

Chapter-5

MEDICO SPIRITUAL HEALING PROCESS IN SIKKIM

Sikkim is located in the Eastern Himalayas and is globally renowned for its biological diversity and traditional knowledge associated with it. It is a part of the global biodiversity hotspot. Sikkim Himalaya, a name quite synonymous with Himalayan floral bounty, is in reality just a small nook in the Himalayan coliseum. Bordered on its three geographical boundaries by the towering massifs and ridges it is, to a large part, a land-locked upland terrain. This natural configuration is also responsible for its bowl-like appearance and the resulting unique climate. Also, owing to this bowl-like physical depression or gap along the 2500 kms of Himalayan sway the region is also known sometimes as the 'Sikkim Gap'. Some unique flora and fauna characterize this natural isolation. At present the Sikkim Himalayan region stands out as one of the very few remaining area throughout the Hindukush Himalaya where environmental degradations has yet to reach alarming dimensions, though there are found some definite signs of its gradual coming.

The place remained for a considerable period in history as an unknown pocket of landform due to its geographical impasse but from the middle of 1800 AD a series of visits by naturalists and explorers started towards the then mountain kingdom of Sikkim Himalaya. The natural attraction provided by the flora, fauna and the enchanting landform was enough to usher in a cascade of visitors to the region during the late part of the 18th century and out of their various books, notes and travelogues, the earliest situation for the region could be understood. For reasons practical, these dossiers now remain as the most important ones when we delve into the past of Sikkim Himalaya.⁴⁷²

There are two main periods in Sikkim history- one as a Country and the other as a State. The Country Sikkim was without doubt diverse from present day Sikkim. There was tough spiritual and intellectual influence of Tibet on Sikkim. Nonetheless, it cannot be assumed that Tibetan structure was transformed on to Sikkim. Lepchas, the genuine inhabitants were animists. The Bhutias who came from Tibet were followers of Lamaist Mahayana Buddhism diffused with Bon animists' spiritualistic character. Lamaism, Hinduism and spiritual worship are practiced by diverse cultural groups living in State;

⁴⁷² Lalit Kumar Rai and Eklabya Sharma, *Medicinal Plants of the Sikkim Himalaya: Status, Usage and Potential* 2 (Bishen Singh Mahendra Pal Singh, Dehradun, 1994).

nevertheless it is not easy to categorize them accurately. Sikkim includes gompas⁴⁷³ of three chief sects of Lamaist Buddhism Nyingmapa, Kargyupa and Gelugpa. The monasteries as a regulation are simply temples with one or more lamas occupied in ministering the faith and belief.⁴⁷⁴

There are useful local physical condition customs in trend in various parts of Sikkim. Regardless of the fact that North Sikkim is custom ardent, explicit areas like Lachung, Lachen and Dzongu in and approximately the Kanchenjunga Biosphere Reserve are more conservative. In other adjacent villages also, many individuals are knowledgeable about medicinal plants and their potential use in curing different ailments. Sikkimese people, by tradition have modified themselves to the vagaries of natural world by evolving complicated societal and intellectual mechanisms. Their medicinal practices too were wicker inside these mechanisms. The earlier residents practiced shamanism, which was rampant under the given name bon. With passage of time, the amchi under the persuasion of the Buddhism recognized them in Sikkim, as the genuine inhabitants (Lepchas) had converted to Buddhism. Since the amchi were also spiritual individuals, they established easily. The tantric outline of religious conviction and benediction as popularised by Guru Padamasambhava blended with Tibetan form of Buddhism.⁴⁷⁵

At present, for the record, we have about 4000 species of flowering plants and some equally respectable proportions of conifers, ferns and its allies, and the lower plants.⁴⁷⁶ From the various literatures the best known ones of the floral assemblage may be considered the genera of orchids, primulas, rhododendrons, and the medicinal plant groups, which are used in various healing process in Sikkim. This chapter attempts to highlight the last entity in its many ramifications, emphasizing them under various sub chapters.

5. I. Historical outline:

The great drainage basin of river Tista which constitute the hills of Sikkim and Darjeeling is the present picture of Sikkim Himalaya. This landform which was inhabited by the Lepchas from time immemorial was a virtual terra incognita for a greater part of history. The accession of King Phuntshog Namgyal in 1641 AD was a landmark event in the

⁴⁷³ Monasteries.

⁴⁷⁴ Bhasin Veena, “*Medicinal Anthropology – healing practice in contemporary Sikkim*” 3 Anthropology 63 (2007).

⁴⁷⁵ *Ibid.*

⁴⁷⁶ Lalit Kumar Rai and Eklabya Sharma, *Medicinal Plants of the Sikkim Himalaya: Status, Usage and Potential* 2 (Bishen Singh Mahendra Pal Singh, Dehradun, 1994).

Sikkimese history and a starting point of the reign of Bhutia kings in Sikkim and the advent of Buddhism. Sikkim as a kingdom then, extended from the Arun river on the west (now in Nepal) to the Tegonla range on the east, which included the Tambur and Monchu valleys. More Nepalese as settlers arrived later.⁴⁷⁷

Due to the ravages of war which was almost a regular activity during the 17th century Sikkim the above landform witnessed a repeated transformation over its boundaries. We shall focus our attention towards the date and effects of changes only as these are more important to understand the locus standi of Sikkim Himalaya for the present.

1817: The Terai, or the level tract between Mechi and Tista was restored to Sikkim by British India after the Gorkha War of 1817. The Gorkha invasions that came repeatedly in 1788 to 1814, had earlier wrested this lowland tract from Sikkim.

1835: The cessation of hills of Darjeeling from Sikkim by British India

1850: British India intervention and annexation of Sikkim Terai (the Morung Terai) and also the area of the Sikkim hills bound by the Ramman river on the north, the Great Rangit and the Tista river on the east and Nepal frontier on the west.

1860-61: British India occupation of the territory lying to the north of Ramman River and to the west of the Great Rangit.

1865: The territory of Sikkim which was occupied by Bhutan aggression at the early part of seventeenth century (the present Dooars in Jalpaiguri district, West Bengal, or the foothills of Sikkim) was annexed by British India after the close of Bhutan War (1865)⁴⁷⁸

After Independence and the birth of Indian Republic the hills of Darjeeling was converted into the Darjeeling district of the State of West Bengal and Sikkim was merged with the Indian Union as the 22nd State in the year 1975.

Thus within a time span of a little over three centuries a sea-change was effected. This highly metamorphosed form of the previous kingdom of Sikkim is now geographically recognised as the Tista basin. In regard to the various observations that will be made in the pages that follow it is believed that this short sketch would help to locate proper bearings

⁴⁷⁷*Id. at 13.*

⁴⁷⁸*Id. at 14.*

under context. The vernacular names of many plants which grow around Terai and places which still bear Lepcha names are instances where a reason can be traced only in history.

Dwelling on the floristic realm of the Sikkim Himalaya it may be pertinent to say that the earliest records come from the works of persons in service to India under the British crown. The pioneering and most outstanding contributions have come from Sir J.D. Hooker, in his book.⁴⁷⁹ Others were, Sir George King and Robert Pantling,⁴⁸⁰ Peter Bruhl,⁴⁸¹ etc. Works of Gammie, Smith and Hara on the vegetation of Sikkim and of Biswas on the Darjeeling plants are also worth mentioning. A general account on the Sikkim of last century may be obtained from the exhaustive volume of Risely⁴⁸² and similar materials on Darjeeling is to be referred to Dash⁴⁸³

a) The Land:

Sikkim is located in the Eastern Himalayas and is globally renowned for its biological diversity and traditional knowledge associated with it. It is a part of the global biodiversity hotspot. The unique terrain climate and biogeography of the state have resulted in the sustenance of varied eco-zones in close proximity. Also the harmonious presence of several ethnic groups having their distinct identity and practising their traditional livelihood adds to the treasure house of knowledge related to this biodiversity. Biogeographically it is enriched by both the east Himalayan bio-geographic provinces. It has close proximity to both the Tibetan Plateau in the north and Bay of Bengal towards the South, thereby having affinities with tropical moist forests in the south and cold desert in the north within a short distance. In a landmass of just 7,096 square kilometres, it houses elevations ranging between 300 to 8,598 meters. The diverse forest types include deciduous Sal, wet hill forest, dense Oak forests, extensive conifer forests and unique Rhododendron thickets giving way to rolling alpine meadows. Ecosystems range from humid tropical valleys to temperate montane habitat, alpine meadows and trans-himalayan cold desert. It is a veritable nature's Noah's Arc teeming with biodiversity, housing enormous healing plants, nearly half of the wild trees, orchid and Rhododendron wealth and one third of the country's flowering plants. Nearly 165 plant species have been named after the State, as they were first collected from here. It

⁴⁷⁹ Reeve and Benham, The rhododendrons of Sikkim Himalaya (London, 1849).

⁴⁸⁰ Orchids of the Sikkim Himalaya, 1898

⁴⁸¹ Orchids of Sikkim, 1926.

⁴⁸² The Gazetteer of Sikkim, 1891.

⁴⁸³ Bengal District Gazetteers: Darjeeling District, 1907.

possesses about 43% of the mammals, 45% of the birds, 50% of the butterflies of the country and a plethora of medicinal plants⁴⁸⁴.

b) The People:

The Sikkim Himalaya is a cornucopia of ethnicity. It is, apart from the three major ethnics Lepcha, Bhutia, and Nepalese, a conglomerate of over 20 ethnic tribes and a still more number of sub-tribes. The range of language and dialectical spectrum is enormous.

The Lepchas are the earliest aboriginal inhabitants of the present area of Sikkim. The next aboriginal inhabitant tribes are the Limboos. They are living in this part of Sikkim from time immemorial. After the Blood Brotherhood treaty between Khye- Bumsa and Thekong-Tek in 1275 AD the Bhutias also slowly migrated to the present area of Sikkim.⁴⁸⁵ The Maharaja's History⁴⁸⁶ the only available source of the ancient people of present Sikkim, has described the ancient people of Sikkim as follows:

i. The Lepchas (Monrees, Mon-pas or Rongs):

The Maharaja's book reveals that "...amongst the three above mentioned races of people inhabiting Sikkim, the origin and history of the Lepcha race as far as can be ascertained runs thus: The foremost tribe of Lepchas who are known to have existed in Sikkim, was called "Nahangs" who were a race of barbarians who dwelt in a place called Lunghem near Dallam, but this tribe soon died out and there are none of them now in Sikkim. In reality there appear to be twelve different castes among Lepchas. They are: (1) The Sengdeng-mo, (2) Lingsim-mo, (3) Hee-mo (which comprises) (4) Karthok-mo, (5) and the descendants of Thekong Salung. The rest are named after the places they inhabit...."⁴⁸⁷

ii. The Bhutias (Lhorees or Lhopos or Lhopas):

"From a long time ago, Sikkim has been occupied by Bhutia (Lhorees), Lepchas (Monrees) and Limbus (Tsongrees). The Bhutias, according to one authority, are said to have descended from the followers which are said to have consisted of twelve tribes known as Tong-du-ruzhis (four tribes, the close descendants of Khe-Bumsa), and Beb-tsan-Gyat (the

⁴⁸⁴ Biodiversity of Sikkim: Exploring and Conserving a Global Hotspot, (Information and Public Relations Department, Government of Sikkim, 2011).

⁴⁸⁵ Note: many claim that the Treaty was written down in both Tibetan and Lepcha script but both have been lost now while others say that there was no script either of Tibetan or of Lepcha at that time and hence there is no written evidence available of this treaty so far. No historical evidence is yet available so far of this event.

⁴⁸⁶ Namgyal and Dolma translated by Dawa Samdup in 1908.

⁴⁸⁷ *Id.* at 19.

eight tribes of the great other ancestors of Khye-Bumsa), a prince or chief from Idong clan migrated to Kham Minyag of Tibet, and then who further migrated to Sikkim while others say that it was from Khye-Bumsa's three sons that they have descended and multiplied.....⁴⁸⁸

iii. The Limboos (Tsong or Tsongrees):

About the Limboos the Maharaja's book states "As stated in detail in the Sikkim Gazetteer the most authentic account we can have of them is only through the annals and traditions related by old men. According to their own traditions, which they call Mundhum it is said, that when the pioneer Lamas of Tibet, visited Sikkim, for the first time, a tribe who revered the Katog Lama as their Guru, followed him from Tsang, and settled with him in Sikkim. The word "Tsong" has been derived from Tsong Province of Tibet (China). But the Gorkhas call them Limbus. They first settled down in the banks of the Arun River, right down to Kangkai. Their headman used to be called Subahs. They have ten sub-divisions, called Thars, and they call themselves the ten Limbus. Again mode of differentiating is by grouping themselves into local blocks called "Thums". Of this too there are ten, called the ten Thums, and another group of seventeen Thums. These have all been absorbed under the Gorkhas. They are: (1) Yangrup, (2) Mewa, (3) Mahikhola, (4) Phedap, (5) Tamborkhola etc. Sikkim contains almost fifty per cent of settlers both old (U-Tsong) and new (Khar-Tsong), from those places. Amongst themselves again half would be descendants of old settlers, while half would be new."⁴⁸⁹

c) Herbal Practices:

Man has been attached, rather fast, with his plants since antiquity and this bond of man-plant has crossed a considerable time-frame in history. Thus far, the bond grows still more intimate. Apart from providing us with our daily bread, clothing and shelter, an array of plants are there to look after our health conditions and, more importantly, at times saving our lives too. With the combined industry, dextrousness and in generosity of human mind the different types of medicinal herbs were discovered one by one through the ages and the trend still continues. Along the history of herbal medicine we find many instances to prove that the experience was the precursor of the written word and many have accepted the view that the study of medicinal plants and its properties gradually paved the way for the science of

⁴⁸⁸ *Id.* at 10. (the details of this have been described in ethnology of Bhutias.

⁴⁸⁹ *Id.* at 30

botany. To illustrate its understanding and development, the herbals' influence on man, and what we know about it so far, a short account on it is outlined here.

The history of medicinal plants is so ancient that it is sometimes referred to as pre-historic and more often simply as a story with its roots in deep antiquity. Nevertheless, from the different thread-end information's gathered on these herbs over a protracted and tenacious search we now are in a better position to look at to a more or less complete picture, and if we believe in the dinosaurs, we have now more than enough supports to believe in the herbal history.

It is acknowledged that the primitive man found out the therapeutic potentials of herbs by observing the animals around him who went on to pick certain grasses during a certain ailment. By way of trial-and error he found the exercise working well on him too. Many herbs of ancient origin, such as species of Geum,⁴⁹⁰ certain grasses used by cats to act as emetic, and use of hartworts by does to ease parturition, were obtained by actual observation and experimentation. There must have followed some instances of accidental poisoning or occurrence of psychological drug effect by use of plants too which started inquiry into it. After this, and for a good many centuries, the 'Doctrine of Signature' prevailed. Many plants which resembled human torso or any of its parts were marked singularly for use against problems coming out of that organ. Thus, the hepatics⁴⁹¹ and other plants with leaves resembling that of human liver were assigned the job of relieving liver trouble; tubers with shape of human heart, lung or testicles went on to cure those specific organs and many more were 'invented' likewise. The realisation of the existence of 'active principles,' in plants⁴⁹² during the 14th century was a great step towards understanding of the herbs in a better perspective. The idea of extraction of these active principles through different techniques was a still greater stride taken in the development of herbals. At present, the closely organised study of herbs under pharmacology and biochemistry, aided by a long range of very efficient electronic and mechanical instruments, has opened up a wholly new horizon under phytotherapy. The growing awareness and inclination to use vegetable products by a considerable section of people in the West have added still more impetus on this science. Drugs of herbal origin have more impact on human body as because it is biologically more compatible than synthetic drugs is a theory widely subscribed now-a-days by a good many.

⁴⁹⁰ Used by deer's against injury.

⁴⁹¹ The liverwort group of plants

⁴⁹² Termed as 'quintessence' by Paracelsus.

There definitely are signs which show the herbal system growing in popularity and becoming a strong contender for the 'pill popping' culture. By the curious process of history repeating itself we shall be witnessing a back-to-front reversal in herbal history.

Out of the few places which witnessed the rise and development of herbals the names of China, Egypt, India, Greece and Mesopotamia stands out prominently.⁴⁹³

i. China:

The oldest documented record so far is the Chinese pharmacopoeia, the Pun-Tsao.⁴⁹⁴ The medicinal plants mentioned in the Pun-Tsao include the Indian hemp, aconite, opium poppy, and croton. The use of Ephedra⁴⁹⁵ and ginseng⁴⁹⁶ can be traced back to ancient Chinese folk medicine. Surprisingly enough, this very plant Ephedra pachyclade is believed by some authorities as the 'Soma ras' the divine brew of Indo Aryans, who made a liquor brew out of it. This Ephedra pachyclade brew was considered as 'water of life', providing a sharper intellect, health and immortality. In China, this plant was used against bronchial asthma and in later years the active principle Ephedrine was isolated from it.

For a large part in history the Chinese herbals remained oral, i.e., passing from one generation to another by word of mouth. It must have been documented after the discovery of paper, which marks another great event that originated from China.

ii. Egypt:

The two papyrus scrolls of ancient Egypt, namely, the Hearst and Ebers Papyrus, provide a substantial amount of information of the herbal practised in the Nile basin. More might have been prepared by the host of physician/priest of the time but only the two above survives which were written around 1500 BC. A large number of plants were identified by ancient Egyptians including the medicinal property of garlic, onions and crocuses. The use of garlic⁴⁹⁷ towards problems on blood circulation was discovered by Egyptians. This is now proved by modern researchers that some significant anticoagulant and antithrombotic action is inherent in the plant. Similarly, the crocus⁴⁹⁸ was used to cure gouty arthritis by the

⁴⁹³ Lalit Kumar Rai and Eklabya Sharma, *Medicinal Plants of the Sikkim Himalaya: Status, Usage and Potential* 5 (Bishen Singh Mahendra Pal Singh, Dehradun, 1994).

⁴⁹⁴ Written at some time prior to 2500 BC and published in 1600 AD by Li Shi Chin.

⁴⁹⁵ A gymnospermous plant having antihistamine property.

⁴⁹⁶ *Panax ginseng*.

⁴⁹⁷ *Allium sativum*

⁴⁹⁸ Autumn crocus, *Colchicum autumnale*.

Egyptians and at present the drug Colchicine is applied to this same ailment. The folk medicine of Egypt was so rich that the Eber Papyrus alone contained about 800 prescriptions. Another instance of herbal power knowledge of ancient Egypt is evident in the mummification technique.

iii. Greece and Rome:

Between the years 450 to 300 BC the Greek civilization flourished to its peak which is also recognized as the Golden Age of Greece. The father of medicine, Hippocrates of the Island of Cos, brought up more than 200 plants in connection with drugs and medicine and many Hippocratean drugs still find use in modern herbal practice. The work of Theophrastus, *De Historia Plantarum*,⁴⁹⁹ though in all essence a pure botanical treatise, nevertheless is considered the first ever attempt towards a scientific order in the field. His mention of ferns as being used as an anthelmintic was quite a novel thing for the day.

Out of the few well-known personalities from the Roman medical botany the name of Pednious Dioscorides⁵⁰⁰ shines brightest. His work *De Materia Medica*, regardless of shortcomings, is still considered by far the most important and original work on medicinal botany coming from the antiquity. For a time span of fifteen centuries this standard work on pharmacology stood its ground. This tour de force of Dioscorides contains an account of more than 600 species of plants of herbal character, with illustrations, and most importantly, the medicinal preparations of the plants are given. This is further supplemented by the various effects of plants on human body – beneficial as well as possible side-effects. As to these pioneering efforts in drug preparation from the plants Dioscorides is often regarded as the founder of pharmacognosy. The names of some herbs, such as, Anemone and Aloe, can be traced back to him.

iv. India:

Coming on to India, the most ancient and celebrated treatise on Hindu Medicine is no doubt the Ayurveda. The authoritative works of Charaka⁵⁰¹ and Shushruta⁵⁰² marks the early phase of herbal science in India. Contemporarily, the various contributions of Bag Bhatta, Vab Misra and Madan Pal enriched the subjects more i terms of herbal discoveries as well as

⁴⁹⁹ History of plants.

⁵⁰⁰ Honoured with the medicinal plant genus, *Dioscorea*.

⁵⁰¹ Charak-Samhita 100 – 500 AD.

⁵⁰² Shushrut-Samhita 200 – 500 AD.

to its pharmacognostical properties. One of the ancient herb Sarpagandha⁵⁰³ still finds use today. It is one of the sources of Reserpine. For centuries the herb was used in India against lunacy and different forms of mental illness. Similarly, the use of Chalmogra oil⁵⁰⁴ to cure leprosy is legend. In the middle of 19th century the plant was brought to Hawaiian island where the disease was in its heyday. A fourteen month trial of intravenous injection of Chalmogra oil resulted in half of the patients recovering. In India the oil is used for massage.

From the 16th century onwards foreign workers took a firm rein in active herbal study. Thomas Rives, Odardo Verbosa, Cristobal da Costa and Garcia da Orta are the names which are most prominent at these early stages. After this, the 18th and 19th centuries heralded some of the most outstanding contributions based on researchers on modern lines which practically forged a strong foundation for later year's investigations. Out of the many, some of the major works may be accredited to Ainslie⁵⁰⁵ and O'Shaughnessy & Wallich.⁵⁰⁶

The close of 18th century saw two major works by Indian investigators, namely, Hindu Materia Medica⁵⁰⁷ by Dutt and Indigenous Drugs of India⁵⁰⁸ by Dey. Also, the works of Dymock⁵⁰⁹ and Atkinson's⁵¹⁰ may be mentioned at this point. The last outstanding work of the century came in the form of Sir George Watt's Dictionary of the Economic Products of India⁵¹¹ in-between 1889-96. Many short communiqués on the Indian medicinal plants are also found interspersed within this time-block.

The best-known treatise to come up at the beginning of this century is the four-volume magnum opus of Kirtikar & Basu, Indian Medicinal Plants.⁵¹² Nadkarni's work Indian Materia Medica which came up in 1926 brings up an exhaustive treatment on the properties of medicinal plants of the sub-continent. A few major works followed after this and finally The Indian Pharmacopoeia was scored in 1955.

⁵⁰³ Rauvolfia serpentine.

⁵⁰⁴ From Hydnocarpus Kurzi (king) Warb.

⁵⁰⁵ Materia Medica of the Hindus, 1813.

⁵⁰⁶ The Bengal Dispensatory and Pharmacopoeia, 1844.

⁵⁰⁷ 1870.

⁵⁰⁸ 1883.

⁵⁰⁹ Vegetable Materia Medica of India, 1883, and Pharmacographia Indica, 1890-93, co-authored with Warden and Hooper.

⁵¹⁰ Economic Products of North-Western Frontier Provinces, 1882.

⁵¹¹ Seven volumes.

⁵¹² 1918.

v. Sikkim:

The use of plants as a means to cure/abate certain ailments and disease is an age old practice throughout the world and the hills of Sikkim. From time immemorial the package of herbal medicine has been gradually nurtured and brought up to present with still more additions. Located far from civilization and almost land-locked, the life-saving herbs from the wild provided the only refuse during emergency and trauma. Out of the primitive peoples diligent trial and error a string of plants having potent remedial action have come up identified and are still faithfully prescribed after several centuries.

After the exhaustive floristic work on the Sikkim Himalaya was made by Sir J.D. Hooker during 1871-97 a shatteringly few minor works followed in its wake. The most comprehensive work had to wait for many years which came in the form of Common Medicinal Plants of Darjeeling and Sikkim Himalaya by Biswas.⁵¹³ Writings mostly in short communicated papers was found in the scene after this and at present a full-scale lull reigns and it continues. Between the pages of these a good amount of information has been incorporated minor literature mostly in the form of ethno-medical data. However, in terms of plantation of medicinal plants much work has been affected and Taxus, ginseng and various other medicinal plants are going through repeated trial that come up highlighted separately.

The Directorate of Cinchona and Other Medicinal Plants which was established about 130 years ago conducts researches on different types of commercial medicinal plants. Different establishments, governmental or otherwise, are now found taking a keen interest in the study and growing of various herbs of local origin. This definitely is a fair indication of a new horizon opening up for the regional herbal culture. Over 400 plants possessing therapeutic properties have been recorded from the region.⁵¹⁴ However, the 'actively' used plants are quite limited in numbers which are brought to the markets in different quantities. The group of lichens which are of medicinal values are also available in the region⁵¹⁵ but the local usage is not known. Almost all the herbs that are in vogue at present are enumerated in this work, with adequate screening as to its occurrence, growth range, pharmacology and usage.

⁵¹³ 1956.

⁵¹⁴ Plant Genetic Resources Newsletter-Impact of cultivation on active constituents of the medicinal plants *Podophyllum hexandrum* and *Aconitum heterophyllum* in Sikkim, available at: <https://www.biodiversityinternational.org>>...(last visited on July 3, 2015).

⁵¹⁵ Example species of *Parmelia*, *Usnea* and *Ramalina*.

Over the medicinal plants of the region, it is learnt that many persons and organisations are working from the past several years but so far comprehensive writings have seldom appeared over the regional medicinal plants. This small reportage was brought up to meet this gap in communication and it is believed that the same will act as a workhorse for serious users as well. Various spheres still remain un-tapped; rather these stand untouched so far. We hope that this compendium will, to some extent activate/accelerate the various on-going projects as well as works on the plants which are on the anvil, from this part of the sub-continent.

5. II. Traditional Medicinal Plants of Sikkim:

Sikkim doctrines the aboriginal religious practices, culminates indigenous traditions associated with religion and faith based healing therapies and is a natural hub of traditional medicine. Faith healers and occupational folk medicine therapists acts as alchemists. In this unfathomed virgin and picturesque state of pulchritudinous blooming orchids, rural population are directly depended upon the traditional medicines prescribed by the faith healers and the traditional medicines prescribed by the faith healers and the traditional occupational folk medicine doctors for their basic health issues and amenities. The knowledge of herbs or plant based panacea is a part of indigenous knowledge which has been snowballed from generation and ages since primordial origin. On the basis of proper signs and symptoms of the diseases, these herbal medicines are chosen. Their choice of medicine also depends upon the availability, particular geography; faith associated beliefs and cost effectiveness. This practice is on the verge of extinction as The Himalayan belt is prone to natural catastrophes like earthquake, flash-floods, incessant rainfall, landslides etc and the availability of the medicinal flora is on decline. It is the precise time to amalgamate the documentation process of the traditional medicine of Sikkim for future references. Here, a total of 123 medicinal plants have been discussed which are prescribed or used by the traditional medicine system of Sikkim.⁵¹⁶

Sikkim is unique in several ways-most importantly; its close proximity to both the Tibetan plateau, Bay of Bengal and Nepal on the west thereby having affinities with tropical forest in the south and cold desert in the north within a short distance of just 100 kilometres. Heavy precipitation throughout winter as well as summer season has given rise to lush green

⁵¹⁶ Mingma Thundu Sherpa, Abhishek Mathur, et. al., "Medicinal plants and traditional medicine system of Sikkim: A Review" 4 *WJPPS* 161 (2015).

vegetation. The state is gifted with rich flora and fauna diversity. Species wise, the state harbours over 4500 Flowering plants, 550 Orchids, 36 Rhododendrons, 16 Conifers, 28 Bamboos, 362 Ferns and its allies, 9 Tree ferns, 30 Primulas, 11 Oaks, over 424 Medicinal plants, 144 mammals, 550 Birds, 48 Fishes, over 600 Butterflies, 28 Glaciers, 227 high altitude lakes and over 104 rivers and streams.⁵¹⁷

The rural communities of Sikkim have a long tradition of using plant resources for their daily needs such as food, fodder, medicine, firewood, timber and agriculture tools. Plants are collected from various habitats, such as scrub, grassland, forest and cultivated fields, and are used as crude drugs. In the last few decades there has been a phenomenal rise in the field of traditional medicine and these drugs are gaining popularity worldwide due to its lesser amount of side effects.

The World Health Organization has listed 21,000 plants, which are used for medicinal purposes around the world.⁵¹⁸ Among these 2500 species are found in India, out of which 150 species are used commercially. India is the largest producer of herbal medicine and is referred as Botanical garden of the world.⁵¹⁹ Out of its total population, 80% of Sikkim's population resides in rural areas where access to governmental health care facilities is rare. Sikkim is indeed a natural store of precious medicinal plants.

The Himalayan plant diversity plays a pivotal role to fulfil the needs and demands of medicinal plant of Sikkim. The earliest record of medicinal plant used in Himalayas is found during 4500 BC and 1600 BC (The Rig Veda) which is considered to be the oldest human knowledge and describes 67 medicinal plants.⁵²⁰ After the Rig Veda, Ayurveda described the utilization of 1200 important medicinal plants.⁵²¹ The knowledge of using this system was accessed to local healers⁵²² in Sikkim. It has been estimated that the Himalayan region harbour over 10,000 species of medicinal and aromatic plants, out of which more than 490

⁵¹⁷ Panda AK, Misra S., "Health traditions of Sikkim Himalaya" 3 *JAIM* 183-189 (2010).

⁵¹⁸ Modak M, Dixit P, et. al., "Indian herbs and herbal drugs used for the treatment of diabetes" 40 *JCBN* 163-173 (2007).

⁵¹⁹ Seth SD, Sharma B. "Medicinal plants of India" 12 *IJMR* 9-11 (2004).

⁵²⁰ Gewali MB, Aspect of traditional medicine in Nepal 1-2 (Institute of Natural medicine, University of Toyama, 2008).

⁵²¹ *Ibid.*

⁵²² Jhankri, Bijuwa and Phedangpa etc).

species of medicinal plants finds their habitat in Sikkim.⁵²³ The researcher here focuses the amalgamation of documented traditionally important medicinal plants of Sikkim.

Table 5.1

Documented Traditional Medicine of Sikkim:

Sl. No	Plants (Family)	Vernacular Name (Nepali)	Gender Specific Treatment (Male/Female/Both)	Parts of the plants used	Treatment/Diagnosis	Habitat range	Location
1.	Abroma augusta (Malvaceae)	Kapsi	Female	Barks	Menstrual disorder ^[524]	7000-4000 ft.	Throughout Sikkim.
2.	Aconitum bisma (Ranunculaceae)	Bikhma/Bikh	Both	Tubers and roots	Food poisoning, asthma, cough, bronchitis, antidiabetic, malaria, diarrhea, body pain, diaphoretic, diuretic, expectorant, febrifuge, dyspepsia, debility, leprosy, paralysis, rheumatism, spermatorrhoea and typhoid. ^[525]	14000-16000 ft	Chewabanjang (West Sikkim); Yumthang, Yume Samdong and Thangu (North Sikkim).
3.	Acorus calamus (Acoraceae)	Bojho	Both	Rhizomes	Bronchitis, rheumatism, diarrhea, dyspepsia, epilepsy, asthma and colic pain. ^[526]	4000-7000 ft	Throughout Sikkim.

⁵²³ State of Environment report Sikkim 6-12(Forest and Environment Department, Government of Sikkim, Gangtok, 2007).

⁵²⁴ Hussain S, Hore DK, "Collection and conservation of major medicinal plants of Darjeeling and Sikkim Himalayas", 6 *IJTK* 352-357 (2007).

⁵²⁵ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵²⁶ Hussain S, Hore DK, "Collection and conservation of major medicinal plants of Darjeeling and Sikkim Himalayas", 6 *IJTK* 352-357 (2007).

4.	Aesandra butyracea (Sapotaceae)	Chiuri	Both	Fruits	Rheumatism ^[527]	3000 ft	Duga-Pendam (East Sikkim) and Malbasey (Weast Sikkim).
5.	Aeschynanthu s Sikkimensis (Gesneriaceae)	Balay Patay	Both	Rhizome s decoctio n	Fever and throat pain [⁵²⁸]	5000- 7000 ft	Throughout Sikkim.
6.	Aesculus indicus (Sapindaceae)	Pangra	Both	Fruits and seeds oil	Rheumatism and mumps [⁵²⁹]	4000 ft	Sumin forest of Pakyong (East Sikkim).
7.	Agave americana	Hattibar	Both	Leaves and roots	Leaf; Skin ulcer Root; Diuretic, diaphoretic and anti- syphilis ^[530]	2000- 4000 ft	Throughout Sikkim.
8.	Agrimonia pilosa	Kunka Pankhi	Both	Roots	Gastric disorder and bloody dysentery ^[531]	2000- 4000 ft	Throughout Sikkim.
9.	Allium wallichii (Amaryllidace ae)	Bana Lasuna	Both	Leaves	Viral flue and high altitude sickness ^[532]	10,000- 11,000 ft	Barsey (West Sikkim) and Yumthang (North Sikkim).
10.	Aloe barbadensis	Gheukuma ri	Both	Whole Plants	Stomach disorder, tonic, purgative, anti- helminthic, menstrual suppression, constipation ad arthritis ^[533]	6000- 8000 ft.	Throughout Sikkim.
11.	Ammomum aromaticum	Ban Elainchi	Both	Seeds and	Seed paste-Stomach trouble, wound and	4000- 6000 ft.	Throughout Sikkim.

⁵²⁷ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵²⁸ *Ibid.*

⁵²⁹ *Ibid.*

⁵³⁰ Gurung B, *The medicinal plants of the Sikkim Himalaya* 53 (Maples, Chakung, West Sikkim, 2002).

⁵³¹ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵³² Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵³³ Bharati KA, Sharma BL, "Some ethno-veterinary plant records from Sikkim Himalaya", 9 *IJTK* 344-346 (2010).

	(Zingiberaceae)			roots	small pox, Root paste-hypoglycaemic and anti-helminthic ^[534]		
12.	Ammomum subulatum (Zingiberaceae)	Elainchi	Both	Seeds	Seed paste; Liver tonic, bowel and appetizer ^[535]	4000-6000 ft	Throughout Sikkim.
13.	Angelica Cyclocarpa [Apiaceae]	Chimping	Both	Seeds	Fever, stomach disorder and headache ^[536]	7000-9000 ft	Throughout Sikkim.
14.	Anisomeles indica (Lamiaceae)	Ilamay	Both	Leaves	Asthma ^[537]	4000-7000 ft	Throughout Sikkim.
15.	Artemisia vulgaris (Asteraceae)	Titeypati	Both	Leaves decoction	Blood clotting, measles, fever, antiseptic, asthma, appetizer, blood purifier ^[538]	4000-9000 ft	Throughout Sikkim.
16.	Astilbe rivularis (Saxifragaceae)	Buro Okhati/ Bans upari	Both	Fresh Rhizomes powder	Toothache, diarrhea and dysentery ^[539]	6000-9000 ft	Throughout Sikkim.
17.	Berberis wallichiana (Berberidaceae)	Chitrokanra	Animal	Fruits	Against rabies ^[540]	5000-11,000 ft	Throughout Sikkim.
18.	Bergenia ciliate (Saxifragaceae)	Pakhan bhed	Both	Rhizomes, roots and	Fever, boils, cough, pulmonary affection, anti-scorbic ^[541]	4000-14,000 ft	Throughout Sikkim.

⁵³⁴ *Ibid.*

⁵³⁵ Gurung B, *The medicinal plants of the Sikkim Himalaya* 1-423 (Maples, Chakung, West Sikkim, 2002).

⁵³⁶ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵³⁷ *Ibid.*

⁵³⁸ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵³⁹ *Ibid.*

⁵⁴⁰ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁴¹ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 98 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

)			Barks			
19.	Betula utilis (Betulaceae)	Bhoj patra	Both	Barks	Bone fracture ^[542]	5000- 7000 ft	Throughout Sikkim.
20.	Bischofia javanica (Phyllanthaceae)	Kainjal	Female	Leaves and barks	Irregular menstruation and pain ^[543]	2000- 3000 ft	Throughout Sikkim.
21.	Brugmansia suaveolens (Solanaceae)	Kalo dhathuro	Both	Leaves	Swellings, sprain and rheumatism ^[544]	3000- 4000 ft	Throughout Sikkim.
22.	Buddleja asiatica (Scrophulariaceae)	Bhinsen pati	Both	Leaves and stems	Skin problems and abortificant ^[545]	2000- 3000 ft	Throughout Sikkim.
23.	Caryopteris odorata (Verbenaceae)	Thulasri ful	Both	Flowers	Allergy ^[546]	3000- 5000 ft	Throughout Sikkim.
24.	Centella asiatica (Apiaceae)	Golpat Brahmi	Both	Leaves	Liver disorder ^[547]	3000- 4000 ft	Throughout Sikkim.
25.	Cestrum fasciculatum (Solanaceae)	Ban Baigun/ Kundali ful	Both	Fruits	Measles ^[548]	4000- 6000 ft	Throughout Sikkim.
26.	Cissampelos pareira L. Varhirsuta (Minespermac eae)	Gar- tamarkay	Both	Stems	Stomach problem and liver disorder ^[549]	3000- 9000 ft	Throughout Sikkim.
27.	Clematis buchananiana	Pinsasay Lahara	Both	Roots	Sinusitis and nose block ^[550]	3000- 4000 ft	Throughout Sikkim.

⁵⁴² Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁴³ *Ibid.*

⁵⁴⁴ *Ibid.*

⁵⁴⁵ *Ibid.*

⁵⁴⁶ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya 200-204*, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁴⁷ *Ibid.*

⁵⁴⁸ *Ibid.*

⁵⁴⁹ *Ibid.*

⁵⁵⁰ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

	(Ranunculaceae)						
28.	Clematis Montana (Ranunculaceae)	Simegharh	Animal	Stems	Stomach ache of cattle ^[551]	3000-8000 ft	Throughout Sikkim.
29.	Codonopsis viridis (Campanulaceae)	Aniomukh	Children	Leaves	Infant diarrhea ^[552]	3000-4000 ft	Throughout Sikkim.
30.	Coelogyne fuscescens (Orchidaceae)	Sunakhari	Both	Pseudo bulbs	Stomach ache ^[553]	6000-9000 ft	Throughout Sikkim.
31.	Cordyceps sinensis (Ophiocordycipitaceae)	Yarsa gumba	Both	Whole plant	Rejuvenates liver, heart and immune booster ^[554]	Above 14000 ft	Tso Lhamo plateau and Yume Samdong (North Sikkim) and some parts of West Sikkim.
32.	Costus speciosus (Costaceae)	Betlauree	Both	Tuber extracts	Urinary tract infection and inflammation ^[555]	2000-3000 ft	Throughout Sikkim.
33.	Curcuma aromatic (Zingiberaceae)	Fatcheng	Both	Rhizomes	Appetizer, tonic, carminative, anti-helminthic and oil is used to cure early stage of cervix cancer ^[556]	2000-3000 ft	Padamchey, Rorathang and Rhenock (East Sikkim).
34.	Curculigo orchioides (Hypoxidaceae)	Kala musalika	Both	Rhizomes infusion	Piles and Gastritis ^[557]	4000-5000 ft	Throughout Sikkim.

⁵⁵¹ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya. 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁵² *Ibid.*

⁵⁵³ *Ibid.*

⁵⁵⁴ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁵⁵ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁵⁶ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁵⁷ *Ibid.*

	e)						
35.	Cuscuta reflexa (Convolvulaceae)	Binajari	Women	Stems	Menstrual disorders ^[558]	3000-5000 ft	Throughout Sikkim.
36.	Cyanodon dactylon (Poaceae)	Dhubo	Man	Shoots	Seminal problems ^[559]	6000-8000 ft	Throughout Sikkim.
37.	Cyathula prostrate (Amaranthaceae)	Luga Kara	Both	Shoots	Joint pain	5000-7500 ft	Throughout Sikkim.
38.	Cynoglossum zeylanicum (Boragiaceae)	Selay pati	Both	Roots	Constipation ^[560]	4000-6000 ft	Throughout Sikkim
39.	Dactylorhiza hatagirea (Orchidaceae)	Panch-anguli	Both	Tubers paste	Gastritis, jaundice, bodyache and bone fracture ^[561]	5000-6000 ft	Pakyong and Barapathing (East Sikkim); Dentam and Maneybhanjang (West Sikkim).
40.	Daphne bholua (Thymelaeaceae)	Kagatey	Both	Barks and roots	Fever and intestinal problems ^[562]	4000-8000 ft	Barsey (west Sikkim and Dzongu (north Sikkim).
41.	Dichroa febrifuga (Hydrangeaceae)	Basak	Both	Dried leaves	Fever ^[563]	2000-3000 ft	Throughout Sikkim.
42.	Dioscorea	Ghar Tarul	Women	Roots	Birth control ^[564]	2000-	Throughout

⁵⁵⁸ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁵⁹ Bharati KA, Sharma BL, "Some ethno-veterinary plant records from Sikkim Himalaya", 9 *IJTK* 344-346 (2010).

⁵⁶⁰ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁶¹ *Ibid.*

⁵⁶² Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁶³ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

	bulbifera (Dioscoreaceae)					4000 ft	Sikkim.
43.	Dioscorea deltoidea (Dioscoreaceae)	Kurkur tarual	Both	Tubers	Rheumayoid arthritis, asthma and fever ^[565]	3000-4000 ft	Throughout Sikkim.
44.	Dioscorea Pentaphylla (Dioscoreaceae)	Githey	Women	Tuberous roots	Birth control ^[566]	2000-3000 ft	Throughout Sikkim.
45.	Drymaria cordata (Caryophyllaceae)	Abijalo	Both	Leaves and steams	Sinusitis laxative and anti-febrile epilepsy ^[567]	1000-8000 ft	Throughout Sikkim.
46.	Elatostema sessile (Urticaceae)	Gaglato	Both	Leaves	Gastric disorder ^[568]	6000-7000 ft	Throughout Sikkim.
47.	Engelhardia spicata (Juglandaceae)	Mouwaha	Both	Green bracts	Stomach ailments and throat pain ^[569]	2000-6000 ft	Throughout Sikkim.
48.	Ephedra sikkimensis (Ephedraceae)	Somlata	Both	Whole plants	Against high blood pressure, high fever, gout and arthritis ^[570]	3000-4000 ft	Throughout Sikkim.
49.	Equisetum diffusum (Equisitaceae)	Singera	Both	Shoots	Body pain ^[571]	3000-4000 ft	Throughout Sikkim.
50.	Eupatorium cannabinum	Banmara	Both	Leaves and	Used in wounds and infections ^[572]	1000-7000 ft	Throughout Sikkim.

⁵⁶⁴ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁶⁵ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁶⁶ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁶⁷ Bharati KA, Sharma BL, "Some ethno-veterinary plant records from Sikkim Himalaya", 9 *IJTK* 344-346 (2010).

⁵⁶⁸ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁶⁹ *Ibid.*

⁵⁷⁰ *Ibid.*

⁵⁷¹ *Ibid.*

	(Asteraceae)			stems			
51.	Eurya Japonica (Theaceae)	Jhingoni	Both	Roots	Muscle pain and boils ^[573]	6000-10,000 ft	Barsey (West Sikkim).
52.	Evodia fraxinifolia (Rutaceae)	Khanakpa	Both	Fruits	Body ache and nasal sneezing ^[574]	7000-9000 ft	Barsey (West Sikkim).
53.	Fagopyrum esculentum (Polygonaceae)	Phapar	Both	Leaves	Stomach ache and constipation ^[575]	2000-8000 ft	Throughout Sikkim.
54.	Ficus cunia (Moraceae)	Khasray Khanium	Both	Latex and roots juice	Bladder complaints, boiled, visceral obstruction, leprosy and liver complaints ^[576]	2000-4000 ft	Throughout Sikkim.
55.	Ficus hookeriana (Moraceae)	Nebara	Both	Fruits	Diabetes ^[577]	2000-4500 ft	Throughout Sikkim.
56.	Fragaria indica (Rosaceae)	Bhnui-aisayloo	Both	Fruits	Throat pain ^[578]	3000-8000 ft	Throughout Sikkim.
57.	Fraxinus floribunda (Oleaceae)	Lakuri	Both	Barks	Boils, gout, sprain and fracture ^[579]	4000-5000 ft	Throughout Sikkim.
58.	Geranium nepalense (Geraniaceae)	Gajal ghar	Both	Roots	Stomach disorder ^[580]	3000-5000 ft	Rongli and Sumin forest Pakyong (East

⁵⁷² Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁷³ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya 200-204*, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁷⁴ *Ibid.*

⁵⁷⁵ *Ibid.*

⁵⁷⁶ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁷⁷ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya 200-204*, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁷⁸ *Ibid.*

⁵⁷⁹ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁸⁰ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya 200-204*, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

							Sikkim); Malbasey, Zoom and Dentam (West Sikkim); Borong, Temi and Yangyang (South Sikkim).
59.	Hedyotis scandens (Rubiaceae)	Kalelahara	Both	Roots and Shoots	Jaundice, gastric ^[581]	3000- 4500 ft	Throughout Sikkim.
60.	Helicia nilagirica (Proteaceae)	Bandhary	Both	Fruits	Cough and Cold ^[582]	4000- 7000 ft	Throughout Sikkim.
61.	Heracleum wallichii (Apiaceae)	Chimping	Both	Fruits and roots	Influenza, aphrodisiac ^[583]	7000- 9000 ft	Throughout Sikkim.
62.	Hippophae salicifolia (Elaeagnaceae)	Daale chuk	Both	Berry (fruit), roots nodule	Berry part is used as juice and also for digestion purposes; Root nodule are chewed against vomiting, removes foul smell from mouth ^[584]	8000- 10,000 ft	Lachen (North Sikkim).
63.	Holarrhena antidysenteric a (Apocynaceae)	Aulay Khirra	Both	Barks	Amoebic dysentery ^[585]	4000- 5000 ft	Throughout Sikkim.
64.	Houttuynia cordata (Saururaceae)	Gandhdya	Both	Leaves	Gastric disorders ^[586]	3000- 4500 ft	Throughout Sikkim.

⁵⁸¹ *Ibid.*

⁵⁸² *Ibid.*

⁵⁸³ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁸⁴ *Ibid.*

⁵⁸⁵ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁸⁶ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

65.	Hoya lanceolata (Asclepiadaceae)	Aulay Khari	Both	Roots	Cold sickness ^[587]	4000-6000 ft	Throughout Sikkim.
66.	Hydrocotyle asiatica (Apiaceae)	Golpatta Ghoratapr ay	Both	Stems	Against high blood pressure ^[588]	4000-6000 ft	Pakyong, Mamrig and Rongli (East Sikkim)
67.	Hydrocotyle javanica (Apiaceae)	Batuli paat	Both	Leaves	Liver disorder ^[589]	2000-3000 ft	Throughout Sikkim.
68.	Hymenodictyon excelsum (Rubiaceae)	Latikaram	Both	Barks powder	Hemorrhoids ^[590]	3000-4000 ft	Throughout Sikkim.
69.	Juglans regia (Juglandaceae)	Okhar	Both	Nuts	Rheumatism ^[591]	7000-9000 ft	Sumin forest Pakyong and Padamchey (East Sikkim); Dentam and Soreng (West Sikkim); Dzongu (North Sikkim).
70.	Kaempferia rotunda (Crassulaceae)	Bhuichampa	Both	Tubers	It is used to cure swelling, fracture, bruises and insect bites ^[592]	3000-4000 ft	Throughout Sikkim.
71.	Lantana camara (Verbenaceae)	Box phul	Both	Barks and stems	Toothache ^[593]	3000-6000 ft	Throughout Sikkim.
72.	Lindera	Timbur	Both	Flowers	Excessive night	7000-	Throughout

⁵⁸⁷ *Ibid.*

⁵⁸⁸ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁸⁹ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya* 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁹⁰ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁹¹ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya* 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁹² *Ibid.*

⁵⁹³ *Ibid.*

	neesiana (Lauraceae)			and fruits	seminal discharge and vomiting ^[594]	9000 ft	Sikkim.
73.	Litsea citrate (Lauraceae)	Sil timur/ doom	Both	Fruits	Stomah disorders ^[595]	6000- 8000 ft	Barsey (West Sikkim) and some parts of North and South Sikkim.
74.	Lycopodium phlegmaria (Lycopodiacea e)	Thula Nagbeli	Both	Rhizome s	Constipation ^[596]	6000- 8000 ft	Barsey, Dentam and Yuksom (West Sikkim); Ravangla (South Sikkim); Yumthang (North Sikkim)
75.	Lyonia ovalifolia (Ericaceae)	Angrey	Both	Leaves	Skin disases ^[597]	7000- 9000 ft	Barsey (West Sikkim); Ravangla (South Sikkim); Sumin forest Pakyong (East Sikkim).
76.	Meconopsis simplicifolia (Papaveraceae)	Poppy (Blue poppy)	Both	Rhizome s powder	Tonic in renal diseases ^[598]	1000- 7000 ft	Tsongu (East Sikkim); Thangu and Yume Samdung (North Sikkim); Dzongri and Chewabanjang (West Sikkim).
77.	Melastoma malabathricum (Melastomatac	Lotry	Animal	Flowers	Foot sores of cattle ^[599]	3000- 4000 ft	Throughout Sikkim.

⁵⁹⁴ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁵⁹⁵ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁹⁶ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁵⁹⁷ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁵⁹⁸ *Ibid.*

⁵⁹⁹ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

	ae)						
78.	Mesua ferrea (Calophyllaceae)	Nagesuri	Women	Dried barks	Skin diseases and menstrual disorder ^[600]	2000-5000 ft	Throughout Sikkim.
79.	Michelia velutina (Magnoliaceae)	Sweto champa	Both	Leaves	Worms ^[601]	2000-3000 ft	Throughout Sikkim.
80.	Nardostachys grandiflora (Valerianaceae)	Jatamansi	Both	Rhizome s powder	Bronchial, liver complaints and urinary problems ^[602]	6000-8000 ft	Pendam, Rhenock, Rongli and Pakyong (East Sikkim); Sombaria, Soreng, Dentam and Sakyong (West Sikkim).
81.	Nardostachys jatamansi (Caprifoliaceae)	Jatamansi	Both	Rhizome s powder	Nervous disorder ^[603]	6000-8000 ft	Pakyong (East Sikkim); Soreng and Dentam (West Sikkim).
82.	Ocimum basilicum (Lamiaceae)	Tulsi	Both	Leaves and seeds	Leaves juice is used against cold and cough; seeds are used in dysentery, gonorrhoea ^[604]	2000-4000 ft	Throughout Sikkim.
83.	Onosma hookeri (Boraginaceae)	Lalijari	Both	Oil	Oil extracted from root are used for hair as anti dandruff agents ^[605]	2000-4000 ft	Throughout Sikkim.
84.	Orchis Latifolia	Panchamala	Both	Tubers	Nutritious and aphrodisiac ^[606]	6000-8000 ft	Throughout Sikkim.

⁶⁰⁰ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶⁰¹ *Ibid.*

⁶⁰² *Ibid.*

⁶⁰³ *Ibid.*

⁶⁰⁴ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶⁰⁵ *Ibid.*

⁶⁰⁶ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

	(Orchidaceae)						
85.	Oroxylum indicum (Bignoniaceae)	Totola	Both	Seeds	Throat complication, hypertension, sore throat and throat infection ^[607]	2000-3000 ft	Throughout Sikkim.
86.	Osbeckia nepalensis (Melastomataceae)	Lattey	Both	Roots decoction	Urinary problems and diabetes ^[608]	4000-5000 ft	Throughout Sikkim.
87.	Oxalis corniculata (Oxalidaceae)	Chari amilo	Both	Leaves juice and roots	Dysentery, anemia and tympanitis ^[609]	2000-3000 ft	Throughout Sikkim.
88.	Paederia foetida (Rubiaceae)	Biri	Both	Dried fruits extracts	Toothache ^[610]	2000-3000 ft	Throughout Sikkim.
89.	Panax pseudoginseng (Araliaceae)	Ginseng	Both	Roots	Reduce fever, indigestion, vomiting, aphrodisiac, diabetes, sexual impotency and gastric ^[611]	8000-10,000 ft	Barsey (West Sikkim); Dzongu and Yumthang (North Sikkim).
90.	Paris polyphylla (Melanthiaceae)	Bako	Both	Roots paste	Skin disease, wounds and in any poisonous bite ^[612]	3000-4000 ft	Throughout Sikkim.
91.	Peperomia reflexa (Piperaceae)	Pipalay pati	Both	Leaves	Fever ^[613]	3000-4000 ft	Throughout Sikkim.
92.	Physalis minima (Solanaceae)	Jangali phakphakaya	Both	Dried fruits	Abate toothache ^[614]	4000-6000 ft	Throughout Sikkim.

⁶⁰⁷ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶⁰⁸ *Ibid.*

⁶⁰⁹ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁶¹⁰ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶¹¹ *Ibid.*

⁶¹² *Ibid.*

⁶¹³ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶¹⁴ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

93.	Phytolacca acinos (Phytolaccace ae)	Jaringa	Both	Fresh leaves	Body ache ^[615]	6000- 8000 ft	Throughout Sikkim.
94.	Picrorhiza kurroa (Scrophulariac eae)	Kutki	Both	Rhizome s powder	Heart complaints, piles, malarial fever, body ache, urinary complaints, anemia, constipation, brain tonic, paralysis, jaundice ^[616]	11,000- 14,000 ft	Chewabanjang (West Sikkim); Thangu and Yumthang valley (North Sikkim).
95.	Pilea microphylla (Urticaceae)	Sanu gagleto	Both	Petals	Pain relief ^[617]	4000- 7000 ft	Throughout Sikkim.
96.	Piper longum (Piperraceae)	Pipla	Both	Fruits and Roots	Bronchitis, asthma, cough, leprosy, appetizer and antidote to snake bites. ^[618]	4000- 5000 ft	Throughout Sikkim.
97.	Plantago erosa (Plantaginacea e)	Quley chiroto	Both	Leaves	Boil ^[619]	5000- 7000 ft	Anden, Rumbuk, Buriakhop ad Singling (West Sikkim); Ravangla (South Sikkim); Dzongu (North Sikkim).
98.	Podophyllum hexandrum (Berberidacea e)	Papari	Both	Whole plants	Wounds and diarrhea ^[620]	4000- 5000 ft	Throughout Sikkim.

⁶¹⁵ *Ibid.*

⁶¹⁶ Hussain S and Hore DK, "Collection and conservation of major medicinal plants of Darjeeling and Sikkim Himalayas" *IJTK* 352-357 (2007).

⁶¹⁷ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya* 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶¹⁸ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶¹⁹ Chauhan AS. *Ethanobotanical Studies in Sikkim Himalaya* 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶²⁰ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", *3 JAIM* 183-189 (2010).

99.	Pteris biaurita (Pteridaceae)	Thaday uniu	Both	Stems	Stops bleeding and infection ^[621]	4000- 5000 ft	Throughout Sikkim.
100	Rheum nobile (Polygonaceae)	Keju	Both	Roots and Rhizome s powder	Rheumatic arthritis and heart tonic ^[622]	2000- 4000 ft	Throughout Sikkim.
101	Rhododendron arboretum (Ericaceae)	Gurans	Both	Petals	Bloody dysentery ^[623]	7000- 9000 ft	Barsey (West Sikkim).
102	Rhus semialata (Anacardiaceae)	Bhakimlo	Both	Fruit extracts	Diarrhea and dysentery ^[624]	2000- 5000 ft	Throughout Sikkim.
103	Rubia cordifolia (Rubiaceae)	Majeto	Both	Roots	Astringent in cut and wound ^[625]	3000- 7000 ft	Throughout Sikkim.
104	Rubia manjith (Rubiaceae)	Majito	Both	Roots decoction	Jaundice, urinary tract infection, liver and general tonic ^[626]	4000- 8000 ft	Throughout Sikkim.
105	Rubia monjita (Rubiaceae)	Manghito	Both	Roots and stems	Skin disease and scorpion sting ^[627]	3000- 8000 ft	Throughout Sikkim.
106	Rubus ellipticus (Rosaceae)	Aiselu	Both	Roots paste	Bone fracture ^[628]	3000- 10,000 ft	Throughout Sikkim.
107	Rumex nepalensis (Polygonaceae)	Halhalay	Both	Roots	Hepatitis, loss of hair, food poisoning, cuts and wounds ^[629]	5000- 9000 ft	Throughout Sikkim.

⁶²¹ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶²² *Ibid.*

⁶²³ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶²⁴ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶²⁵ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶²⁶ *Ibid.*

⁶²⁷ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁶²⁸ *Ibid.*

⁶²⁹ Hussain S and Hore DK, "Collection and conservation of major medicinal plants of Darjeeling and Sikkim Himalayas" 6 *IJTK* 352-357 (2007).

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108	Sapindus mukorossi (Sapindaceae)	Ritha	Both	Fruits, roots and barks	Anti-helminthic, purgative, dandruff and piles ^[630]	2000-3000 ft	Throughout Sikkim.
109	Sarcopyramis nepalensis (Melastomataceae)	Angurkati	Both	Leaves	Constipation ^[631]	3000-4000 ft	Throughout Sikkim.
110	Saussurea gossypiphora (Asteraceae)	Kapisful	Both	Roots	Cuts, cough, asthma, fever, dysentery and influenza used for sexual dysfunction ^[632]	14,000 ft above	Throughout Sikkim.
111	Schima wallichii (Theaceae)	Chilawna	Both	Fruits	Dandruff ^[633]	2500-4000 ft	Throughout Sikkim.
112	Stephania glabra (Menispermaceae)	Gurjagano	Both	Roots	Diabetes, fever, gastric problem, amoebic dysentery, leprosy and anticancer drug ^[634]	2000-4000 ft	Throughout Sikkim.
113	Stephania glabra (Menispermaceae)	Taubarkey	Both	Root bulbs	Diabetes, tuberculosis, asthma and fever ^[635]	4000-10,000 ft	Throughout Sikkim.
114	Swertia chirata (Gentianaceae)	Chiraita	Both	Plants extract	Malaria, fever, liver stimulant, asthma, dyspepsia, debility, febrifuge, laxative, stomachic, anti-helminthic, anti-	6000-9000 ft	Throughout Sikkim.

⁶³⁰ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶³¹ *Ibid.*

⁶³² Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

⁶³³ Chauhan AS. Ethanobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶³⁴ *Ibid.*

⁶³⁵ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", 3 *JAIM* 183-189 (2010).

					diarrhea, constipation ^[636]		
115	<i>Taxus baccata</i> (Taxaceae)	Dhengre salla	Female	Leaves and bark extracts	Breast and throat cancer ^[637]	6000- 9000 ft	Mostly Barsey (West Sikkim)
116	<i>Terminalia belerica</i> (Combretaceae)	Barra	Both	Fruits	Stomach dysfunction ^[638]	2000- 3000 ft	Malbasey and Reshi (West Sikkim); Tinkitam (South Sikkim) and Rorathang (East Sikkim).
117	<i>Terminalia chebula</i> (Combretaceae)	Harra	Both	Fruits	Tonsillitis and pharyngitis ^[639]	2000- 3000 ft	Throughout Sikkim.
118	<i>Thysanolaena maxima</i> (Poaceae)	Kucho/ Amliso	Both	Young roots	Bronchial problem, rheumatic pain and skin swelling ^[640]	2000- 7000 ft	Throughout Sikkim.
119	<i>Tupistra nutans</i> (Liliaceae)	Teeta Nakema	Both	Whole plants	Diabetes ^[641]	3000- 6000 ft	Throughout Sikkim.
120	<i>Urtica dioica</i> (Urticaceae)	Sisnu	Both	Roots	Minor fracture ^[642]	3000- 8000 ft	Throughout Sikkim.
121	<i>Viscum articulatum</i> (Santalaceae)	Har choor	Both	Entire plantts	Minor fracture ^[643]	7000- 9000 ft	Barsey and Manaybung (West Sikkim) and Dzongu (North Sikkim)
122	<i>Vitex negundo</i>	Sewali	Both	Leaves	Rheumatism ^[644]	4000-	Throughout

⁶³⁶ Hussain S and Hore DK, "Collection and conservation of major medicinal plants of Darjeeling and Sikkim Himalayas" *IJTK* 352-357 (2007).

⁶³⁷ Panda AK, Misra S, "Health traditions of Sikkim Himalaya", *JAIM* 183-189 (2010).

⁶³⁸ Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶³⁹ *Ibid.*

⁶⁴⁰ *Ibid.*

⁶⁴¹ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶⁴² Rai L, Sharma E, *Medicinal Plants of Sikkim Himalaya: status, uses and potential* 1-152 (Bishen Singh, Mahendra Pal Singh, 23-A New Connaught Place, Dehradun, 1994).

⁶⁴³ *Ibid.*

.	(Lamiaceae)					5000 ft	Sikkim.
123	Zanthoxylum alatum (Rutaceae)	Bokay timbur	Both	Tender branchle ts	Toothache ^[645]	6000- 8000 ft	Mostly Barsey (West Sikkim).

5. III. Healing practices in Sikkim:

A proper and effective health care service is essential for better health care of mankind, and the same is applicable to the people of Sikkim. The system of allopathic hospitals, district hospitals, primary health centres and sub-centres, a medical college, Ayurvedic medicinal centres, Tibetan Herbal medical centres, and Homeopathic medical centres under both private and public sectors scattered throughout the state of Sikkim cater the need of health care of the people. On the other hand, medico spiritual healing practices, practiced by various community health healers also exist side by side for the health care of the people.

a) Some healing practices in Sikkim:

The health care systems existing in the state are described in brief as under:

i. Folk Medicine:

The existence of Folk medicine dates back as long as mankind have existed. In an effort to cope with an environment that was often dangerous, humans, and their ancestors, began to develop ways of lessening pain and treating physical and medical problems. Undoubtedly came through trial and error, using various plants and other methods derived from observation of how animals reacted to and treated illness and injuries. With the passage of time, individuals within ones family and tribal groups became more skilled at helping the sick and injured, and some of these became responsible for carrying out healing ceremonies, religious rituals, and other rites designated to ensure the safety and health of their communities.

⁶⁴⁴ Chauhan AS. Ethnobotanical Studies in Sikkim Himalaya 200-204, Proceedings of national seminar on traditional knowledge based on herbal medicines and plant resources of north-east India. National Institute of Science Communication and information Resources, New Delhi, (2001).

⁶⁴⁵ Joshi V and Joshi RP, "Some plants used in Ayurvedic and Homeopathic medicine" 2 *JPP* 269-275 (2013).

Folk medicine is an unofficial health-related practice that has traditionally existed, and is learned informally by word of mouth, and through observation and demonstration. Long before the discovery and development of modern scientific medicine such as the use of pharmaceutical drugs and doctor's surgery, traditional healing methods had been used and are still being used and practised today. Various types of traditional medicine such as herbs, tree, roots, fruits, insects and food items are used for treatments of any illness ranging from cancer, malaria, impotence, infected wounds, high blood pressure etc.⁶⁴⁶

Many of the methods for treating injuries and diseases have been passed down through families for generations, and some of these have been adopted for use by the medical profession. Those treatments not commonly believed to fit within the framework of modern medical practice are commonly identified as folk medicine. Illnesses whose etiologies are not recognized by Western medical practice are known as folk illnesses. The cultural and ethnic groups from which they emerge shape folk illnesses. They are specific to the cosmology of the cultural and ethnic group to which they belong and they have specific causative, diagnostic, preventive, and healing, curing practices that may vary significantly from how they may be viewed by modern medical practitioners.

In Sikkim a number of religious priests or shamans or herbalists or community healers of different communities inhabiting in the state, are in practice of folk medicines. They are known by different names in different tribes/castes as follows:⁶⁴⁷

Table 5.2

Different Folk Medicinal practitioners of Sikkim

Sl No	Communities/Tribes	Name of Folk medicine healers
1.	Khasas	Dhami, Jhankri
2.	Limboo	Sada Samba
3.	Khambu-Rai	Mangba (Bijuwa), Nakchong, Mabini, Kubimi, Dowang
4.	Sunuwar	Poibo, Natso, Ngyami
5.	Sunuwar	Bhusal, Dhami, Jhakri

⁶⁴⁶ J.R. Subba, *History, culture and customs of Sikkim* 235 (Gyan publishing house, New Delhi, 2008).

⁶⁴⁷ *Id.* at 236.

6.	Thami	Dhami, Jhakri
7.	Gurung	Lama, Pachyu, Ghyabring
8.	Lepcha	Bongthing, Mun
9.	Sherpa, Tamang, Bhutia	Lama
10.	Newar	Bajracharya, lama

These folk medicine healers of different communities exist side by side with modern medical practices especially in the rural areas of Sikkim, and often at odds with them. This is primarily because it very often does not confirm with what is scientifically known about the causes of illness and disease and what are thought to be the most effective medical treatments. These medicine persons have acquired their knowledge from generations of others that have used the treatments. The resources used for treatment includes, herbs and plants for which Sikkim Himalaya is very rich, minerals, animal products and religious mantras/mundhums of the communities. These folk remedies are often learned and passed down from parents to children, and the explanations for illness causation and treatment go hand in hand with this learning process.

Folk medicine practitioners use a variety of methods to treat illnesses. These practitioners go by many names, including shaman, spirit medium, herbalist, native healers, medicine man and other related terms. Each has specific treatment approaches, which may include prayer, dancing, medicinal herbs, massage, sweat baths, coining, cupping, hot and cold foods, and other religious priests or shamans are the first to be consulted when a family member becomes ill. They are easy to access, tend to share the same illness causality beliefs, will come to one's home day or night, and are much cheaper than clinic, hospital or a doctor's visit. Folk medicine practitioners are also often consulted when home remedies fail. If the practitioners also fail, then consultation with the biomedical community may occur.⁶⁴⁸

Folk medicine exists side by side with modern medical practices in Sikkim. Herbal practitioners, prayer, magic, diet, exercise, and proper social relations are all viable tools in the effort to maintain health. For public health practitioners, an awareness of the diversity of health beliefs and practices that may be encountered among those who use more traditional folk medicine approaches, and the ability to suspend judgement about those who use them, is

⁶⁴⁸*Id.* at 237.

an important step in learning to work more effectively with the diverse folk medicine traditions they encounter in their practice.⁶⁴⁹

ii. Ayurveda:

Estimates of the origins of Ayurvedic medicine range as far back as 5,000 years. Texts believed to be more than 12 centuries old are still available today to document the sophisticated knowledge of human anatomy, physiology, health and disease handed down through the millennia to modern times. Ayurvedic medicine may well have been the first complete system of medicine. It is thought to have been the original medical discipline whose traditions were sought out by and disseminated among healers in Asia, Africa and Europe centuries ago when medical knowledge was minimal or absent in other cultures.⁶⁵⁰

The principle philosophy of Ayurveda is based on the theory of Panchmohabhuta (five primary elements) of which all living and non-living bodies are composed of. According to Indian philosophy, there is a complete similarity between the universe and human body. This fact has been also pointed out in the Vedic Literature as “Yeatha panda tatha Brahmanda” meaning whatever is found in panda (purusa) the same thing is noticed in Bramhanda (universe or cosmos). In other words, it can be said that there is a direct relationship with individual and the universe around him. In the universe, air (Vayu), Sun (Surya) and moon (Chandra) are the fundamental things, which control the physical affair likewise Vatta, Pitta and Kapha are found in the body etc. for the biological control. Acharyas may substitute Vata, Pitta and Kapha as functional unit because Tridisa are responsible for all biophysical, biochemical and all transformation in the body. Even though Tridosa are composed of panchamohabhutas, anatomical structure of Tridosa cannot be found in the body. The morphological description of Tridisa also is not found in entire Ayurvedic Literature, while their qualities, character and function has been described. Saptu dhatu (seven primary tissues) are the structural unit of the body, as they are the constituents of various organs in body. By the interaction between dhatus and dosa, Malas are generated as the by products in the body.⁶⁵¹

Mala (impurities) should be extracted from body, as they are liable to be re-absorbed in the channel and they may abstract the path. Generally the body cannot utilize Malas. If on

⁶⁴⁹ C.G. Helman, *Culture, Health and Illness: An introduction for Health Professionals* (Bristol, U.K: Butterworth-Heinmann, 1994).

⁶⁵⁰ J.R. Subba, *History, culture and customs of Sikkim* 238 (Gyan publishing house, New Delhi, 2008).

⁶⁵¹ *Ibid.*

any condition Malas is re-absorbed or obstruct the path then disease occurs. Therefore, dosas, dhatus and malas are three components of living body, which maintain the life, and health of an individual. Ayurveda considers the human being as a combination of the three dosas, panchamahabhutas (five elements), seven body tissues (saptadhatu), five senses (panch indryas), Mindm (Manas), Intellect (budhi) and soul (atma). The doctrine of Ayurveda aims to keep these structural and functional entities in a functional state of equilibrium, which signifies good health. Any imbalance due to internal or external factors results in disease and restoring the equilibrium, through various techniques, procedures, regimen, diet and medicine is the treatment. All the medicinal plant's action is also designed as per the dosa. Rasayana drugs have the property to clear the channels by which it acts as immulomodulators, adaptogenic etc. and delay the aging process.

Ayurveda was first introduced in Sikkim on 9th June 1997 as the Regional Research Institute of Ayurveda, at Gangtok with the following three basic objectives:

- a) To undertake clinical trials for studying the efficacy of Ayurvedic drugs.
- b) To survey and find out the new drug resources available in the state.
- c) To cater out services in Out Patient Door (OPD), In Patient Door (IPD), Mobile Clinical Research Unit (MCRU), and Child Health Check Up (CHCP).

The Survey of Medicinal Plant Unit (SMPU) and Out Patient Door were started since the inception of the centre, the Mobile Clinical Research Unit and Child Health Check Up became functional in March 1981 where as In Patient Door and Pathology was started in March 1984. But unfortunately some unavoidable circumstances forced to close down In Patient Door section. Besides above mentioned activities, data regarding nature, extent incidence of different diseases accruing in these areas, and also of food habits, health related customs and beliefs of the people were collected for providing further strengthen the research work. During the past years, this centre has consolidated the liaison in all its units viz: In Patient Door, Out Patient Door, Mobile Clinical Research Unit, Child Health Check Up, and Survey of Medicinal Plant Unit, but In Patient Door. Mobile Clinical Research Unit, Child Health Check Up and Survey of Medicinal Plant Unit are non functional currently.

More than 400 medicinal plants, 120 animal products and 100 minerals are used as ingredients for Ayurvedic medicines under Ayurveda. As this region comes under the main Himalayan terrain, the medicinal plant available here has enormous value.

The general health cases being treated from this centre in chronology are gastritis, gastric ulcer, acidity, skin disorder, cold and cough, fever, influenza, piles, constipation, running nose, anaemia, sinusitis, menstruation and infertility problem, throat problem, neurological problem, and highest numbers of arthritis.

The research conducted by this centre includes allergic rhinitis, Diarrhea, Skin disorder, goiter, malaria, irritable bowl syndrome, etc.

Ayurveda emphasizes on diet, life style and medicine. The Ayurvedic treatment includes Purgation (vomiting, massages etc), Sadhana (purification therapy e.g. Panchkarma) and Samana or palliatives therapy.⁶⁵²

iii. Tibetan Herbal Medicine:

Tibetan medicine has a rich legacy and is currently practiced not just in Tibet, but also in the adjacent Chinese provinces of Qinghai, Gansu, Sichuan, and Yunnan, and in the neighbouring kingdoms of Bhutan, Nepal, Ladakh, and Sikkim, where communities of Tibetan people have long been established. Many non-Tibetans also seek out treatment by this traditional system because of its good reputation. Tibetan medicine originated with the local folk tradition (known as Bon) that dates back to about 3 B.C. and was formally recorded by Xiepu Chixi, the physician to the Tibetan King Niechi Zanpu, in 126 B.C. Aspects of both the traditional Chinese and Indian (Ayurvedic) medical systems were added latter; Ayurveda has had most profound influence on Tibetan medicine. The medicine of India was introduced to Tibet as early as 254 A.D., with the visit of two Indian physicians. During the following century several physicians from India reinforced the teachings. The greatest influence from India came about when Buddhism was adopted in Tibet as the state religion.

The legend of how Tibetan medicine was introduced to Tibet is relayed in the story “The Life of the Great Physician Yuthog Yonten Gonpo”,⁶⁵³ which has been translated and presented in the book “Tibetan Medicine” by Rechung Rinpoche. Yuthog studied medicine since an early age and was exposed to Buddhism during his teen years. He made three trips to India and studied with the great masters of Buddhist and Ayurvedic medicine there, and he eventually wrote thirty classic medicinal works integrating the local, Indian and Chinese medical traditions. The involvement of Chinese medicine came about in 641 A.D. when a

⁶⁵² *Id.* at 239.

⁶⁵³ 708 – 833 A.D.

Tang Dynasty princess, Wen Cheng, was married to the Tibetan leader Songzan Ganbu. Wen Cheng brought with her many Chinese books, including the medical books, as well as herbal formulas and medicinal instruments. Seventy years later, during Yuthog's life, another Chinese princess, Jin Cheng, brought additional medical books, as well as several Chinese physicians, to Tibet. Yuthog is viewed as the father of Tibetan medicine.⁶⁵⁴

The general methods of diagnosis and therapeutics used by Tibetan doctors follow the Indian tridosha system; that is, being based on three humours- rLung (Vayu or wind) with basic concept of movements, breath, cold; mkrhispa (pitta or bile) with basic concept of metabolism, digestion, fire; and Badkan (Kapha or phlegm) with basic concept of restraint, lubrication, moistness etc.

The imbalances in an individual are revealed by a combination of reported symptoms, pulse diagnosis, tongue diagnosis, and urine analysis.

The overall physical appearance of the person and information about their daily habits, and consideration of seasonal influences also contribute to the analysis. The Tibetan pulse diagnosis appears to be derived from the Chinese system, and is taken at the same artery of each wrist, but the method of feeling the pulse and the interpretations differ. Tongue diagnosis is simplified compared to the Chinese system.⁶⁵⁵ Urine analysis is unique to the Tibetan system and may have been introduced from Persia. Physicians inspect the colour, amount of vapour, sediment, smell, and characteristics of the foam generated upon stirring, relying on the first urine excreted in the morning.

Traditional Tibetan medicine formulas are described mainly in terms of the disease and symptoms that they treat, rather than their properties and influences on the humours. Many of the formulas that are still in use were established many centuries ago. The principles of herbal combining to yield a traditional formula are not clearly defined in the Tibetan system. There are complex methods of analyzing the qualities of medicinal materials: six tastes, eight properties, and seventeen effects, but the precise organizational principles for compounding numerous ingredients into the formulas are lost to history. Tibetan medicine,

⁶⁵⁴ J.R. Subba, *History, culture and customs of Sikkim* 240 (Gyan publishing house, New Delhi, 2008).

⁶⁵⁵ Long disorders are characterized by red and dry tongue; chiba disorders by a yellowish tongue coating; and peigen disorders by a grayish and sticky coating with a smooth and moist texture.

like other traditional medical systems, is highly complex, and represents a comprehensive effort at dealing with health and disease.⁶⁵⁶

In Sikkim, the Tibetan medicine came with the migration of Tibetans who started migration to the present Sikkim area mainly after the blood brotherhood treaty of Khe-Bumsa and The-Kog Tek during 13th century. In a personal interview conducted by J.R. Subba with Dr. Tashi Namgyal Surkhang, a Tibetan Herbal Medicine Specialist, Nam Nang Road, Gangtok on 20th December 2006, it was made known that his father started practicing Tibetan medicine in 1958. After his father's demise, he is practicing it at Gangtok for the last 20 years now. In the early days he used to collect medicinal ingredients from Gangtok itself. Since, the Sikkim Government has banned collection of medicinal herbs from 2002; he is collecting his requirements from Amritsar, Delhi and Siliguri. Most of his clients are Tibetans but people from other communities also use Tibetan medicines. Most of his clients come for treatment of gastritis, gastric ulcer, gout, Neurological disorders, arthritis, diabetics etc. he keeps his medicines in powder form. Earlier he used to treat fifty to sixty patients per day but now he treats only eight to ten patients per day. He uses about fifty to sixty medical ingredients for treatment. He collects and prepares medicines himself.⁶⁵⁷

A Tibetan Herbal Dispensary has also been started in Sir Thutop Namgyal Memorial Hospital, Gangtok, Sikkim in September 1978 with qualified practitioners and nurses. The medicinal requirements of this dispensary are obtained from Tibetan Medical Centre, Dharmasala, Himachal Pradesh. Thus, the health care of most of those who depend on Tibetan medical system are looked after both the private and public sector practitioners in Sikkim.

Dharmasala Tibetan Centre started a Tibetan Herbal Medical Dispensary at Tibetan Centre, Nam Nang in 1987 with a practitioner. All the medical requirements of this centre are obtained from Dharmasala Tibetan Centre. The dispensary uses both powder and pallet form of medicines.⁶⁵⁸

iv. Homeopathy:

⁶⁵⁶ Dharmananda Subbhuti, *Tibetan Herbal Medicine with examples of treating lung disease using Rhodiola and Hippophae*, available at: <http://www.itmonline.org/>. (Last visited on May 12, 2011).

⁶⁵⁷ J.R. Subba, *History, culture and customs of Sikkim* 241 (Gyan publishing house, New Delhi, 2008).

⁶⁵⁸ *Id.* at 242.

Dr. Samuel Hahnemann, a German physician founded Homopathic medicine, in the early 1800. Hahnemann first coined the word ‘Homopathy’⁶⁵⁹ to refer to Homopathy’s first pharmacological principle- “Simila Similibus Curentu” or “The Law of Similars”. This means that a remedy that produces symptoms in a healthy person will cure those same symptoms when manifested by person in a diseased state. Hahnemann theorized that disease is a disruption in the body’s life force, that symptoms of disease are not disease itself and that the body could be stimulated into healing itself. To prove his theory, he developed the “Law of Similars”, a principle that uses substances that can create symptoms of disease to fight disease when given in minute doses.

Today Homopathy is widely prescribed by physicians and are practiced worldwide. It has been effectively treating many of the chronic ailments and conditions that so many of us suffer these days, such as allergies, asthma, learning disorders, emotional disorders, arthritis, and the problematic symptoms of menopause. In Gangtok, Sikkim, Homopathy Clinical Research Unit was established in 1984. Many Homopathic clinical centre followed thereafter.

v. Allopathic or Western Medical practices:

McKay comprehensively reviewed the introduction of Western Medical Health Care in Sikkim in his article published in the Bulletin of Tibetology which is reproduced as it is for the benefit in general.⁶⁶⁰

By the late 19th century, it was established practice in the British Empire for Medical Officers (generally from the Indian Medical Service), to accompany Political Officers touring or stationed in remote areas. Originally this had been to ensure the diplomats good health, but it had become apparent to the imperial policy-makers that the physicians could make a substantial contribution to the diplomatic success of the indigenous peoples, both elites and non-elites. The good-will gained from this was seen as an important part of the political project of obtaining indigenous consent to British rule and this “political” role became the primary reason for the presence of Medical Officers in states such as Sikkim.

When J.C. White first took up his post as Assistant Political Officer, the military medical staff that had served on the 1888-89 Sikkim campaign remained there under the command of Dr. J.K. Close of Indian Medical Service. After his departure, a Surgeon-Captain, Dr. D.G.

⁶⁵⁹ ‘homoios’ in Greek means similar, ‘Pathos’ means suffering.

⁶⁶⁰ Namgyal Institute of Tibetology>>Bulletin of Tibetology, available at :<http://www.tibetology.net>>..(Last visited on November 11, 2015).

Marshall, was posted to Gangtok in 1891 to act as White's Medical Officer, and Surgeon Captain Dr. A.W.T. Buist-Sparks replaced him the following year. In 1893, Surgeon Captain Dr. G.F.W. Ewens replaced him and remained there at Gangtok until 1895.⁶⁶¹

These officers were the first biomedical physicians to reside in Sikkim and given that three of them later reached the rank of lieutenant colonel, and that Marshall had topped the examinations in his intake, they must have been among the better than average physicians in the imperial service. But Western medicine in such outputs did not then represent the scientific advances of the late 19th century as it would a decade later, and there is little evidence of their making any great impact on the medical world of Sikkim. Indeed their services may have been given only to White and his immediate circle; certainly in the absence of the banished Chogyal it was impossible to implement the usual imperial medical strategy of first impressing the ruling elites.⁶⁶²

These early physicians do not appear to have had a proper dispensary, and even the conditions in which they lived were primitive. Describing the later development of Gangtok, White refers to an unnamed Medical Officer and his wife in this early period "who lived in a two-roomed hut built of wattle and dab", where their wooden furniture was liable to sprout in the rainy season.⁶⁶³ A Government medical dispensary was finally opened in Gangtok in the 1896-97 housed in small shed with very basic facilities. The medicine racks and tables for dispensing occupied half of the space. The compounder as his residence was utilizing the remaining half portion of the shed with a partition wall. There is no record of any European physician having replaced Ewens, and it seems likely that an Indian trained Sikkimese medical assistant then served in the Gangtok dispensary. Certainly by 1905 the dispensary was under the control of Civil Hospital Assistant H.M.Mitra, who remained there for some years. The first brief statistical report on Sikkim state provide the daily average number of patients at Gangtok dispensary between 1896-97 to 1901-02, year wise was 6.5, 7.4, 7.4, 5.9, 5.3 and 12.8 respectively. In June 1902 another state dispensary was opened in Chindam, and around this time a third dispensary opened at Rongpo. The latter was under the charge of the

⁶⁶¹ Bulletin of Tibetology, available at: <http://www.himalaya.socanth.cam.ac.uk/bot/pdf> (last visited on July 27, 2014).

⁶⁶² S.K. Mitra, "Present day health organization in Sikkim" 13 *IJPH* 6 (1969).

⁶⁶³ White, J. Claude, *Sikkim and Bhutan* 36 (Sagar Book House, Delhi, 1992).

Public Works Department. With the establishment of these institutions, a structural basis for future medical developments had been made.⁶⁶⁴

From 1902-03, Sikkim became an important staging post for what is popularly known as the “Young-husband mission”. White requested the appointment of “a man experience and tact” to administer both civil and military medical matters in Sikkim, and it was eventually agreed to establish a new position of Assistant Civil Surgeon at Gangtok to supervise all medical matters in Sikkim State, including the State and missionary dispensaries, jails, schools, and personal attendance o the Chogyal and his family. The first Civil Surgeon appointed to Gangtok was Assistant Surgeon 2nd class John Nelson Turner, born in 1871, a member of the Indian Subordinate Medical Service, and not a qualified doctor and took up his post in August 1909. He remained in Sikkim until early in 1920. When Turner arrived in Gangtok, the three Government dispensaries at Gangtok, Chidam and Rongpo, had, in the previous year 1908-09 treated around 14,000 patients. In addition, three Church of Scotland Mission dispensaries in the State, to which the Government contributed an annual sum of Rs.250 had treated more than 9,000 patients.⁶⁶⁵

After annexation of Darjeeling area of Sikkim in 1935, and Kalimpong area from Bhutan in 1966, the Christian missionaries were already working in Kalimpong-Darjeeling by 1880 and the expansion of their activity to Sikkim was a logical consequence. In spite of the Chogyal’s resistance, the Scottish missionaries were successful in opening a dispensary at Chidam staffed by a compounder, Elatji Matiyas, a Lepcha convert to Christianity in 1897. By 1906 further dispensaries staffed by local Christian Compounders had been opened at Rhenock, Seriyong, and Dentam. In 1906 they dealt with 5,734 cases, and by 1910 three more dispensaries had been opened. Additional dispensaries followed, and by 1923-24 there were a total of 11 mission dispensaries in Sikkim, including one opened at Lachung in North Sikkim by the Scandinavian Alliance Mission, which established a base there with two female missionaries in 1894. Compounders trained by the missionaries in Kalimpong staffed both government and missionary dispensaries, and their standards, facilities and resources must have been similar. While eventually overtaken by State initiatives, the missionaries

⁶⁶⁴ S.K. Mitra, “Present day health organization in Sikkim” 13 *IJPH* 6 (1969).

⁶⁶⁵ McKay Alex, *The indigenisation of Western Medicine in Sikkim* 29 (Bulletin of Tibetology: Vol. 40(2), Namgyal Institute of Tibetology, Gangtok, Sikkim. 2004).

continued to be important agents for the spread of medicine particularly in remote areas, down to the 1930s and 1940s.⁶⁶⁶

By 1915 considerable progress had been made towards the indigenisation of western medicine in Sikkim. While the colonial State did, in many senses, use medicine as a tool of empire, it was also part of the ideological justification for empire; providing humanitarian provision to the citizens of the colonial state in return for their assent to colonial rule. It was also a tool that the imperial Government wished to give up. The provision of medical services was expensive, and it became more so as Western medicine developed new therapies and technologies. The indigenisation of medicine was thus both an economic necessity, and (at least from the British perspective) a humanitarian service.⁶⁶⁷

Tibet and Bhutan did not develop any significant indigenous Western medical tradition during the British period. But in Sikkim the indigenisation of medicine proceeded steadily. While Sikkim state's closer treaty links to British India and the political alliance that developed between the British and the Sikkimese aristocracy fostered this process, the key factor appears to have been the number of Sikkimese who had received a Western education. The Government and mission schools in Darjeeling and Kalimpong, and in Sikkim itself from 1880s, provided a small but regular supply of youths, either from the Sikkimese aristocracy or the Lepcha and Nepali Christian communities, who were educated in the Western system. Such an education was an essential precursor to the biomedical training process, imparting the modern scientific worldview necessary for the understanding of medicine. Western medicine in Sikkim thus developed local social characteristics with the Buddhist aristocracy occupying the higher positions in the developing medical structures, while the native Christians from traditionally lower status social groups, filled the lower ranks of compounders, dressers and nurses.⁶⁶⁸

During White's residency, no Sikkimese appear to have progressed beyond compounder qualification, but his successor Charles Bell sent the first three students from Sikkim to Temple Medical College in Patna, two were immediately posted to a Political Department dispensary in Tibet when they graduated. These men were Tonyot Tsering and Bo Tsering, both Kalimpong educated Sikkimese, who graduated as Sub Assistant Surgeons in 1913 and 1914 respectively. Their contemporary, Bhowani Das Prasad Pradhan, was placed in charge

⁶⁶⁶*Id.* at 31.

⁶⁶⁷*Id.* at 33

⁶⁶⁸*Id.* at 34.

of the Chidam dispensary in 1913. Thus, as the structures of a state medical system began to be developed in Sikkim, the emerging Sikkimese medical graduates filled vacancies. Their training was financed from the Sikkim State revenues. Thus in 1924-25, Lobzang Mingyur, who was sent to Campbell Medical School Calcutta was posted at the Gangtok hospital as an extra compounder after his training. During 1920s, registration of births and deaths was made compulsory, while a Civil Veterinary Department was established with a hospital and dispensary at Gangtok under a Babu Bannerjee, and dog licenses were introduced, with orders given to destroy dogs without the appropriate discs. In addition, sanitary measures were introduced in the Gangtok Bazar.⁶⁶⁹

The 9th Chogyal Sir Thutob Namgyal, Sidkeon Tulku and Tashi Namgyal were very supportive of modernization. On 24th September 1917, Sir Tashi Namgyal officially opened the Sir Thutob Namgyal Memorial Hospital. Situated on a ridge overlooking Gangtok, it began with beds for ten in-patients, and charge of it was given to a state Medical Officer of Sikkimese nationality. The hospital became the centre of medicine in Sikkim, although it was initially poorly equipped until 1923-24 for example, did it have a microscope. But additional specialist wards were added; a tuberculosis ward in the late 1920s and a maternity ward in the late 1030s, after a trained midwife was posted to the hospital in 1929-30. In 1923-24, just about 8,000 patients attended the hospital, which increased to 16,000 by 1933-34. On the 1st November 1922, Dr. John Turner was replaced as Gangtok Surgeon by an Anglo-Indian, Dr. John Charles Dyer, and he was replaced by Dr. Kenneth Percival Elloy in 1928. Dr. Kenneth was replaced by Dr. W.St.A.Hendricks in 1932. In the early years several individuals who had trained as compounders in Kalimpong and worked in dispensaries in the region began private biomedical practice in Sikkim, although it was not until the 1970s that fully-qualified doctors set up private practice there. Until then, any Sikkimese qualifying as a doctor would be observed into government service.⁶⁷⁰

The departure of the British had little medical impact in Sikkim. The last of the imperial Civil Surgeons, Dr. G.F. Humphreys, was an experienced doctor who had served as the Medical Officer in Gyantse from October 1940 to May 1944, and had visited Lhasa in 1942-43 as accompanying physician to two American emissaries. As an Anglo-Indian, he stayed on in Gangtok until the mid 1950s, providing continuity throughout the transitional post-colonial period. The Sikkimese Sub-Assistant Surgeons who had served in the imperial dispensaries in

⁶⁶⁹*Id.* at 33.

⁶⁷⁰*Id.* at 33.

Tibet withdrew back to Sikkim during 1950s as the Chinese take-over of Tibet intensified, thus increasing the pool of experienced medical practitioners available to the Sikkim State. Patient numbers continued to increase to 115,060 in 1954 to 188,526 in 1963. But throughout the 1950s and 1960s, the limited state revenues available restricted medical development in Sikkim. At the time of the Indian takeover in 1975, there were just four district hospitals in addition to the Sir Thutob Namgyal Memorial Hospital in Gangtok, and the bulk of medical consultation took place in rural dispensaries and primary health care centres staffed by compounders, who thus remained the principal interface between allopathic medicine and the local patients.⁶⁷¹

During this period, the Sikkimese health services were heavily reliant on the variable commitment of Indian specialists employed on short-term contracts. But an indigenous class of medical specialists capable of administering and operating Sikkim's medical services was developing. Rather ironically, more indigenous Sikkimese occupies the higher ranks of the public health service today than was the case in independent Sikkim before 1975. The first generation of Sikkimese practitioners of allopathic medicine was not fully qualified doctors. Men like Bo and Tonyot Tsering were licensed Medical Fellows. But by the 1940s, a new generation of qualified doctors began to emerge, largely from the small group of Western educated Sikkimese who formed a bureaucratic class serving the Chogyal and colonial Governments. Among the new generation of medical practitioners Rai Bahadur Tonyot Tsering, Dr. Pemba, T. Tonyot, Dr. Tsering Tendup Kazi (first Sikkimese MD). Dr. Tsewang Palzor (first Sikkimese Surgeon), Dr. T.R. Gyatso, and Dr. Leki Dadul (first Sikkimese lady doctors).⁶⁷²

Along with the doctors and licensed practitioners, the profession of nursing also developed in Sikkim, albeit that the profession is still not of particularly high status. In 1954. Mrs. Sonam Eden (Phigoo) and Mrs Prabitra Pradhan, were sent for nurse training to Scottish Missionary under Dr. Albert Criag after completion of the study Phigoo was posted to the Sir Thutob Namgyal Memorial hospital where she remained until retiring in 1995, after 40 years of service.⁶⁷³

⁶⁷¹ S.K. Mitra, "Present day health organization in Sikkim" 13 *IJPH* 5 (1969).

⁶⁷² J.R. Subba, *History, culture and customs of Sikkim* 247-248 (Gyan publishing house, New Delhi, 2008).

⁶⁷³ McKay Alex, *The indigenisation of Western Medicine in Sikkim* 33 (Bulletin of Tibetology: Vol. 40(2), Namgyal Institute of Tibetology, Gangtok, Sikkim. 2004).

Sikkim today, the Sir Thutob Namgyal Memorial hospital straddles a main Gangtok intersection. As of 2006, it was a 300 bed hospital, with 78 doctors including 36 specialists of staff under the charge of Director-cum-Medical Superintendent. For medical purpose the state is divided into four districts, each under a Chief Medical Officer who is also head of the central hospital in that District. A network of primary health care centres and sub-centres exists in each district, and medical services remain largely free of cost. A subjective judgement considering patient-doctor relations, service morale, non-elite class access, and not least financial probity, as well as numerous statistical indicators, would suggest Sikkimese today enjoy among them better biomedical services in India.⁶⁷⁴

With the beginning of the 21st century, a new light in terms of healthcare and learning under the name of Manipal Referral Hospital was started at Tadong, East Sikkim in 2002 for medical education of the people. The State desires to foster a better health care umbrella with a good network of hospitals, district hospitals, primary health centres and sub-centres for allopathic treatment; Ayurvedic medical centres, Tibetan Herbal Medical Centres, and Homopathic medical centres, which are spread throughout the State for treatment of all types of diseases.

5. IV. Present day belief and prospects of Medico-Spiritual healers of Sikkim:

a) Medico spiritual healing practices:

The diverse forms of religion and medicine in Sikkim is believed to have been popularized by Guru Padmasambhava or commonly known as Guru Rimpoche. He is considered to be a master in healing. In this form of Medico Spiritual healing he is called Ugen Menla. As Mahaguru Dewache, he is able to heal mental depression and psychological problems. Different kinds of illness are treated with worship and devotion with animal sacrifice. The notion of scared is prominent exorcism, the medico spiritual means of treating diseases. Spiritual not only includes Gods and Goddess but also spirits of ancestors and forests, the spirits present everywhere. There is a prevailing supernatural basis of medico spiritual healing treatment, even where the chief means of treatment is herbal. The medico spiritual healers claim that unless a medicine concoction has been empowered by special benediction, it will have little effect. The medico spiritual healers collect the herbs in

⁶⁷⁴*Ibid.*

auspicious time because for better efficacy. The medico spiritual medicine practices with their cultural values are based on the three major communities of Sikkim as follows:

I. Lepcha Medico Spiritual practices:

In Sikkim the idea of wellbeing and poor health among the Lepchas is completely taken care by the idea in paranormal. The Lepchas have their distinct writing, and distinct attire, culture and lingo. The uses of medicinal flora are found in the epics of Lepchas.⁶⁷⁵ There are convinced semi-divine beings or protector spirits identified as Lungzee which are not gods but treasured like a enormous tree, a bunch of trees, grassland, a loch, a cavern or a particular small hill, and other usual objects. If they are uncared for or any lack of respect is revealed to them by defile or polluting by answering nature's call, etc. may well invite anguish to the community or the particular individual- they may experience from serious sickness or even die. According to them, the humanity is governed by superior spirits; and evil spirits-Mung. All adversity such as ill health, bad harvests, dearth, hailstorm and other calamity believed to be the actions of the evil spirits, i.e. Mung. Moreover good health and vitality, good harvest and prosperity are believed to be the actions of the good spirits. Lepchas are basically Animist, traditionally only the Bongthings⁶⁷⁶ and Muns⁶⁷⁷ are called during ailments and in cultural and memorial service ceremonies. After the beginning of Buddhism, the lamas executed the pujas in close alliance with the mun/ bongthings. They, however, perform the custom associated with spiritual forces in which the lamas have no role. Pougorip/ Totola (*Oroxylum indicum*) plays an important role in the Lepcha culture. The plant/tree is regarded the most sacred tree/plant by the Lepchas. The buds are in bunch opens only at night and falls before the dawn. The Lepchas consider that Totola is not even handled by the bees, representing the transparency and chastity of virginity and it is used as liver stimulant and anti diabetic remedy. The produce of the plant is bent like a very massive sword. The seeds are in order within the outgrowth and are flagellated similar to paper silk. It is the flagellated seeds which are worn in any good ritual like haldi in Hindu culture. Chi (millet beer) stage a very crucial role in Lepcha culture too. The Lepchas believe that the Good Spirit (God the creator) made the Lepchas from snow of Mount Kanchenjunga. Therefore, in the beginning

⁶⁷⁵ Namthar, Tengyur, Domang)

⁶⁷⁶ Male Lepcha priests.

⁶⁷⁷ Female Lepcha priestess.

of the harvesting festival Chi made from the first harvested grain is offered to Mount Kanchenjunga who is believed to be the guardian deity of the Lepchas.⁶⁷⁸

II. Bhutia Medico Spiritual practices:

The Bhutias place enormous emphasis on coercive means of exorcising and demolishing malevolence spirits. Similar to the Lepchas, the implementation of faith is in the possession of skilled specialists like the pau, neyjum and Lamas. The pau is a male and the neyjum is female. While therapeutic process, the pau goes into a reverie; and converse; with spirits to determine why they have afflicted individuals with ailments. Sometimes he diagnoses by prediction with the aid of a plate filled of rice. He goes on quivering the plate till the sign of the wicked spirit makes manifestation. The pau executes Phuphi by contributing funds, offspring and attire which has been disseminated thrice over the patient's top to the malignant character.

These belongings are chucked out and merely the outfit are brought back. It is assumed that the individuals will get healed in three days of this formal procedure. All Sikkim peoples's settlements are adorned with prayer flags, or Dacho, which are supposed to carry the luck of the individual through the air in every direction. These belief flags are of four types-the Lungta which is four-sided figure in shape, and contains a horse by means of spiritualist outline at the centre. It is hung on the ridges of the dwelling place and in the neighbourhood of settlements; the chonpen, lengthy, slim, rectangle shape, are attached to branches of trees or to bridges or to bamboo flag pole; the Gyal-tsen dse-mo, is similar to lung-ta, but consists a big sacred wording; and the enormous fortune appeal, which is pasted on the ramparts of the residence or folded up and about and worn in the region of the neck as a charisma for good fortune. The fortune flags are planted only subsequent to performing definite precise lamaic respect. Most of the lamaic adoration is copied from demonolatry, a the minority of the mainly intellectual lamas be converted into Tsi-pa lamas (astrologers), and all the laity have been lead to recognize that it is extremely essential for every of the three large epochs of life, viz. beginning, matrimony and demise; and also at the start of each year to have a prediction of the year's ailing affluence assist its remedies drained out for them.⁶⁷⁹

⁶⁷⁸ Panda Ashok Kumar and Mishra Sangram, "Some belief, practices and prospects of folk healers of Sikkim", 11(2) *IJTK* 369-373 (2012).

⁶⁷⁹ *Ibid.*

III. Nepali medico spiritual practices:

Like Lepchas and Bhutias, Nepalese also believe in super natural forces in the conception of poor health. Dhami and Jhakries execute puja for bodily and psychological epidimic and Phedangba are particularly supposed for Limboo society. The folk maintain of medicinal plants such as Oroxylum indicum (hypertension), Fraxiknus floribunda (gout), Panax pseudoginseng for prolonged existence, Ephedra gerardiana intended for asthma, etc. The utilization of Elshcolzia blanda and Mahonia nepalensis in eye problem and eczema and of Urtica parviflora (youthful inflorescence) as a glading and bracing instrument subsequent to child birth by neighbouring women folk are of immense worth. Rhizome of Budo-Vokati (Stible rivlaris) is well thought-out to be excellent for back pain. It is compressed and engaged as decoction following steaming in water or else masticated as betel nut for reviewing body ache. The flowers of Pandanus nepalensis is found in Sikkim up to 1752 m elevation, it is said to be aphrodisiac and induces sleep. Its flowers are considered to remove headache and weakness and its seeds cure wound in heart. The Nepalese community believe that Cordyceps sinensis has the power to fight all kinds of diseases.⁶⁸⁰

d) Prospects of Medico spiritual healers:

The total number of medico spiritual healers identified by the researcher through the information and data provided by Department of Culture, Government of Sikkim, to whom various benefits are provided by the State government are 864 till date. Further, as a doctrinal study, the researcher through available documentation has here provided information of 102 such healers, in four districts of Sikkim, out of which the maximum healers are habitat of East Sikkim district. Distribution of sex and age¹⁰² identified Medico-spiritual healers of Sikkim are as follows:

Table 5.3

Distribution of sex and age 102 identified Medico-spiritual healers of Sikkim

Age in Years	Male	Female	Total	Percentage
20 – 30	02	01	03	2.9%

⁶⁸⁰ Panda A.K, “Tracing the historical prospective of cordyceps sinensis – an aphrodisiac of Sikkim Himalaya” 45 *IJHS* 189-95 (2010).

31 – 40	03	04	07	6.86%
41 – 50	02	01	03	2.9%
51 – 60	19	05	24	23.52%
Above 60	60	05	65	63.72%
Total	86	16	102	100%

The aforementioned age and sex table provides that only 10% of medico spiritual healers are young in between the age of 20 – 40 years and 64% medico spiritual healers are above the age of 60 years. Thus, it becomes mandatory to acquire healing knowledge from the elderly healers, or-else this kind of healing practices will soon extinct. The study shows 84.31% medico spiritual healers are male and 15.68% is female.⁶⁸¹

Table 5.4

Educational backgrounds of 102 identified healers

Education	No. Of Medico spiritual healers	Percentage
Illiterate	53	51.96%
Up to class 5	20	19.61%
Below Matriculation	09	8.82%
Above Matriculation	20	19.61%
Total	102	100%

The educational backgrounds shows, out of 102 maximum 53 (51.96%) medico spiritual healers are illiterate; 20 (19.61%) are educated up to class 5. The number of those healers who have studied till class 9 is 9 (8.82%) and 20 (19.61%) of such healers are qualified above matriculation.⁶⁸²

Table 5.5

The sources of knowledge in 102 identified healers

Sources of Knowledge	No. Of Medico spiritual healers	Percentage
Traditional	53	51.96%
Guru (Folk healing teacher)	20	19.61%

⁶⁸¹ Panda Ashok Kumar and Mishra Sangram, "Some belief, practices and prospects of folk healers of Sikkim", 11(2) *IJTK* 371 (2012).

⁶⁸² *Ibid.*

Own experiences	12	11.76%
Books/Manuscripts	11	10.78%
Dreams	06	5.88%
Total	102	100%

Medico spiritual healers in Sikkim have got healing knowledge from different sources. According to the above table 53 (51.96%) healers have received it traditionally from their parents, 20 (19.61%) have received it from their guru (Folk healing teacher), 12 (11.76%) have received it by their own experience, 11 (10.78%) have received it from various books and manuscripts. It is interesting to note that 6% (5.88%) of medico spiritual healers actually received their knowledge from their dreams. The data implies that maximum medico spiritual healers have got their knowledge traditionally from their family members.⁶⁸³

Table 5.6

Types of practices in 102 identified healers of Sikkim

Types of Practices	No. Of Medico spiritual healers	Percentage
Bone Setting	52	50.98%
General treatment	30	29.41%
Vetenary medicine	12	11.76%
Birth attendant	07	6.86%
Poisoning treatment	01	0.98%
Total	102	100%

The above table shows the area of expertise among the 102 identified medico spiritual healers. It shows maximum healers 52 (50.98%) are practicing bone setting with one or two general treatment like jaundice, gastritis, problems relating to women, etc. followed by general treatment 30 (29.41%) and 12 (6.86%) healers practicing veterinary medicine. Out of them 7 (6.86%) practice as birth attendant and only 1 (0.98%) medico spiritual healer practices treatment relating to poison.⁶⁸⁴

⁶⁸³ *Ibid.*

⁶⁸⁴ *Ibid.*

Table 5.7**Types of community prevalent in 102 identified healers of Sikkim.**

Types of community	No of folk healers	Percentage
Lepcha Community	12	11.76%
Bhutia community	30	29.42%
Nepali Community	60	58.82%
Total	102	100%

Different communities have different types of beliefs and practices, the above table shows out of 102 identified medico spiritual healers 60 (58.82%) are from the Nepali community followed by 30 (29.42%) Bhutia community and 12 (11.76%) from the Lepcha community, despite many Lepcha herbalists are found in North Sikkim. Perhaps, probably they don't want to expose to the outside world and express their claims due to their inherent shy nature.⁶⁸⁵

Medico spiritual healing practices are gradually declining its practice in this trans-Himalayan region, as new generation are hardly coming forward to adopt such practices as a profession. It is praise worthy that Department of AYUSH, Government of India, State Government, NGO's and many folk practitioners are doing their best to keep their tradition alive.

All the three communities have their own system, treatment principles, believes, and medical ailments, though they have more or less similarity with each other. The primitive people have good faith on their own system of medicine rather than other systems and western medicine. Need of methodical corroboration, overturn pharmacological and observational studies are necessary for diverse way of life and healing of these three communities. The greatest challenge in the new millennium is to preserve and promote the traditional knowledge and medico spiritual healing in Sikkim. The knowledge behind such healing practices requires recognition, respect and understanding in the light of modern medicines. The revitalization of traditional health of Sikkim may promote the health of rural poor people of this region for their primary healthcare.⁶⁸⁶

⁶⁸⁵ *Ibid.*

⁶⁸⁶ *Ibid.*

5. V. Healing or therapeutic strategies:

Personal or habitat healing is typically the initial step in health care, consisting above all of concoction of herbs, barks of vegetation, flora, pedigree, and leaves, seeds etc. and alteration in diet. Customary therapeutic understanding is coded into family circle cooking exercises, habitat remedies, ailing health avoidance and health preservation values and routines. The practices are acknowledged to elders in the residence or vicinity or are recommended by traditional therapist. Cure is usually a family based procedure, and the recommendation of family members or other significant members of a neighbourhood have a chief authority on physical condition performance and the appearance of healing that is required.⁶⁸⁷

Lenience in numerous therapies appears to be familiar in long-lasting period of ill health. Nevertheless, it is not easy to get on precise outline. The approach a being chooses for the conduct of one's disease or that of a family member depends upon one's choice and experiences. The tribal reaction to physical condition exertion reveal a numerous and concurrent practice of home remedy and multiple treatment. The mainstream practitioners whose forces are required are medico spiritual healers, conventional herbalists and public wellbeing practitioners. The tribal conventional medicinal structure is based on personalistic custom of super normal healers and their ministrations and herbalists. The hypothetical side of medico-spiritual healing, their spiritual background, and chiefly the idea in the terror of evil feelings, remedial performed according to religious rites give explanation the perseverance of native structure. These conventional healers work within a spiritual paradigm, with no certification to be conventional or support the custom. It is supposed that these are authorized by their belief. The scheme works on the conventional reputation of the personal methods, status and presentation. The original medicinal scheme has continued in society's communal cultural complexes through intensely deep-rooted processes. It is a set of concepts of physical condition and poor health that reflects certain principles habits and viewpoint based on people's way of living. It is a steady procedure of conventionality to modern emotional requirements with in a recreated intellectual individuality.

⁶⁸⁷ V Bhasin, Medical Anthropology: Healing Practices in Contemporary Sikkim- Kamal-Raj Enterprises, available at: <http://krepublishers.com>Anth-SI-03-7Bhasi...> (last visited on November 17, 2015).

Narrative of the Shaman and his curative formula sheds radiance on the connection between procedure and penalty of healing. The Shaman provides a lingo⁶⁸⁸ and like therapist allows the mindful and comatose to merge. This he achieves from side to side a shared symbolic scheme and healing of one ailing person improves the cerebral physical condition of the collection. In this background, the enduring performs a very significant social purpose and validates the scheme by vocation into engage in leisure the groups sentiments ad representative illustration to have them turn out to be personified in genuine practice. In favour of these healers, the intelligence, the body, and the investigational field are solitary. The Bongthing/pau can preeminently be implicit as a healer of the intelligence and body as well as neighbourhood. This is achieved through his or her position as the exponent of code, those intellectual instruments for perceiving and arranging realism. They are imperative vectors of a rule that compels intelligence, substance and acquaintance. The ceremony healers are specialists possessing authority to restore to health or put off illness and tragedy. It is supposed by tribals that ill health emanate from a disjunction of a quasi-symmetry maintained between men, his surroundings and the paranormal. A being or super being force can upset the organization order. The reinstatement of the command or the homecoming to the physical condition can merely be achieved from side to side a healer or medication man. The remedy man has option to the make use of of therapeutic plants, animal goods or natural resources. In former cases, he has alternative to rituals with the assist of which he goes into trance and counteracts the malevolence forces. The accessibility of diverse healers enables them to control on or after solitary type of wellbeing practitioner to an additional in look for of the best. The tribal's who can benefit the provision of bio-medicine or amchi do so not including being recognizable with the hypothetical standard of medicinal scheme. As the financial position of the family does not vary much, they show similarities in their conduct in case of ill health as well. They do not utilize pluralistic strategies not perceiving any disagreement among these alternatives, nor do they give the impression to observe them as dissimilar systems, but somewhat as a diversity of options, in the middle of which they can use.

Generally custom is chronological but some is instantaneous. For instance, an infant who is being given approved medicine for diarrhoea might also be engaged simultaneously to a Bongthing for removing malevolence or giving home remedies. Though merely indigenous healers heal certain illnesses such malevolence spirits, this does not prevent the exercise of

⁶⁸⁸ Levi-Strauss, C, *Structural Anthropology* 198 (Doubleday, New York, 1967).

bio-medicine to heal the symptoms. Gonzales⁶⁸⁹ information that in Guatemalan, the symptoms are treated with biomedicine; at the same time as the reason of ill health is dealt with from side to side of a traditional specialist. Conventional theories of ill health aetiology are frequently multi-factorial and multilevel. This permits the exercise of diverse treatment capital for dissimilar fundamental factors. For Guatemalan plantation, pluralistic behaviour among tribal population groups is pragmatic, often based on trial and error, perceived effectiveness, uncertainty of illness causation and expectation of quick results. In addition to this empirical and pragmatic behaviour, however, is the role played by faith in the paranormal or sacred cure. As individual is at the same time a body, a character and a societal individual, so are the Medico-spiritual practitioners of the tribal's. As explained by Adams tribal healers "pursued a dialogic, relational remedy for its patients through reciprocal relationships that encouraged community, such as in gift giving to spirits and etiologies based on real social conflicts".⁶⁹⁰ The characteristics of certain ailments points to the cause and mode of action accordingly. These "fixed-strategy diseases"⁶⁹¹ automatically affirm to particular type of cure.

According to Khare, explicates practiced remedy in India and how it manages not merely manifold conventional and contemporary medicinal approaches, languages, healing regimen and substance medica, but it as well leads us to a continued ethical, communal and matter criticism from inside. The learning of such variety leads to a insecurely shared, and ethno-graphically demonstrable, cultural way of thinking, rehearsal and sensible ethos across the conventional and contemporary remedial worlds. Puralistic therapeutic condition in tribal areas provides suppleness and fulfils diverse requirements of the inhabitants. Amongst tribal's these healing sessions seem to spiritually enabling performance that assist tribal's conquer the distress of their life. These sessions provide their functions and the division sandwiched between empirical realism and thoughts are ambiguous. This contrasts brusquely with the proximity of international medication, which is irregular from normal social procedure and is disobliging to substitute systems.

Wide-ranging quantitative review on the use of numerous psychoanalysis systems among tribals gives an idea that they have preference in the direction of indigenous type. The

⁶⁸⁹ Health behaviour in cross-culturalperspective: A Guatemalan example. Human Organization, (1996).

⁶⁹⁰ Adams Vincanue, *Reconstituted relations of production in Sherpa tourism* 154 (Ann, Tourism Research, 1992).

⁶⁹¹ A Beals, *Stratigies of resort to curers in South India* 194-195. In *Asian Medical System*, C Leslie, (ed), (University of California Press, Berkely, 1980).

numerous health check systems accessible to tribals and the options obtainable to any particular group are various. For the most part tribals fall short to see modest disagreement between medicine and remedial rituals. All through their life span they have used the two at the same time. In areas anywhere bio-medical institutions are surrounded by the contact of the tribal's, they do not vacillate to use the remedy in position of herbal concoctions. Tribals do not discover peculiar to exercise medicines at the side of the healing practice of bongthing/pau. The customary representation is beliefs shared by healers and patient.

In vision of not haveing communiqué services and remoteness of physical condition institution from the villages, remedial aid is not availed by tribals excluding in grave cases. Tribal's depend on traditional medico-spiritual healing healers, who in addition relying upon convinced occult occurrence deal with a variety of herbs for preparing medicines for healing purpose. In these places people are gripped with the weird, outrageous performance of spirits, and deities. The ailment considered to be caused by paranormal, insist medico-spiritual remedy. The tribal's way out to various medico-spiritual healers for relieving individuals of bereavement and illness caused and delegated by the furious paranormal.

Amongst the Sikkimese Tribal, a series of alternative does not give the impression to exist; even though the tendency is to start with home healing remedies to bongthing to bio-medical practitioner, as the route of the ill health profits and turn out to be more solemn. However, there is also a flipside movement between assets or a cut down approach, often based on referrals and recommendation from family and neighbours and other practitioners, which seems to be connected with extreme anxiety over the apparent increasing harshness of an ill health. When someone is sick, he or his relatives are first and foremost interested in attaining his health restored, for which they promptly unite different treatments irrespective of their ontological, epistemic, ethical and artistic base. A medical pluralism consequence out of this compass reading where accomplishment of physical condition is above all objective and the individual is taken care of in its holistic self. When one scheme of action fails to give assistance, individual moves onto one more and if this management fails to offer aid, individual moves on to an additional and this is persons or his group's preference. As a matter of fact it is traditional, consequently, for the person to present his symptoms to his kin and kith for their assessment prior to he takes step to get therapeutic cure. The patient without help is not allowed to make a decision whether or not he is unwell, although he himself may perhaps be persuaded that he is sick sufficient to permit individual concentration, his inmates have got to still be convinced of the gravity of his grievances.

Every remedial system is not only a produce of exacting past situation and intellectual machinery; it has also its personal cognitive category. Individual beings caught in sickness episode are less worried about the subject of grouping; they are unusually concerned with revival and assistance. For this, division between logical and illogical methods of analysis and treating sickness is abolished. Here the division flanked by, science and devotion categories collapses; and so is the division linking magic and religious conviction. Systems of consideration and illumination, like astrology and Sufism, which first and foremost are not therapeutic, are approached for remedial as well as curative purposes, on the principle that religious conviction is to be resorted in case of anguish, and poor health is a brand of anguish, the lessening of which can be wanted through prayers, contact incantation of emotional state, surrender, libation, conciliatory the adverse planetary arrangement and tiring amulet and charms.

In North District of Sikkim, there is no medicalisation of traditional medication by modern drug. Bio-medical systems as a regulation stand up in quick distinction to the native ones, even though an exercise done in parts of Kerela and Punjab has recommended that there are abundant of native medico-spiritual healers who used modern medication. In spite of opening up of community wellbeing Centres and enormous propaganda, conventional ideas of ailment and wellbeing prevail. Bongthing/pau/Lamas heal with prayers and rituals whereas Amchis heal from beginning to end at the site of the physical body by means of a complex analytic system. It is thought by tibal's that medico-spiritual healing system is capable of restoring physical condition of the body or the mind bongthing/pau. Amongst the tribal's, the breakdown of the therapy did not describe for inquiring the effectiveness of the scheme, but on the discord of ceremony performance. The total pledge of the believers in the conventional system persists and so does the trust of the patient in the healer, despite of the outcome.

Traditional physical condition care practices are patient-oriented and holistic attitude of numerous factors meet additional effectively the requirements of the beneficiaries. Patient's observation about the significance of physical condition, treatments, the role of emotions and healer-patient connections are significant. Variety of emotions and spiritual factors have contact on tribal wellbeing, and that primary transformation is necessary in the technique health concern is prepared and provided to obtain full description of this. Nowadays, the tribal's notwithstanding relying on ceremony healers, as well opt for Medico-spiritual ways of treatment. Since Medico-spiritual medicines are cheap and are effortlessly obtainable; as compared western medicine. To add more to its benefit medico-spiritual

remedies are free from side effects, as compared to that of other forms of medicines, to which the ethnic people does habitually grumble of. Medicinal plants in Sikkim are a pivotal supply for restoring ones physical condition. In case of stern illness, medico-spiritual practice is crucial alongside with other therapies. Sacrament and empiric therapies are incorporated. Phyto-therapeutic healing may perhaps be suggested for the condition diagnosed by Medico-spiritual healers.

It was obvious in ethnic areas where facilities were available; the tribal's regularly acknowledged and availed of the Medico-spiritual facility. on the other hand, side-by-side they also practiced traditional rituals. Sadly, adequate medical facilities are not available in many tribal habitats and irony is that the tribal's are accused of not accepting the non-existing medical facilities. Biomedicine as provided by main wellbeing Centres are by and large criticised for deteriorating to respond to the wider poignant and sacred needs of the beneficiaries. It is like a product delivered by physical condition professionals and their acquaintances. Neighbourhood members do not participate in its preparation, functioning and assessment. In areas where public physical condition services are easy to get to, tribals depend on customary and traditional medico-spiritual healing; herbs are used as remedies along with rituals to heal diverse ailments. The competence of a dispensary or ainfirmary in such circumstances is shortened in conditions of mutually areas and inhabitants enclosed. If therapeutic services were positioned at far flung areas from the settlements, the health centre takers population ratio would be significantly slighter than the established international model. Nonetheless, in some cases effectiveness have insignificant or no constructive effect on the efficiency of the therapeutic system. The reliance and self-assurance on medico spiritual healers are a consequence of confidence and belief among beneficiaries. All the way through them, the tribal's transmitted their needs to paranormal powers and ask for aid and consideration.

The divergence between conventional and contemporary medical ailments still obtains in the anthropological narrative, in spite of its flawed and deceptive illustration. All conventional medical systems are not illogical and not identical and even bio-medicine has its personal folklore. The chief force of medico-spiritual healing practice is its ability to rise as psycho support structure. The descriptive representation of this category of tradition emphasises the idea of dissonance as a reason owing to man's association by means of the paranormal powers and other corporal associated conflict caused by consuming incorrect things.

Tribal's epidemiological report sponsor for stipulation of preventing forces for epidemic like gastro-enteric disease, pulmonary virus, influenza etc. These inconvenience have before now been tackled in many Nations by starting wellbeing condition physical condition services. The state physical condition services have been operating too in India but are ineffectual or have ignored the reality that comprehensive physical condition levels cannot advance not including defensive mechanism, such as immunization and ecological hygiene etc.

5. VI. Legal Perspective:

a) Protecting the Indigenous Knowledge of communities:

Indigenous Knowledge has been used since ages by indigenous and local communities and has been the mainstay of their existence especially in the key segments of health and food. Contemporary discipline has of late begun seeing at Indigenous Knowledge as a basis of innovative medication especially since the expenditure of putting new drugs on the market is becoming relatively high. The growing phenomenon of bio-piracy shows the somewhat hypocritical attitude of Western science to Indigenous Knowledge. Scavenging it on one hand and claiming patents on all kind of products derived from Indigenous Knowledge (turmeric, neem, etc.) yet refusing to acknowledge its economic value and ownership. The indigenously known wound healing properties of turmeric required a hype of the United States Patent scenario to be recognized as a part of the traditional knowledge of India.

Despite the growing recognition of Indigenous Knowledge as a valuable source of knowledge, Western Intellectual Property laws continue to treat it as a component of "public domain", freely available for use by anybody. Moreover, in some cases, diverse forms of Intellectual Knowledge have been appropriate under Intellectual Property rights by academicians and business enterprises, exclusive of any recompense to the awareness initiator or possessors.

Similarly, the use and continuous improvement of farmers' varieties (landraces) is essential in many agricultural systems. In many countries, seed supply fundamentally relies on the decentralized, local system of seed production which operates on the basis of the diffusion of the best seed available within a community and local farmers ensure that the farming community is supplied with planting material. The knowledge of farmers about crop

varieties and their special characteristics has been central to the development of new plant varieties and for global food security.

b) Traditional Medicine and Intellectual Property Rights:

New experiments are beginning to emerge on benefit-sharing models for indigenous innovation. An example of our Country here is worth sharing. It relates to a medicine which is developed from and based on the active ingredients in a plant, *Trichopus Zeylanicus* (Arogyapaacha), found in South-western part of India. Scientists at the Tropical Botanic Garden and Research Institute in Kerala learned of the plant, which is claimed to bolster the immune system and provide the additional energy. The medicine is traditional knowledge used by Kani tribe. These scientists isolated and tested the ingredient and incorporated it into a compound, which they christened 'JEEVANI', the giver of life. The tonic is being manufactured by a major Ayurvedic drug company in Kerala.⁶⁹²

In another incident, two America based Indians, Suman K. Das and Hari Har P. Cohly were granted a United States Patent 5,40,504 on 28 March 1995 on use of turmeric in wound healing. The patent was assigned to University of Mississippi Medical Center, United States of America. This patent claimed the administration of an effective amount of turmeric through local and oral route to enhance the wound healing process, as a novelty finding. Any patent, before it is granted, has to fulfil the basic requirements of novelty, non-obviousness and utility. Thus, if the claims have been covered by relevant published art, then the patent becomes invalid. Council of Scientific and Industrial Research could locate 32 references (some of them being more than one hundred years old and in Sanskrit, Urdu and Hindi), which showed that this finding was well known in India prior to filing of this patent. The formal request for re-examination of the patent was filed by Council of Scientific and Industrial Research at United States Patent Office on 28 October 1996. On 20 November 1997, the examiner rejected all the claims once again as being anticipated and obvious. The re-examination certificate was issued on this case on 21 April 1998 bringing the re0examination proceedings to a close. The following points are interesting to note:

- i. The turmeric case was a landmark case in that this was the first time that a patent based on the traditional knowledge of a developing country was challenged successfully and United States Patent Office revoked the patent. This eventually

⁶⁹² Brij Bhushan Gupta, *Intellectual Property Rights and Protection of Traditional Knowledge: A General Indian Perspective* 23 (FICCI Auditorium, Tansen Marg, New Delhi, 2008)

opened up the path to the creation of Traditional Knowledge Digital Library, Traditional Knowledge Resource Clarification, and finally inclusion of traditional knowledge in the International Patent Clarification System.⁶⁹³

- ii. Amidst the loud protests against ‘biopiracy’ and ‘theft’ of India’s biodiversity and traditional knowledge by foreign nationals, it is interesting to note here that the patentees were Indians (Das and Cohly), the re-examination in United States Patent Office was done by an Indian (Kumar) and the re-examination was sought by an Indian institution (Council of Scientific and Industrial Research).⁶⁹⁴

c) The core problem of Indigenous Knowledge protection:

International conventions and treaties dealing with Indigenous Knowledge are characterised by the fact that they are not binding. Every clause that deals with benefit sharing is contested and refused. International Labour Organization Convention No. 169 which says a lot about legal standards for indigenous rights fails to protect the Intellectual Property Rights of the Indigenous people. Whereas the United Nations Declaration on the rights of Intellectual Property recognises the rights and aspirations of the Intellectual Property, it will be a non-binding document, which cannot be legally enforced. In the International Treaty on Plant Genetic Resources, developed nations have successfully blocked an international recognition of Farmers Rights. They also contest any notion of paying for the use of traditional germplasm in a benefit sharing arrangement. The Convention on Biological Diversity which has attempted to push through the interests of Intellectual Property has been thwarted by the American refusal to ratify it and accept its conditions.⁶⁹⁵

d) National action:

Action is needed at the National level, in policy and legislation, to protect indigenous knowledge. Some features that should be included in national legislation are included below.

⁶⁹³ *Ibid.*

⁶⁹⁴ *Ibid.*

⁶⁹⁵ Suman Sahai, Safeguarding Indian Traditional Knowledge 13 (FICCI Auditorium, Tansen Marg, New Delhi, 2008)

- i. Disclosure of origin of materials or knowledge used. For example, the use of a farmer variety in breeding a new variety; use of a medicinal or aromatic plant to make products or extracting vegetable dyes from certain minerals and plants.
- ii. Evidence of Prior Informed Consent (in standard format) before using the bio-resource.
- iii. Evidence (in standard format) of the nature (monetary, non-monetary) mode and method of sharing benefits derived from using Indigenous Knowledge.
- iv. Applications for use of Indigenous Knowledge should be published in all major newspapers, specially the vernacular press.
- v. Proof of Indigenous Knowledge will be entertained in both written and oral form and in the form of community knowledge conveyed by third parties.
- vi. The onus of proving compliance (burden of proof) should be reversed. In the case of a dispute, the user agency will be required to prove that all conditions of disclosure and benefit sharing have been met.
- vii. The penalty for infringement should be severe enough to be effective deterrent.

There are several legislations which come into picture in relation with genetic resources in India and means for their protection. The key legislation include-

- i. Indian Forest Act, 1927
- ii. Wildlife (Protection) Act, 1972
- iii. Forest (Conservation) Act, 1980
- iv. Protection of Plant Variety and Farmers' Rights Act, 2001
- v. Patent (Amendments) Act, 2005
- vi. G.I of Goods (Registration and Protection) Act, 1999
- vii. Seeds Act, 2004

The Expert Committee on Traditional and Tribal Knowledge has in its agenda to develop guidelines for documentation of local biodiversity and bio-resources and associated Traditional Knowledge and for its effective use and short listing medicinal plants for commercial utilization. It is also to develop guidelines for protecting and safe guarding the Traditional Knowledge available with the Tribal and local community along with creating awareness for the same.

To top the above efforts, the National Knowledge Commission of India established in 2005 includes among its terms of reference the mandate to promote creation of knowledge in

various laboratories and to improve management of institution engaged in intellectual property rights.

The Working Group of the National Knowledge Commission on Traditional Medicines has made its recommendations to the National knowledge Commission. These recommendations include establishment of National mission on Traditional Health Science of India with an initial investment of 1000 Crore Rupees. The creation of teaching and research institutes, establishment of Traditional Knowledge informatics programme, digitization of Indian medical manuscripts, supporting of science initiative on Ayurveda and up gradation of colleges of Traditional Health Science are included in the goals. The establishment of a nationwide network of 300 forest gene banks and introduction of and legislation to allow cross medical practices is another forthcoming recommendation.

The three communities (Bhutia, Lepcha and Nepali) of Sikkim have their own belief, healing principles, classification, and medical ailments, though they are more or less similar with each other. The majority of Sikkimese people have a good faith on their own system of medicine rather than western medicines and other systems. Need of scientific support, observational studies and reverse pharmacological studies are required for different beliefs and treatment of these three communities. The greatest challenge faced today is to promote and preserve indigenous knowledge and medico spiritual healing practices in Sikkim. The knowledge behind such healing practices requires respect, recognition and understanding in the light of contemporary medicines. The revival of such healing practices of Sikkim may promote the health of rural underprivileged people of this state for their primary healthcare.

The establishment of concrete legislations and appropriate databases of international recognition for addressing the burning concern of the indigenous societies/ countries rich biodiversity for protection of traditional knowledge are some of the steps which are yet to be taken. The grant of Geographical Indication registrations to local germplasm, establishment of patent rights and benefit sharing models are stepping stones towards Traditional Knowledge protection. The modalities for protecting Traditional Knowledge are still emerging and evolving and therefore the measures for doing so at a flexible stage. How will Traditional Knowledge be appropriately preserved and protected and also respected is yet to be seen.

Therefore, the million dollar question which still haunts us is whether the delivery of traditional knowledge a public service or a business? Should patent owners and their lawyers

profit from carving up traditional knowledge into privately held parcels? Which aspect of medicine must be held in common for the greater good? Unlike land or other forms of tangible property, knowledge is not depleted by use. The endless discussion on protecting Intellectual Property Rights mask a troubling question: Do we have a great body of 'intellectual property' being generated that merits protection? Disturbingly, many discussions centre on protecting 'ancient knowledge' and 'indigenous resources' that often lie unused, from external predators. In the near future the Intellectual Property Rights debates are not going to fade away. However, we might, begin to wonder how we can generate more useful 'intellectual property' so that the task of protecting it becomes worthwhile.

CHAPTER VI

STATUS OF MEDICO-SPIRITUAL HEALING PRACTICE SCENARIO IN SIKKIM: AN EMPIRICAL STUDY

The present study relating to Medico-Spiritual healing practice requires an empirical study in the State of Sikkim to corroborate and substantiate the doctrinal findings at the national and international level. In order to do so a locational and demographic understanding of Sikkim is essential. Hence the following sketch upon Sikkim.

6. I. Geographical Location of Sikkim State:

Sikkim, known as the 22nd State of the Indian Union is located in the southern mountain ranges of the Eastern Himalayas between Northern Latitudes 27°4' 44" to 28° 7' 45" N latitudes" and 88° 45" to 88° 35' 15" E Longitudes. It is spread below the world's third highest mountain range, Khangchendzonga (8585m), revered by the Sikkimese as their protective deity. Sikkim is separated by the Singali la range from Nepal in the west, Cho la range from Tibet in the northeast, and the kingdom of Bhutan in the southeast. The Rangit and Rangpo rivers form the borders with the Indian State of West Bengal in the south.

The geographical area of the State is 7096 sq.km. Most of Sikkim is mountainous with altitudes varying between 300 metres above sea level to over 8500 metres at Khangchendzonga peak.

6. II. Population of Sikkim:

Sikkim's population is comprised of many ethnic, Linguistic and cultural groups. According to the 2001 Census of India findings, Sikkim recorded a total population of 540,851 persons out of which 288,484 were males and 252,367 were females, giving a ratio of 875 females per 1000 males. The State covers an area of 7,096 sq km and the density of population is recorded at 76 persons per sq km in 2001. The urban population comprises only 11.07 per cent of the total population of the State.⁶⁹⁶

The State Socio Economic Census 2006 records the total population figure at 581,546 persons, out of which the number of males figured 302,852 and females 278, 695, giving a

⁶⁹⁶H.H. Risley, The Gazetteer of Sikkim 1-3 (B.R. Publishing Corporation, Delhi, 2005)

ratio of 920 females per 1000 males. The latest population figures of the State are provided by the 2011 Provisional Population Census which gives the total population of the state as 605,688 persons divided into 321,661 males and 286,027 females giving a ratio of 889 females per 1000 males.⁶⁹⁷

The first population Census of Sikkim, which was the third Census of India, was undertaken in 1891. Sikkim, during this period, was a protectorate of the British. The 1981 census was the first one to be conducted after the merger of Sikkim with India and it was done separately for the State while earlier censuses were included with that of West Bengal. Sikkim has witnessed a steady growth in population in the past century.⁶⁹⁸

Table 6.1

Existing scenario of Population, Literacy and Sex ratio of Sikkim as per Census data of 2011⁶⁹⁹

Sikkim	Total	Male	Female
Population	610,577	323,070	287,507
Literates	444,952	251,269	193,683
Children (0-6 age)	64,111	32,761	31,350
Average Literacy (%)	81.42%	86.55%	75.61%
Sex Ratio	890		
Child Sex Ratio	957		

6. III. Officially recognised Medico-Spiritual healers in Sikkim

With the increasing number of population, the medical service providers also have risen in Sikkim, yet a vast portion of the population affirms their faith on Medico-Spiritual healers.

In Sikkim Medico-Spiritual healers are officially recognised by the State Government health service providers and are provided annual financial aid through Culture department, Government of Sikkim, so that such practices can be preserved from extinction. As per the

⁶⁹⁷ *Ibid.*

⁶⁹⁸ *Ibid.*

⁶⁹⁹ Sikkim Population Sex Ratio in Sikkim Literacy rate data-Census 2011, available at: <https://www.census2011.co.in>States> (last visited on March 20, 2017).

data collected from Culture department, Government of Sikkim, there are 891 officially recognised Medico-Spiritual healers in Sikkim till 2017, who are provided with annual financial grants.⁷⁰⁰

6. IV. The Study Area/ Universe

The universe under the study is a finite universe but large in size containing four (4) districts namely, East district, West district, North district and South district. The population though finite, is of different characteristics

For the purpose of analysis, the ethnic composition was not taken into account because of the remoteness of accessibility. Ten healers from each District have been interviewed, in a snow balling method. This number consists of both Governmental recognised and unrecognised healers.

The empirical study at the outset had to face certain astounding variables such as:

- a) Most of the Medico-Spiritual healers live in far flung remote areas of Sikkim, where the only means of communication is on foot and the time taken for to and fro walk was about four hours at an average.
- b) There are no repositions or record of the names and address or proper direction of the healers. The researcher had to rely on local people's description and was fortunate enough in only five instances, where a local guide agreed to help. Hence snow balling method of survey had to be adopted.
- c) Many healers and their families were reluctant to discuss with the researcher their healing knowledge, as it would expose their knowledge to public domain.
- d) Heterogeneous Linguistic communities inhabit different districts. Language had been a great barrier to communication and no interpreter is available in the remote parts of the State.
- e) Prior approval from the village elders were required to meet the Medico-spiritual healers in various remote areas. The village elders could not understand the purpose and value of "research" and declined to give permission for interview.

⁷⁰⁰ Information obtained from Mr. C.K. Sharma, (Under Secretary) Culture department, Government of Sikkim, on September 13th 2017.

- f) At least in two instances, the researcher was suspected to be a politician or some such thing and altercations, accusations etc took place.

Despite the aforementioned hurdles the researcher could interview 10 (ten) Medico-spiritual healers from each District, of which 3 (three) were Government recognised healers and the remaining 37 (thirty seven) were Government unrecognised healers.

6. V. Methodology adopted for the Collection of Data

Collection of data is an important aspect for any empirical research. The researcher had collected data from various Medico-Spiritual healers.

The study is mainly focused on the legal framework, or absence thereof, governing Medico-spiritual healing and the Intellectual property rights related thereto. Due to the aforementioned difficulties snow balling method was adopted and the tool used was open ended questionnaire. Different trips were arranged to different locations in the State to identify the Medico-Spiritual healers. The State Culture department, Government of Sikkim, did help to identify the recognised healers through a list of 891 recognised healers provided by them. The face to face interaction with the Medico-Spiritual healers, along with different rare resources utilized for curative different ailments and their way of life were collected and compiled by dint of field survey during October 2017 to January 2018.

The Questionnaire survey was conducted in order to build a requisite database on various aspects of healing, its form of treatment, awareness among the target groups, etc. which in turn became a storehouse of information.

6. VI. The Respondents

The majority of these healers considered their healing practice to be a mode of side income, since according to them sustaining life by just this kind of practice would be difficult, as the mode of payment is voluntary and the new generations are not interested in carrying forward this type of practice, which seems to be a matter of grave concern. The maturity level in terms of age and sexual category, matrimonial status, learning qualification, foundation of knowledge, types of exercise and know-how of practice of the surveyed Medico-Spiritual healers have been shown below.

Table 6.2**Officially recognised Medico-Spiritual healers of Sikkim till 2017**

	East District	West District	North District	South District	Total
No of recognised healers	286	285	100	220	891
Bhutia	29 10.13%	18 6.31%	31 31%	16 7.27%	94 10.55%
Lepcha	34 11.88%	14 4.91%	55 55%	04 1.81%	107 12%
Nepali	223 77.97%	253 88.77%	14 14%	200 91%	690 77.44%

The aforementioned table provides data which clearly indicates that among the three ethnic communities of Sikkim the Nepali community has the highest percentage of Medico-spiritual healers i.e. 77.44%, followed by Lepcha community i.e 12% and 10.55% of the Bhutia community. Despite the Lepchas and Bhutia's being the original residents of Sikkim, the percentage of Nepali healers in the State is tremendously high, one of the pivotal factors for such outcome is the population index of the State in terms of one's community. For instance in earlier days with the coming of different communities from Nepal the composition of the society further changed and the Nepalese population increased tremendously, ultimately out numbering the other two ethnic communities. This was evident from the first Census of 1891, where Nepalese population of Sikkim showed 18,955 out of the total 30,458, where as the Lepchas were only 5,762 and 4,894 were Bhutias.⁷⁰¹ The system of adaptation and imitation continued and Sikkimese society developed a unique society where one gets the elements of the Lepchas, Bhutias and the Nepalese.

⁷⁰¹ H.H. Risley, Gazetteer of Sikkim 27 (Calcutta, 1894).

Table 6.3**Gender division of officially recognised Medico-Spiritual healers of Sikkim till 2017**

	East District	West District	North District	South District	Total
Female	22 7.69%	10 3.50%	12 12%	04 1.81%	48 5.38%
Male	264 92.30%	275 96.49%	88 88%	216 98%	843 94.612%
Total	286	285	100	220	891

In terms of the above table the percentage of male and female Medico-spiritual healers are 95% and 5% respectively. Earlier studies within the country and elsewhere have also suggested lower percentage of female practitioners in Sikkim. The low participation of female Medico-spiritual healers in the State may not have much to do with education and discrimination. The reason behind this could be the patriarchal society prevalent and patrilineal inheritance in this region, where medicinal practice is mainly passed on to male children who are considered heirs of the family.⁷⁰²

Table 6.4**Age & sex distribution of forty Medico-Spiritual healers of Sikkim**

Age in years	Male	Female	Total	Percentage
05 to 15	00	00	00	00%
16 to 30	11	00	11	27.5%
31 to 60	11	04	15	37.5%
Above 60	14	00	14	35%
Total	36	04	40	100%

⁷⁰² <http://www.researchgate.net> (last visited on May 27, 2018)

From the above table it is evident that there are 37.5% of Medico-Spiritual healers in between the age group of 31 to 60 years, which is the highest and consists of four female healers too. 35% of healers are above the age group of 60 and paradoxically, healers in between the age group of 05 to 15 years are nil. It indeed is a matter of great concern, as this way Medico-Spiritual healer and its practices are in a verge of extinction from Sikkim, and no attempt has been made to document and record it in Traditional Knowledge Digital Library, India. The study shows maximum (90%) are male healers and (10%) are female Medico-Spiritual healers.

Table 6.5

Educational background of 40 Medico-Spiritual healers of Sikkim

Education	Number of healers	Percentage
Illiterate	13	32.5%
Up to class 5	23	57.5%
Below Matriculation	04	10%
Above Matriculation	00	00%
Total	40	100%

The educational backgrounds of the forty Medico-Spiritual healers does not seem to impress much, as the above table 4 shows, the educational percentage of healers who are above matriculation is nil and 13 (32.5%) of them are illiterate. **23 (57.5%)** are educated till class five and only 04 (10%) are educated below matriculation level.

Table 6.6

Source of knowledge in 40 Medico-Spiritual healers of Sikkim

Sources of knowledge	Number of healers	Percentage
Apprentice hood through parents	13	32.5%
Apprentice hood through another person	09	22.5%
Dreams	15	37.5%
Self acquired by birth	03	7.5%
Books/ Manuscripts	00	00%

Total	40	100%
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The table above, gives us a clear picture that Medico-Spiritual healers in Sikkim have got and acquired healing knowledge from different sources, as maximum 15 (37.5%) interestingly have acquired it from their dreams. 13 (32.5%) have received it from their parents, along with 09 (22.5%) having received it from another person. Surprisingly the figure above indicates 03 (7.5%) healers have self acquired their knowledge by birth. Interestingly, the data implies maximum Medico-Spiritual healers have acquired their healing knowledge through dreams.

Table 6.7

Types of practice in 40 Medico-Spiritual healers in Sikkim

Types of practices	Number of healers	Percentage
Bone setting	7	17.5%
Herbalist	2	5%
Spiritualist	22	55%
Traditional birth attendant	2	5%
Poisoning treatment	4	10%
Child related	3	7.5%

The table above shows maximum Medico-Spiritual healers 22 (55%) practice as spiritualist, followed by 7 (17.5%) who happen to be very popular bone setter practitioners. Among the rest 4 (10%) practice poisoning treatment, 3 (7.5%) deals with practice relating to children, 2 (5%) are traditional birth attendant and the other 2 (5%) practice as herbalist.

From the aforementioned data, the researcher feels it necessary especially in cases of traditional birth attendants to make them aware, since none were aware of reproductive rights in India. As reproductive rights embrace certain human rights that are already recognized in National laws, International human rights documents and other relevant United Nations consensus documents. These rights rest on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of

sexual and reproductive health. It also includes the right of all to make decisions concerning reproduction free of discrimination, coercion and violence as expressed in human rights documents. In the exercise of this right, they should take into account the needs of their living and future children and their responsibilities towards the community.⁷⁰³

6. VII. Assessment of Medico-Spiritual healers in the four districts of Sikkim in the light of their practices, facilities and equipment used

Table 6.8

Number of patients treated by the healers on weekly basis

Number of Patients	Number of Healers	Percentage
1 to 5	20	50%
6 to 10	08	20%
11 to 20	Nil	Nil
21 to 30	Nil	Nil
Depends	12	30%

In terms of treating patients on weekly basis, the above figures indicate that 20 (50%) Medico-Spiritual healers treat 1 to 5 numbers of patients, 8 (20%) healers treat about 6 to 10 patients weekly and 12 (30%) number of healers say, the number of patients they treat on weekly basis depends. As according to them at times there are plenty of patients visiting them and at times there is none. They believe, giving a numeric value of patients visiting them would be difficult, and would be against their ethics, as most of them see this form of healing practice as social work

Table 6.9

Number of patients treated by the Medico-Spiritual healers till date

No of patients treated till date	No of healers	Percentage
Nil	Nil	Nil
10-20	Nil	Nil

⁷⁰³⁷⁰³Reproductive Rights in India – Human Rights Law Network, available at: <http://www.hrln.org/hrln/433-reproductive-...> (last visited on June 25, 2018).

20-40	08	20%
40-80	01	2.5%
100 above	31	77.5%

During the study the researcher made an effort by attempting to figure out an approx number of patients treated by the Medico-Spiritual healers till date, the result of which would help understand and reflect their efficiency. The data aforementioned indicates 8(20%) number of young healers, have healed 20 to 40 patients till date, 1(2.5%) healer has healed 40 to 80 patients till date and the amazing aspect here is 31(77.5%) number of healers have healed 100 plus patients till date. In my personal interaction with them at-least 20 numbers of Medico-Spiritual healers proudly claims to have healed 1000 plus number of patients and many were even able to name a few, despite their old age.

Table 6.10

Where are the sick members of the Medico-Spiritual healers referred?

Mode of treatment	No of healers	Percentage
By self	Nil	Nil
By other Medico-Spiritual healers	16	40%
Modern Hospitals	Nil	Nil
Depends	24	60%

A question which always created that inquisitiveness within the researcher was, even these Medico-Spiritual healers have family and at times even them themselves or their family members fall prey to different ups and downs in life in relation to health. Such times pose a great challenge and question to their belief and practice. Thus, the above table gives us a clear indication regarding their mode of treatment, when it comes to treating themselves or their family members. During the study, the researcher was impressed and surprised to see the faith these healers had in their form of practice, as the above table clearly indicates 16(40%) healers prefer being treated by other Medico-Spiritual healers, and 24(60%) number of healers prefers to answer in “depends” as they believe, if its outside their healing purview they would obviously take help of modern hospitals but it would be their last resort. No healers choose to take help of modern hospitals in first instance, which is clearly evident from the above table.

When it comes to healing, treating and taking care of patients, one pivotal aspect which reflects its outcome and speaks volumes about it is its Facilities provided and equipments used. To address this, the table below will provide some assistance.

Table 6.11

Treatment Facilities provided by the Medico-Spiritual healers

Place of treatment	No of healers	Percentage
Patients home	Nil	Nil
Healers home/Patients home	40	100%
Traditional selected area	Nil	Nil

The data above shows us that, the mobility of Medico-Spiritual healers are flexible, as 40 (100%) numbers of healers prefer seeing their patients at their own residence or at the patient's residence. During the researcher's interaction with them, the majority of these healers laid more emphasis on the patient's convenience.

Table 6.12

Facilities in terms of payment

Mode of Payment	No of healers	Percentage
Fixed rate for different treatment	Nil	Nil
It's not compulsory, its voluntary	40	100%
Its free	Nil	Nil

One of the demerits of a modern day treatment in a hospital today is its financial burden, which at times is back breaking. When the only motive is to be healed and be free from all kinds of physical ailments, Medico-Spiritual healing practice in Sikkim seems to have acted as a blessing in disguise to all fellow Sikkimese in terms of healing people and the fees prescribed for it. As the above figure clearly indicates that 40(100%) number of healers prefer a mode of payment which is voluntary and not compulsory. According to these healers they see their form of practice as a social service and do not want to degrade it by giving a price tag to it, which indeed is a pleasant thought.

Different forms of practice in healing people adopt different equipment. Likewise in order to bring to light the types of equipments used by Medico-Spiritual healers in Sikkim to heal people the following study was made by the researcher.

Table 6.13

In patients facility, Assistant used, any modern form of treatment equipment (Razor blade, scissors, X ray report, syringes, stethoscope) used

Facilities & Equipments	Yes	Percentage	No	Percentage
Facilities to admit patients	01	2.5%	39	97.5%
Facility of assistant	24	60%	16	40%
Use razor, scissors, X ray report, syringes, etc.	01	2.5%	39	97.5%

The above table indicates that only 1(2.5%) healer has the facility to admit patients and use some kinds of modern equipments to heal. In my personal interaction this healer expertises in bone setting and proudly admits to have healed above 2500 patients till date and is still going strong. The rest i.e. 39 (97.5%) do not have the facility to admit patients and also do not use any modern equipment as listed above to heal people. These healers believe different kinds of illness are treated with worship and devotion with animal sacrifice. The notion of sacred is prominent exorcism, a spiritual means of treating diseases. There is a prevailing supernatural basis in Medico-Spiritual healing practices in Sikkim, even where the chief means of treatment is herbal. They believe and claim that unless a medicine concoction has been empowered by special benediction, it will have little effect.

6. VIII. Situational analysis of Sikkim Government in protecting and preserving Medico-Spiritual healing practices

It is pivotal to study the role of the State Government played till date to preserve and protect the Medico-spiritual healing practices in Sikkim. The scenario about the role of the State Government has been of two types. A different version of the story by the Culture department has been told, where they admit of leaving no stone unturned in protecting and preserving the Medico-spiritual healers. But paradoxically in practice, after meeting and interviewing them, the story seems to have a different scenario. Having a certified Medico-spiritual healer always gives some sort of security to the patient and their family wherein these days everything under the sun is turning out to be counterfeit. Quack doctors are in

plethora in our country, and the researcher believes that by certifying the Medico-spiritual healers a check and balance can be maintained in identifying authentic healers in the State. In this case, the researcher made it a point to have an individual interaction with selected healers from all four districts of Sikkim, the results to which are here under.

Table 6.14

Number of Medico-spiritual healers who have been certified by the State Government, from the ones interviewed by the researcher

Types of Healers	Yes	Percentage	No	Percentage
Certified Healers	03	7.5%	37	92.5%
Uncertified Healers	37	92.5%	03	7.5%

In this context, the researcher made it a point to personally interview 40 Medico-spiritual healers, 10 from each districts. The data given above clearly provides that among 40 Medico-spiritual healers, only 3 (7.5%) has been certified by the State Government, leaving 37 (92.5%) to be uncertified. Here the researcher would suggest having at-least one annual State event, which would help identify and certify the Medico-spiritual healers, in order to preserve and protect their authenticity.

Since, from the forgoing pages, it is evident that these healers accept only voluntary mode of payment, thus financial grants to these healers by the State Government also plays a pivotal role in keeping intact such practices. The data provided below gives us a better understanding in this context.

Table 6.15

Number of Medico-spiritual healers, who have received financial grants from the State

Types of Healers	Yes	Percentage	No	Percentage
Receiving financial grants	03	7.5%	37	92.5%
Not receiving financial grants	37	92.5%	03	7.5%

Out of 40 Medico-spiritual healers, only 3 (7.5%) has been receiving financial grants and 37 (92.5%) have not till date received any form of financial grant from the State

Government. The ones not receiving financial grants from the State Government are in majority, collaterally overburdening them in terms of financial matter. As earlier stated; whatever these healers earn through their practice is voluntary payment, thus this way the healers believe that sustaining ones and their family life is very difficult, forcing many to put an end to such way of practice and to adopt some different means of livelihood.

The Culture Department, Government of Sikkim, states⁷⁰⁴ that an annual event is organised every year by the Government to felicitate the Medico-spiritual healers. Like-wise to see the applicability and awareness of such programme among the healers the researcher also interviewed them on this basis but paradoxically the result which came into light after the completion of story had a different story. For instance; one of the questions which the researcher put forward to the Medico-spiritual healers was if they were aware of any sought of a programme organised by the State Government to preserve and protect such practices. The table provided below gives us the answer for the same.

Table 6.16

Number of Medico-spiritual healers aware of different programmes organised by the State Government to preserve and protect such practices

Types of Healers	Number	Percentage
Healers who are aware	08	20%
Healers who are unaware	28	70%
Healers who are not sure	04	10%

On the basis of the data provided from the above table, it seems only 8 (20%) Medico-spiritual healers are aware of different initiatives taken by the Government to protect and preserve such practices within the State. Whereas 28 (70%) are unaware and 4 (10%) are not sure of such initiatives carried by the State Government.

After personally meeting the healers, the enthusiasm within the researcher grew more and as a result the researcher also wanted to know through the healers that if there was any sought of a body under the State Government to look after Medico-spiritual healers. This question too was put to the healers and the feedback which the researcher received was pretty

⁷⁰⁴ Information obtained from Mr. C.K. Sharma, (Under Secretary) Culture department, Government of Sikkim, on September 13th 2017.

weird, as none of the healers had heard or admitted of recognising any type of body within the state. The table below says it all.

Table 6.17

Number of Medico-spiritual healers who are aware of a body under the State Government to look after such practice

Types of Healers	Numbers	Percentage
Healers who are aware	Nil	Nil
Healers who are unaware	08	20%
Healers who are not sure	32	80%

The healers who's respond was affirmative was nil, 8 (20%) were not sure and the rest 32 (80%) were not sure whether such a body existed. The outcome of the above table also clearly indicates the amount of consciousness the healers have for themselves.

In the last two plus decades the State Government has been conferring many awards to the ones into Medico-spiritual healing practice, as a mark of recognition and encouragement, but during the researcher's interaction with the healers, it was found out that only 3(7.5%) healers had been conferred with such awards and the remaining 37 (92.5%) differ in their feedback.

6. IX. Existing scenario reflecting the level of Legal awareness among the healers

Knowledge among the Medico-spiritual healers in terms of Legal awareness relating to subjects like Indian Forest Act 1927, Wildlife (Protection) Act 1972, Patent (Amendment) Act 2005, Geographical Indications of Goods (Registration and Protection) Act 1999, Intellectual Property Rights, Traditional Knowledge Digital Library etc. are definitely the need of the hour. To test the healer's level of legal awareness the researcher through simple questionnaire interviewed them regarding the same. As a result, all healers who were interviewed by the researcher frankly admitted to not knowing the same. But the healers did admit that all Medico-spiritual healing practitioners should be legally protected through a National level Council or a Commission. The table below will give us a clearer understanding.

Table 6.18

Number of healers who feel Medico-Spiritual healing practice should be legally protected

Views of Healers	Number of healers	Percentage
Yes healers should be legally protected	40	100%
No healers should not be legally protected	Nil	Nil
Not sure	Nil	Nil

Although all healers were interviewed differently in different days, location and time but all had a similar feedback which was affirmative, when they were asked if all Medico-spiritual healers should be protected. So the need and feeling of being legally protected is a common among the healers.

The State of Sikkim despite being one of the smallest Indian States has many forms of dialects within the State. This makes communication very difficult, especially in some interior parts of Sikkim. Thus; even though if the State Government agrees to legally sensitize these healers, it would be an up-hill task, since in many places the language changes in every two to three kilometres. To minimise the burden on the State Government, the researcher had come-up with an idea of distributing handbooks containing all legalities regarding Medico-spiritual healing practice in different local languages. The table below provides the data.

Table 6.19

Number of healers who feel that a handbook should be introduced by the State Government containing legalities in different local languages for distribution to the Medico-spiritual healers

Views of Healers	Number of Healers	Percentage
Yes, it should be distributed	38	95%
No, it should not be distributed	Nil	Nil
Not sure	02	5%

From the above table it can be seen that 38(95%) healers are in favour of the idea of distributing handbooks to Medico-spiritual healers in different local languages, according to ones understanding. No healer is against the idea but 2 (5%) healers are not sure regarding it.

In common parlance and in legal parlance, all health care units, be it Allopathic, Homeopathic, traditional etc. should have legal guidelines, so that these health care practitioners are aware of their duties, along with their rights and privileges.

The relationship between law and medicine has been there since inception, and the check and balance needed between them has been maintained, as and when required especially during medical negligence. The people of Sikkim have strong faith on Medico-spiritual healers and their methods of healing, as their forefathers having been doing so. The patients do get well too but at times many patients do not get better or get worse and eventually die. In cases like these there is hardly any action of negligence taken against the healers, due to unavailability of laws which directly address negligence by such healers. In majority of cases many take it as natural death, unlike if the same act would be done by a medical practitioner, the case would come to court with negligence suit against the concerned authorities and the doctor. Under such circumstances, depending upon the outcome of the cases, the aggrieved victims are also entitled to compensation, if the doctors and the concerned authorities are found guilty of medical negligence, which is not the case in terms of Medico-spiritual healing practitioners. Likewise, when it comes to health care in Sikkim, especially by Medico-spiritual healers, the relationship between this form of health care and law seems to be missing, which would undoubtedly give rise to numerous negligence by the Medico-spiritual healers, which till date has not been reported and a tremendous rise of quack healers in the State. After a one on one interaction of the researcher with the healers, a need for a legal framework was felt to address these healers directly, which till date seems to be missing?

Legal awareness among the healers through any means seems to be the need of the hour, which the researcher feels should be addressed by the State Government at the earliest, otherwise proper disposal method of such practice would not be possible, as a big problem primarily, would be to differentiate between a genuine healer and a quack healer. Therefore, taking into consideration the aspect of legal awareness among the healers, an important and much need analysis can be drawn. The table referred below highlights on this aspect.

Table 6.20

Number of Medico-spiritual healers who consider it a hindrance in their practice for not being legally aware

Views of Healers	Number of Healers	Percentage
Who considers it a hindrance	31	77.5%
Who do not consider it a hindrance	08	20%
To some extent	01	2.5%

It is evident from the above table that despite healing a plethora of patients, 31(77.5%) Medico-spiritual healers consider a hindrance in their practice for not being legally aware of their rights and duties in terms of their health care practice. 8 (20%) healers do not consider it a setback and 1 (2.5%) feels it to some extent.

6. X. The Associations

Despite the officially recognised healers by the Government, there are many healers who are yet to be recognised, living in remote parts of Sikkim. This was witnessed and evident to the researcher during the empirical study.

The healers that are recognised by the State Government with the assistance of various ethnic community association of Sikkim are as follows-

- a) Renzyong Mutanchi Rong Tarjum
- b) Bhutia Kay Rab Yangay Tshogpo
- c) Akhil Sikkim Khas, Chettri Bahun Sangh
- d) Akhil Kirat Rai Sangh Sikkim
- e) Sukhim Yakthung Sapsok Songjumbho
- f) All Sikkim Gurung (Tamu) Buddhist Association
- g) All Sikkim Mangar/ Magar Association
- h) Sikkim Newar Guthi
- i) Sikkim Tamang Buddhist Association
- j) Denzong Sherpa Association
- k) Sikkim Sunuwar (Mukhia) Koinchbu
- l) Akhil Sikkim Bhujel Sangha

- m) All Sikkim Schedule Castes welfare Association
- n) Akhil Sikkim Thami Sangh⁷⁰⁵

To understand the role of these association in protecting and promoting Medico-spiritual healing practice in Sikkim, the researcher visited and interviewed the Presidents of 4 (four) aforementioned associations. The researcher had to face a great deal of difficulty, as the majority of Presidents of different aforementioned association were not cooperating. In many cases, mobile numbers of the associations President given to the researcher by the Culture department, Government of Sikkim, were in most cases not correct. In three cases though the mobile numbers were correct, their tenure as Presidents was over, they were not willing to respond. In one case, the association's President said that his tenure as President will be over next month, so the researcher should speak to the next President. Many associations president after the researcher's first call stopped receiving calls from the researcher there after and even blocked the researcher's mobile number. Despite such difficulties the researcher was able to convince and interview the Presidents of the following four associations

On 13/06/18, the researcher visited and interviewed Shri. Namdol Bhutia, President of Bhutia Kay Rab Yangay Tshogpo. According to him, the association was established in 1983, with an objective to preserve its language and culture. He admits that there are Medico-spiritual healers within his association but he is unaware of the exact figures. It was also learnt from him that no steps had been taken to safeguard and promote the healers legally despite wanting to, due to lack of laws, by-laws, guidelines, etc directly addressing issues relating to such healers. The primary activity of the Association is preservation of language and culture.

On 29/05/18, the researcher visited and interviewed Shri D.K.Gurung, President of All Sikkim Gurung (Tamu) Buddhist Association. He told the researcher that he had been recently appointed as the President of the Association and was quite unaware of many things. Thus he requested the researcher to call back after meeting the Association's former President. He noted the query made by the researcher and called the researcher to meet him on 30/06/18, exactly after one month. On this visit it was learnt that his association was established on 1993, with an objective to promote, preserve and protect the heritage of the Gurung community. 33 (thirty three) Medico-spiritual healers from his community has been

⁷⁰⁵*Ibid.*

representing his Association. The healers from this community have passed the knowledge of identifying certain medicinal plants to other members of the association, which has benefitted many. According to him, no rules and regulations pertaining to such practices are available and his association will try to formulate some norms to regulate such practices in future. This association has been working towards registering Medico-spiritual healers, so that they are recognised not just within the community but outside too. The association in future plans to document this age old knowledge and practice, so that contribution made by such healers in terms of health sector could be recognised. The association also plans to conduct workshops and organise conferences to make the younger generations aware of the value of such practices, having an approach of safeguarding it and making it an integral part of our identity.

On 20/06/18, the researcher visited and interviewed Shri N.P.Bhujel, President of Akhil Sikkim Bhujel Sanga. Mr. Bhujel too, like the earlier President requested the researcher to state his queries which he noted down, and promised to get back soon. Thereafter, despite several efforts there was no response from him, then on 15/06/18 he called the researcher to inform that he has sent the answer to the researcher through Whats app. On opening the Whatsapp page the researcher was surprised to see pictures of two computer screens. According to his computer screen shot, the Association was established on 1993, with an objective to unite all Bhujel's from Sikkim and to make them all aware about their tradition, language, script, culture etc. Though there are Medico-spiritual healers representing this association but he's unaware about the exact figures. He too feels that there should be laws and rules directly governing such healing practice. According to him, till date the members of the association themselves have been playing a pivotal role in promoting these healers by showing faith and visiting them during various illness.

On 05/05/18, the researcher visited and interviewed Shri. Mani Kumar Yonzon, president of Sikkim Tamang Buddhist Association. According to him this association was established on 1961, with an objective to promote, propagate and preserve customs, tradition and culture of the Tamang community. To him there were Medico-spiritual healers from his community representing his association but such records were not available with the association. In terms of promoting and safeguarding such healers in future, he said decision has not been taken so far.

In end view of the aforementioned it emerges that; the Associations that have been surveyed above are engaged in activities as follows.

- 1) Bhutia Kay Rab Yangay Tshogpo
Established in 1983.
Objective- Preservation of language and culture.
- 2) All Sikkim Gurung (Tamu) Buddhist Association
Established in 1993
Objective- Protect the heritage of Gurung community.
- 3) Akhil Sikkim Bhujel Sanga
Established in 1993
Objective- To unite all Bhujel from Sikkim and to make them all aware of their tradition, language, script and culture.
- 4) Sikkim Tamang Buddhist Association
Established in 1961
Objective- To promote, propagate, and preserve the customs, tradition and culture of Tamang community.

From the above interaction, it was evident that the associations were basically formed for the preservation and development of traditions, culture and language of the respective communities. Even though there were Medico-spiritual healers within each Association. The Associations was not overtly concerned with the traditional knowledge involved therein. Even though preservation of tradition and culture was their basic objectives, it was only on the producing of the researcher that the Presidents of the respective Associations applied their minds to the issues at hand.

The benefit of the growing number of Medico-Spiritual healers in Sikkim is that it is very inexpensive and patients from all over the State and from neighbouring States and Countries can avail the health care services. Apart from providing health care services these healers are expected to help the State Government to preserve and protect rare life saving medicinal plants, and help in boosting the States revenue by attracting patients from other States and Countries. Moreover their cooperation is expected to help the State to preserve and promote Indigenous Knowledge.

The problem of treatment through Medico-Spiritual healing in Sikkim is an extremely important issue because statutory laws in India do not directly address the key issues relating to protection and promotion of such practices. Spiritual healers have not been made a part of alternative medicine in India but it has a far reaching impact on the health as well as on the

environment. Therefore a proper legal frame work is necessary to preserve and protect such ancient practices and check quack healers. With this view the researcher has undertaken an empirical survey under this chapter to highlight on the current Medico-Spiritual healing practice in Sikkim.

6. XI. An Overview

From the above discussion it can be concluded that there exists a difference in opinions and views in terms of practice and perception among the Medico-spiritual healers in Sikkim. Although, the practices followed by the healers were different, taking into account their experience, education level, the mode through which they acquired, still much has to be done, instead of just randomly certifying them and providing them annual stipend to improve the condition for the proper management of such healing practices in the State. There is an urgent need to improve the condition of Medico-spiritual healers within the State in terms of legal development, by enacting laws, by-laws, guidelines etc. and by implementing the same through sensitization, introducing and distributing handbook containing guidelines for the healers in different local languages, which has been discussed in foregoing pages. Overall improvement of the condition of the healers in the State without addressing the pivotal need i.e. legal condition would be futile as nothing can be achieved and the whole Medico-spiritual healing practice scenario would remain unchanged.

Thus it's time that the important decision steps of the planners and policy makers in Sikkim in this regard, in the next few years should be documentation and codification of all the medicinal plants with full description of their traditional practices and Medico-spiritual healers across the Sikkim Himalaya.

Documentation of Medico-spiritual healing practices in the region along with the extent of their contribution in the health status, laying out their advantages and disadvantages also seems to be the need of the hour. Moreover it will not only check the economic exploitations of our biological resources and Indigenous knowledge bases but also offers us to claim our ownership of the natural economically important germplasms.

Action is needed at both the State and National level, in policy and legislation, to protect the Medico-spiritual healers. Some features that should be included in this legislation are as follows:

- i. Disclosure of origin of materials or knowledge used. For example, use of a medicinal or aromatic plant for healing.
- ii. Evidence of prior informed consent, before using the bio resources.
- iii. Evidence of the nature, mode and method of sharing benefits derived from using Indigenous knowledge.
- iv. Application for apprenticeship as a Medico-spiritual healer should be published in all major news papers.
- v. The penalty for infringement should be severe enough to be an effective deterrent.
- vi. Provisions to avoid quack Medico-spiritual healers.
- vii. Remedy available against Medico-spiritual healers in case of negligence.
- viii. Appropriate steps by the concerned authorities are needed to document and record this form of Medico-spiritual healing practice in Traditional Knowledge Digital Library.

Finally, what different steps could be adopted has been discussed by the researcher in this chapter, which would definitely be of immense help in improving the existing scenario both in terms of common and legal requirements relating to the Medico-spiritual healers and its beneficiaries in Sikkim.