complex approach to diagnosis, incorporating techniques such as pulse analysis and urinalysis, and utilizes behavior and dietary modification, medicines composed of natural materials (e.g., herbs and minerals) and physical therapies (e.g., Tibetan acupuncture, moxabustion, etc.) to treat illness. The Tibetan medical system is based upon a synthesis of the Indian (Ayurveda), Persian (Unani), Greek, indigenous Tibetan, and Chinese medical systems, and it continues to be practiced in Tibet, India, Nepal, Bhutan, Ladakh, Siberia, China and Mongolia, as well as more recently in parts of Europe and North America. It embraces the traditional Buddhist belief that all illness ultimately results from the three poisons of the mind: ignorance, attachment and aversion. The Tibetans obtained their first knowledge of medicine from China during the reign of gNam-ri srong btsan, who died in 630. However, the ascription of ‘rgyud bzhi’ has been held in different opinions. Some scholars believe that rgyud bzhi was told by the Lord Buddha, while some believe it is the primary work of Yuthok Yondon Gonpo (708 AD). The former opinion is often refuted by saying “If it was told by the Lord Buddha, rgyud bzhi should have a Sanskrit version”. However, there is no such version and also no Indian practitioners who have received unbroken lineage of rgyud bzhi. Thus, the later thought should be scholarly considered authentic and practical. See Ven. Rechung Rinpoche Jampal Kunzang, *Tibetan Medicine: Illustrated in Original Texts* Los Angles: University of California Press (1976)


41 A Siddha in Sanskrit means ‘one who is accomplished’ and refers to perfected masters who, according to Hindu belief, have transcended the ahamkara (ego or I-maker), have subdued their minds to be subservient to their Awareness, and have transformed their bodies (composed mainly of dense Rajo-tama gunas) into a different kind of body dominated by sattva. This is usually accomplished only by persistent meditation. According to Jain belief Siddha are liberated souls who have destroyed all the karma bondings. Siddha do not have any kind of body, they are soul at its purest form. A siddha has also been defined to refer to one who has attained a siddhi. The siddhis as paranormal abilities are considered emergent abilities of an individual that is on the path to siddhahood, and do not define a siddha, who is established in the Pranav or Aum - the spiritual substrate of creation. The siddhi in its pure form means ‘the attainment of flawlessness identity with Reality (Brahman); perfection of Spirit.’ In the Hindu philosophy of Kashmir Shaivism (Hindu tantra), *siddha* also refers to a *Siddha Guru* who can by way of Shaktipat initiate disciples into Yoga. In South India, a siddha refers to a being who has achieved a high degree of physical as well as spiritual perfection or enlightenment. The ultimate demonstration of this is that siddhas allegedly attained physical immortality. Thus siddha, like siddhar or cittar (indigenisation of Sanskrit term in Tamil Nadu) refers to a person who has realised the goal of a type of sadhana and become a perfected being. In Tamil Nadu, South India, where the siddha tradition is still practiced, special individuals are recognized as and called siddhas (or siddhars or cittars) who are on the path to that assumed perfection after they have taken special secret rasayanas to perfect their bodies, in order to be able to sustain prolonged meditation along with a form of pranayama which considerably reduces the number of breaths they take. Siddha medicine is a form of medical treatment of diseases using substances of all possible origins in a way that balances the possible harmful effect of each substance. This form of medicine was professed and practised by siddhars who wrote their recipes on palm-leaves for the use of future generations. Siddha medicine was developed by outstanding Dravidians (ancient Tamils), locally called Cittars. Preparations are made mainly out of the parts of the plants and trees such as leaves, bark, stem, root etc., but include also mineral and some animal substances. This form of medicine is still
today well known in South India. The use of metals like gold, silver and iron powders (Sanskrit bhasma) in some preparations is a special feature of siddha medicine, which claims it can detoxify metals to enable them to be used for stubborn diseases. This claim is especially relevant in the case of mercury which is relatively often used in the system; medicine containing purified mercury should only be received, if at all, from a highly qualified practitioner of the art. See David Gordon White, The Alchemical Body: Siddha Traditions in Medieval India Chicago: The University of Chicago Press (1996)

42 Unani-tibb or Unani Medicine also spelled Yunani Medicine means ‘Greek Medicine’, and is a form of Traditional Medicine widely practiced in South Asia. It refers to a tradition of Graeco-Arabic medicine, which is based on the teachings of Greek physician Hippocrates, and Roman physician Galen, and developed in to an elaborate medical System by Arab and Persian physicians, such as Rhazes, Avicenna (Ibn Sena), Al-Zahrawi, Ibn Nafis. Unani medicine is based around the concepts of the four humours: Phlegm (Balgham), Blood (Dam), Yellow bile (Safra’) and Black bile (Sauda’)

Etymology: History: Though the threads which comprise Unani healing can be traced all the way back to Claudius Galenus of Pergamum, who lived in the second century of the Christian Era and also to Ancient Iranian Medicine, the basic knowledge of Unani medicine as a healing system was developed by Hakim Ibn Sina (known as Avicenna in the west) in his medical encyclopedia The Canon of Medicine. The time of origin is thus dated at circa 1025 AD, when Avicenna wrote The Canon of Medicine in Persia. While he was primarily influenced by Greek and Islamic medicine, he was also influenced by the Indian medical teachings of Sushruta and Charaka. Unani medicine first arrived in India around 12-13 century CE with establishment of Delhi Sultanate (1206-1527 CE) and Muslim rule over North India and subsequently flourished under Mughal Empire. Alauddin Khilji (1296-1316) had several eminent Unani physicians (Hakims) in his royal courts. In the coming year this royal patronage meant development of Unani practice in India, but also of Unani literature with the aid of Indian Ayurvedic physicians. In Asia: Fortunately, Unani classical literature consists of thousands of books across the world, contains vast knowledge and mention of experiences on all aspects of medicine. According to Unani medicine, management of any disease depends upon the diagnosis of disease. In the diagnosis, clinical features i.e. signs, symptoms, laboratory features and mizaj(temperament) are important. Any cause and or factor is countered by Quwwat-e- mudabbira-e- badan (the power of body responsible to maintain health) the failing of which may lead to quantitatively or qualitatively derangement of the normal equilibrium of akhlat(humors) of body which constitute the tissues and organs. This abnormal humor leads to pathological changes in the tissues anatomically and physiologically at the affected site of the body and exhibits the clinical manifestations. After diagnosing the disease, Usoole ilaj (principle of management) of disease is determined on the basis of etiology on the following pattern. Izalae sabab (elimination of cause) Taddee akhlat (normalization of humors), Taddee aza (normalization of tissues/organs) For the purpose of fulfillment of requirements of principle of management, mode of treatment is decided as per the Unani medicine which may be one or more of the following.

• Ilaj-bil- tadbeer wa Ilaj-Bil-Ghiza (regimenal therapy) -The disease may be treated by the modification of six essential pre-requisites of health (Asbab-e- Sitta Zarooriya in Unani Tibbi terminology). This method of treatment is called as Ilaj- Bil-Tadbeer. Asbab-e-Sitta Zarooriya may be modified by the use of One or more regimens i.e. dalak, riyaat, hammam, taleeq, takmeed, hijamat, fasd, lakkhalaka, bakhur, Abzan, Shamoomat(Aromatherapy), Pashoya, Idrar, Ishal, Qai, Tareeq, Elam, Laza-e-Muqabil, Imalah and alteration of foods. According to the norms of C.C.I.M. New Delhi, Department of Ilaj-Bil-Tadbeer has been established in almost all Unani Tibbi Colleges of India. In the State Unani Medical College, Allahabad, U.P. and State Takmeel-Ul-Tibb College, Lucknow, Department of Ilaj-Bil-Tadbeer is known as Moalijat Khususi. Moalijat Khususi is the old nomenclature of Ilaj-Bil-Tadbeer, suggested by C.C.I.M. New Delhi. Ilaj-Bil-Tadbeer is synonym to Panchkarma in Ayurveda.
Ilaj bil advia (pharmacotherapy) - For this purpose Mamulate matab nuskha (prescription) is formulated which contain the single and or compound Unani drugs having desired actions as per requirements.


In India: There are forty (40) Unani Medical Colleges where Unani System of medicine is taught, in five and half year courses and the graduates are awarded BUMS (Bachelor of Unani Medicine and Surgery). There are about 8 Unani medical Colleges where a Postgraduate degree (Mahir-e-Tib & Mahir Jarahat) is being awarded to BUMS Doctors. All these colleges are affiliated to reputed universities and recognized by the Governments. As an alternative form of medicine, Unani has found favor in India. These Unani practitioners can practice as qualified doctors in India, as the government approves their practice. Unani medicine is very close to Ayurveda. Both are based on theory of the presence of the elements (in Unani, they are considered to be fire, water, earth and air) in the human body. (The elements, attributed to the philosopher Empedocles, determined the way of thinking in Medieval Europe.) According to followers of Unani medicine, these elements are present in different fluids and their balance leads to health and their imbalance leads to illness. All these elaborations were built on the basic Hippocratic theory of the four humours. The theory postulates the presence of blood, phlegm, yellow bile and black bile in the human body. Each person's unique mixture of these substances determines his Mizaj (Temperament) a predominance of blood gives a sanguine temperament; a predominance of phlegm makes one phlegmatic; yellow bile, bilious (or choleric); and black bile, melancholic. When these humours are in balance, the human system is healthy and when it is imbalance which can result in disease. In India, the Central Council of Indian Medicine (CCIM) a statutory body established in 1971 under Department of Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH), Ministry of Health and Family Welfare, Government of India, monitors higher education in areas of Indian medicine including, Ayurveda, Unani and Siddha. To fight bio-piracy and unethical patents, the Government of India, in 2001, set up the Traditional Knowledge Digital Library as repository of formulations of various systems of Indian medicine, includes 98,700 Unani formulations established in 1979, also under AYUSH, aids and co-ordinates scientific research in Unani System of Medicine through a network of 22 nationwide research Institutes and Units, including two Central Research Institutes of Unani Medicine, at Hyderabad and Lucknow, eight Regional Research Institutes at Chennai, Bhadrak, Patna, Aligarh, Mumbai, Srinagar, Kolkata and New Delhi, six Clinical Research Units at Allahabad, Bangalore, Karimganj, Meerut, Bhopal and Buhlanpur, four Drug Standardisation Research Units at New Delhi, Bangalore, Chennai and Lucknow, a Chemical Research Unit at Aligarh, a Literary Research Institute at New Delhi. See S.Z. Rahman, A. Latif, and R.A. Khan, “Importance of Pharmacovigilance in Unani System of Medicine” 40(7) Indian J. Pharmacol. 17 (2008), See generally, William Courson, A Delightful Introduction to Unani’s Fascinating Story USA: Montclair (2008)

43 Supra n. 6
47 “India Protects Traditional Medicines from Patents” The Guardian 3 March (2009)
48 Ibid
A review of Anthropological literature reveals that certain authors suggest that concepts close or equivalent to individual forms of Intellectual Property Rights are quite common in indigenous and traditional proprietary systems. According to one view, the right of an indigenous inventor or custodian of Traditional Knowledge should not be sacrificed on the altar of collective ownership, since this would infringe fundamental human rights. (See A. Gupta, “Rewarding Traditional Knowledge and Contemporary Grass Roots Creativity: The Role of Intellectual Property Protection” (2002) Available at http://www.sristi.org/papers Accessed on 12 March (2009))

In India, for instance, the codified systems of medicine utilize about 2000 plant species for medicinal purpose, while the tribal communities, who live in and around the forests, utilize over 8000 species of plants, most of which are otherwise not known to the outside world. Supra n. 61, See also D. Shankar, A. Hafeel and T. Suma, “Cultural Richness of Green Pharmacy” 2 Comps Newsletter 10 (1999)


See [http://www.oecd.org/document/58/0,3746,en_2649_201185_1889402_1_1_1_1,00.html](http://www.oecd.org/document/58/0,3746,en_2649_201185_1889402_1_1_1_1,00.html) Accessed on 23 November (2011)


*Ibid*

Id. at 6


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T.C. Nchinda, “Traditional and Western Medicine in Africa: Collaboration or Confrontation?” 6 *Tropical Doctor* 134 (1976)


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*Supra* n. 7

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