

AN INTRODUCTION TO TRADITIONAL MEDIICINE SERVICES IN BHUTAN



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Homage to Medicine Buddha

“If one meditates on the medicine Buddha, one will eventually attain enlightenment, but in the meantime one will experience an increase in healing powers both for oneself and others and a decrease in physical and mental illness and suffering.” Thrangu Rinpoche

***Tad-ya-tha: OM Be-kkan-dze Be-kkan-dze Ma-ha Be-kkan-dze Ra-dza
Sa-mung Ga-te So-wa-ha!***

Introduction

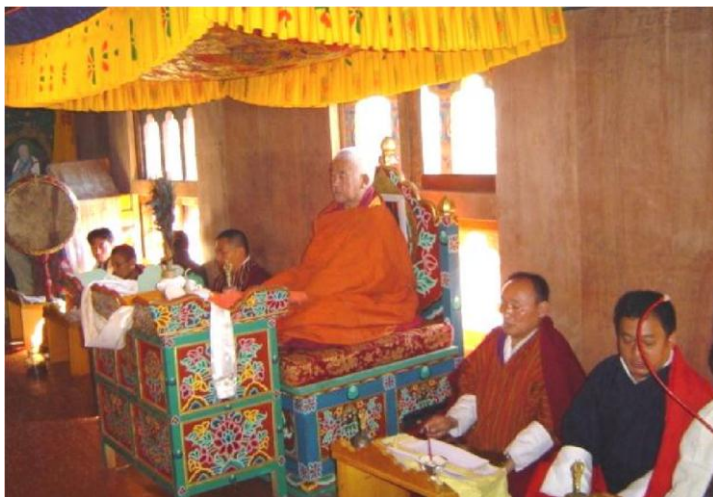
Bhutan is known as *Menjong Gyalkhab*, meaning the land of medicinal plants. Above the Indian plains, the country gradually rises from the luxurious jungle of the foothills about 150 meters above sea level to the solitude of the snow-capped peaks culminating at more than 7500 meters above sea level. The small Himalayan Kingdom of Bhutan is situated between India and China and is totally landlocked. The country has a forest cover of over 72% attributing to the presence of a rich biological diversity. These forests are home to several endangered species of flora and fauna harbouring over 7000 species of plant, 165 species of mammals and 700 species of birds. Apart from its rich biodiversity and natural resources, Bhutan has a rich cultural heritage which is still characterized by a certain amount of traditional features like traditional medicine.



Lingshi valley where most of the high altitude medicinal plants are collected

This difference in altitude, bringing almost tropical vegetation right to the base of glaciers, has made it possible for plants of extremely different climatic and environmental conditions to grow in the same country. Tropical and subtropical forests are found in the South. Temperate and even Mediterranean plants flourish in the valleys, and very rare specimens grow up to 5000 meters. To date, more than 600 medicinal plants have been identified in Bhutan, and at least 300 of these are commonly used by practitioners in the country for preparing medicines.

The Bhutanese traditional medical system goes well beyond the notion of medicine in the narrow Western sense. It forms part of a whole - blending culture and tradition, in which Buddhism is the prevailing influence. Health and spirituality are inseparable and together they reveal the true origins of any sickness. The art of healing is therefore a dimension of the sacred. Menlha Choga is conducted every month on 8th in the lunar calendar where all staff and students participate through donation and actual practice.



Lopon Kinley Dorji presiding over Menlha Choga



His Holiness the 70th Je Khenpo, Truelku Jigme Choeda
consecrating the Menlha Lhakhang



Medicine Buddha Altar

Development of Traditional Medicine Services

In November 1967, the third Druk Gyalpo, His Majesty King Jigme Dorji Wangchuck commanded the Health Department to establish traditional medicine system for the welfare of Bhutanese people and to preserve its rich culture and tradition. Accordingly, an Indigenous Dispensary was opened on 28th June 1968 at Dechencholing, Thimphu. The first persons to work in the Dispensary were Drungtsho Pema Dorji and Drungtsho Sherub Jordan, both of whom were trained in Tibet.

From a single Indigenous Dispensary in 1968, the traditional medical service has grown rapidly over the years to cover the entire country. Today, there are 51 traditional medicine units attached to the district hospitals and basic health units in view of the national health policy of integration.



Dechencholing Dispensary

Drungtsho Pema Dorji



Drungtsho Pema Dorji was born to Ugyen Tenzin and Dechen Pelden of Drepung Khochey and Khalong choeje (local nobilities) respectively in 1936 at Phuentshocholing Goenpa in Trongsa. He began education at an early age of six under the tutelage of his grandfather, Lopen Kuenzang Wangdi. At the age of 16, he traveled to Tibet to study *gso-ba-*

rig-pa in the renowned medical college of Chag-po-ri, under the royal patronage of HRH Ashi Kencho Wangmo. After successful completion of five years of arduous study, he returned and served as a clerk in the secretariat of late His

Majesty, Jigme Dorji Wangchuck, the third King of Bhutan

It was during his tenure as a clerk, that His Majesty commanded him to institutionalize and strengthen the age-old traditional medicine system in the country, intended to benefit every sick and justifying the name: *smen-jong* or The Land of Medicine (an old name for Bhutan) in the winter of 1967. Accordingly, an indigenous dispensary was opened on 28th June the following year at Dechencholing under the Department of Health Services and he became the first practicing *drungtsho* under public sector.

When the indigenous dispensary was upgraded to National Indigenous Hospital (NIH) in 1979 and shifted to the present location at Kawa Jangsa, he became the first Superintendent of the hospital. Right from the establishment of training programme for *drungtshos* and a traditional medicine unit in Trashigang a year earlier, he developed new infrastructure; strengthened training curricula; improved administration and

management of traditional medical services. Gradually, the services provided through traditional medicine covered the entire nation under his dynamic leadership.

In 1998, he was promoted as Director of the Institute of Traditional Medicine Services and in 1999, he was awarded the Druk Thuksey Medal on the auspicious occasion of Silver Jubilee Coronation of the fourth Druk Gyalpo, in recognition of his dedicated service in the area of traditional medicine. Finally, after 30 years of dedicated service, he retired from the service in 2002.

Drungtsho Sherab Jorden



Drungtsho Sherab Jorden was born to Kuenga Norzang and Sonam Norzom in 1935 at upper Gyechu in Lhodrag, Tibet. At the age of eight, his parents enrolled him in the monastic institution of His Eminence, Namkhai Nyingpo Rinpoche, where he began his early education. He mastered all the sciences of Buddhism including grammar under the

direct observance of Lama Gyalwang Nima.

An immense desire to study *gso-ba-rig-pa* swept in spontaneously when he was sixteen. Astrological calculations conducted by his paternal uncle, Tra Phab Kheychoog Rinpoche, favored his intention and therefore joined the medical college at Chagpori in the same year and studied under Ngawang Choedra, personal physician to the 13th Dalai Lama. Beside five years of formal training, he received specific instructions on bloodletting

and cauterization and the complex theory of *gso-ba-rig-pa* at large from Ben Tshang Amchi Samten Tingzin. Teachings and empowerments that he received from reverend Buddhist masters of the time greatly enriched his versatile knowledge.

At the age of 24, soon after becoming the personal physician to H.H. Namkhai Nyingpo Rinpoche, he fled the Chinese occupation of Tibet via Nye Rinchen Bumpa in Kurtoe and finally arrived at the holy site of Kurje Lhakhang in Bumthang. He reassumed his practice in Bumthang after the Royal Grandmother, Ashi Phuntsho Choden Wangchuck issued a decree, permitting H.H. Namkhai Nyingpo Rinpoche and the entourage to settle in Bhutan.

He was called upon to work along with Drungtsho Pema Dorji, in the newly established Indigenous dispensary at Dechencholing in 1968, and ever since, he applied his expertise for the welfare of patients until his resignation in 1997. In 1993, as the chair person of the Traditional Medicine Research Committee, he was a key figure in standardization and identification of the entire *materia-medica* employed in preparation of traditional medicines. Aside from medical practice, he was also a prolific writer. Besides writing a number of manuscripts on medicine he also composed beautiful poems.

After more than 30 years of service to the humanity, he has dedicated the rest of his life to prayer and meditation in the sanctuary of Hongtsho Goenpa. Even today, he finds some time to see patients during short intervals of strict religious practice.



Old NITM Building now being used as Office of the Department of Traditional Medicine Services

At the national level, the Indigenous Dispensary was upgraded to National Indigenous Hospital in 1979 and shifted to the present site in Kawang Jangsa from Dechencholing. The National Indigenous Hospital was renamed as the National Institute of Traditional Medicine (NITM) in 1988. In view of the increased functions, the NITM has been upgraded as the Institute of Traditional Medicine Services (ITMS) with three functional units as follows in 1998:

- 1. National Traditional Medicine Hospital** is responsible for the development and provision of quality traditional medical services including different therapies.
- 2. National Institute of Traditional Medicine** is responsible for development of human resources required for the traditional medicine services.
- 3. Pharmaceutical and Research Unit** is responsible for the manufacturing and production of medicines,

conducting quality control for both raw materials and finished products, carrying out research activities and
4. marketing of the products.



The main aims and objectives of ITMS were:

- a) Promote traditional system of medicine in the country
- b) Preserve the unique culture and tradition related medical practice
- c) Provide alternative medicine as complementary to the allopathic system
- d) Produce medicines required by the traditional medical system
- e) Conduct research and quality control of drugs
- f) Develop human resources required for the traditional medical system
- g) Achieve excellence in traditional medical services in Bhutan.

In December 2013, a separate Department of Traditional Medicine Services was created under the Ministry of Health to further strengthen and promote the traditional medicine services in the country.

Historical Background

It is believed that at the beginning of time, the art of healing was a prerogative of the gods, and it was not until Kashiraja Dewadas an ancient Indian King, who went to heaven to learn medicine from them, that it could be offered to man as a means to fight suffering. He taught his progeny the principles and the practice of healing, and this knowledge was spread and perpetuated as an oral tradition until the lord Buddha appeared and gave specific written teachings on medicine. These were recorded in Sanskrit and became part of early Buddhist sacred writings.

When Guru Rimpoche first brought Buddhism into Tibet in the eighth century, some of these medicinal texts were translated into the Tibetan Language, and enlightened rulers of that country became interested in the subject. They started promoting the development of the art of healing, by organizing meetings on medicine to which they invited healers not only from the whole of Tibet and surrounding Himalayan countries, but also from China, India, and the Muslim world.



Guru Rimpoche

It is reported that during those conferences, all the different medical systems were examined and the best practices adopted and incorporated into the newly born *gSo-ba Rig-pa*, which was then handed down from one generation to the next.

The tradition of *gSo-ba Rig-pa* began at the time of great Tibetan doctors including Gyuthog "the Elder" in the eighth century, and one of his descendants, Gyuthog "the Younger," who lived in the eleventh century. The latter made a notable contribution in



gYuthog Yonten Gempo

spreading the celebrated *Gyu'shi* or "Four Medical Tantras" and its commentary, the *Vaidurya Ngonpo*.

Sources of *gSo-ba Rig-pa* Tradition

Though it took shape in Tibet, this medical tradition, which is still practiced in Bhutan, has always been characterized by the diversity of its origins. It is based on Indian and Chinese traditions and has also incorporated ancient medical practices connected with magic and religion. However, in essence, it is based on the great principles of Buddhism and provides a comprehensive way of understanding the universe, man, and his sicknesses.

These two great systems of thought inspired Bhutanese traditional medicine, but there were also local influences. In many ancient accounts, sickness is usually attributed to demonic causes. Local gods, demons and spirits of all kinds could be considered as responsible for certain illnesses. To obtain healing, it was necessary to practice particular rituals and only monks or magicians were in a position to do so. This medical practice thus involved much divination the means of diagnosing

and recognizing the spells causing the illness and exorcism as the way of treating the patient. And even though medical techniques in Tibet and Bhutan developed subsequently observation, experience, study and knowledge, popular beliefs had a definite influence in the way traditional medicine evolved.

Over and above these various influences, Buddhism itself is at the heart of Bhutanese medical traditions. Buddhism teaches that the existence of phenomena and suffering (sickness, old age and death) have a single origin that prevents man from reaching enlightenment, namely ignorance.

This is the origin of the three moral poisons: desire, hatred and delusion. In turn, these three moral poisons will produce the three pathogenic agents - air, bile and phlegm, which are the origin of sickness if they are imbalanced. With its overall conception of the universe and life, Buddhism is thus a way of linking medical theory to the same single source, in which sickness finds its natural place. Only knowledge, leading to Enlightenment, can free mankind from this painful existence.



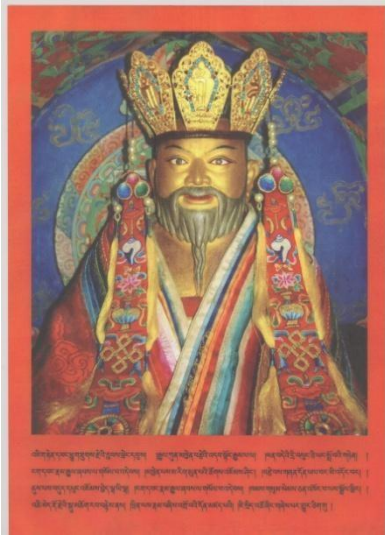
Medicine Buddha

It was only after reaching enlightenment and understanding of the ties binding man to this world and the means of freeing himself from them that Buddha could define the origin of pain, discover the way to eliminate it and teach an effective theory. It

is therefore not surprising that he became the most outstanding healer.

Through his own experience he discovered the art of healing old age, sickness and death. The divinity of medicine, Sangye Menlha, is represented in traditional iconography with a blue body. His right hand holds out the Terminalia Chebula (Aru), which is believed to cure all illnesses, as a gift. In his left hand is a bowl of ambrosia, the elixir of immortality.

***gSo-ba Rig-pa* in Bhutan and Physicians of this Century**



When Shabdrung Ngawang Namgyal came to Bhutan in 1616, his Minister of Religion, Tenzing Drukda, who was an esteemed physician, started the spread and teaching of *gSo-ba Rig-pa*. Although there were sporadic instances of Bhutanese being sent by their patrons to study this art in Tibet before then, it was only after 1616 that *gSo-ba Rig-pa* was established permanently in Bhutan. Since then, the

Bhutanese tradition of *gSo-ba Rig-pa* has developed independently of its Tibetan origins and although the basic texts used are the same, some differences in practice make it a tradition particular to the country.

The specific knowledge and experience gained by the Bhutanese over the centuries are still very much alive in this medical tradition. The natural environment, with its exceptionally rich

flora, also enabled the development of a pharmacopoeia which is very unique in the world.

The names of many Bhutanese traditional doctors of the past who excelled in their skills have remained alive in the memory of the people long after their death. Unfortunately, very little is known of the traditional doctors who practiced in Bhutan from the time of Shabdrung Ngawang Namgyal to the time of the Wangchuck dynasty. However, according to Druk Karpo by Lopon Nado, published in 1986 at Tharpaling Monastery Bumthang, the following names were mentioned as responsible for the development of *gSo-ba Rig-pa* in Bhutan during that period. They were: Lopon Tshering Samdrup, Ngawang Dhargyal, Chang Gyeltshen and Lopon Tshewang Namgyal

His Majesty Ugyen Wangchuck, the first King of this dynasty, had at his court a personal physician called Drungtsho Pemba, who was the descendant of a family of traditional doctors and whose father, Drungtsho Gyeltshen, was said to have been the personal physician to the first King's father, Jigme Namgyal.

Drungtsho Gyeltshen was born near Tongsa and was trained in Tibet in the famous Lhasa Medical School of Chagpori. Drungtsho Pemba's son, Drungtsho Penjore, who also studied at Chagpori, acquired the fame of being the best doctor in the family and was called to serve at the court of His Majesty Jigme Wangchuck, the second King of Bhutan. According to some accounts, Drungtsho Penjore, was very close to the second King and a very good archer. The above-mentioned physicians used to send raw materials to Tibet and received the prepared drugs from Chagpori. They apparently never manufactured the medicines.

Another Bhutanese physician at the court of the second King was Mahaguru, the former Gangtey Trulku's physician.

Mahaguru himself was from Gangtey Gompa and trained as a doctor there. He was a very saintly man as well as a good doctor, prepared his own medicines whenever he needed to prescribe them to his patients. On His Majesty's orders, he was provided with regular rations from Wangdi Phodrang Dzong. At the age of seventy eight he predicted and publicly announced the time and place of his death. His son stated that he died quietly and painlessly as predicted. People estimated that he died at the age of 100.

In the first half of the twentieth century, another famous physician was Dungshto Chimi Gyeltshen. He was born in Mongar and when he turned twenty, he went to Tibet to study medicine at Chagpori. After staying there for sixteen years, during which he rose to the highest rank for a traditional physician, he came back to Bhutan at the bidding of Ashi Kenchock Wangmo, the second King's younger sister, and settled near Kurtoe.

Druntscho Singye Namgyal from Bumthang Lamay Gonpa studied medicine from Druntsho Pema Namgyal in Tshurpu, western Tibet. He came back to Bhutan and practiced privately till 1981. After that he was appointed as Physician at Bumthang Hospital by the Health Department and served till Sep. 1993.



His Holiness the Je Khenpo at FoTM

National Policy

The National policy for Traditional Medicine is to preserve and promote the unique system of medicine that is based on rich culture and tradition, through capacity building and establishing an effective system within the framework of national healthcare delivery system.

Bhutan 2020: A Vision for Peace, Prosperity and Happiness states the importance of Traditional Medicine as follows. *“We must continue to provide a place for traditional medicine in our system of health care. Traditional medicine embodies knowledge that has been accumulated over centuries and which draws upon the nation’s rich bio-diversity and of plants with proven medical qualities. As these qualities become substantiated by scientific research, there is a growing need to integrate more effectively traditional medicine with the modern system of health care. The maintenance of traditional medicine not only adds dimensions to the nation’s system of health care, but provides an alternative for those who seek one. It should also be regarded as a conscious decision to conserve a part of our rich and varied cultural heritage”.*

The Section 21 under Article 9 of the Constitution of the Kingdom of Bhutan states that, *“the state shall endeavour to provide free access to basic public health care services both in modern and traditional medicines”*

Therefore, strengthening of traditional medicine and integrating it with modern health care system is considered as an important policy objective of the health sector.

National Traditional Medicine Hospital

The traditional medical service functions as an integral part of the national healthcare delivery system. It is available in all 20 districts and is housed under the same roof of district hospitals and basic health units for mutual consultation, treatment and cross referral of patients. The system is quite popular especially amongst the older population and treats about 2030% of the daily OPD patients in the district hospitals and basic health units. The national hospital in Thimphu treats about 200 – 250 patients per day in summer and about 150 to 200 patients in winter. For the benefit general public, the NTMH has also extended the service timing from 3 – 6 PM from Monday to Friday and 1 – 3 PM on Saturdays.



OPD Block

The National Traditional Medicine Hospital provides different therapies such as Acupressure with gold and silver needles, bloodletting, moxabustion, herbal bath, steam bath and application, nasal irrigation, massage with medicated oils etc. At the district TM units, only acupressure with gold and silver needle is provided. Few district TM units have also started providing steam therapy services

The traditional medicine is considered more effective for chronic diseases such as sinusitis, arthritis, asthma, rheumatism, liver problems, diseases related to digestive and nervous system etc. The reason why traditional medicine is particularly good for such chronic diseases is because of its holistic, rounded and profound approach in the treatment of patients.

The main objective of traditional medical services in future is to improve the quality of services through conducting operational research and case studies in relevant areas.



New Therapy Unit from back

No. of Patients treated in National TM Hospital:

| Year | New cases | Old cases | Total |
|-------------|------------------|------------------|--------------|
| 2011 | 50138 | 48685 | 98823 |
| 2012 | 67328 | 64966 | 132294 |
| 2013 | 66799 | 65470 | 132269 |

No. of Patients for different Therapies:

| Therapy | 2011 | 2012 | 2013 |
|---------------------------------------|-------|-------|-------|
| ཀྲ་སྤྱོད་ Blood letting | 126 | 244 | 393 |
| གཤམ་མེད་ Golden needle therapy | 14445 | 20212 | 18682 |
| ལྷོ་ལྷོ་ Silver needle therapy | 630 | 954 | 460 |
| བྱུ་མཚོ་ལྷོ་ Heated oil cauterization | 943 | 2396 | 5780 |
| སྤྲོ་སྤྲོ་ Localized steaming | 11280 | 14362 | 14759 |
| སྤྲོ་སྤྲོ་ Steam bath | 4136 | 4309 | 3806 |
| མཚོ་སྤྲོ་ Herbal bath | 3338 | 2316 | 2803 |
| ལྷོ་སྤྲོ་ Nasal irrigation | 990 | 753 | 861 |

TOP TEN DISEASES IN 2013 (NTMH)

| Ranking | Diseases | Total Patients |
|---------|--------------------------------------|----------------|
| 1 | ལྷོ་སྤྲོ་ (Peptic ulcer syndrome) | 5036 |
| 2 | མཚོ་སྤྲོ་ (Neurological disorders) | 3283 |
| 3 | བྱུ་མཚོ་ (Arthritis) | 3203 |
| 4 | མཚོ་སྤྲོ་ (Renal diseases) | 2956 |
| 5 | ལྷོ་སྤྲོ་ (Sinusitis) | 2872 |
| 6 | ལྷོ་སྤྲོ་ (Cardio vascular diseases) | 2584 |
| 7 | སྤྲོ་སྤྲོ་ (Malaise) | 2260 |
| 8 | ལྷོ་སྤྲོ་ (Headache) | 1644 |
| 9 | ལྷོ་སྤྲོ་ (Phelgm) | 1563 |
| 10 | ལྷོ་སྤྲོ་ (Skin diseases) | 1326 |

District Traditional Medicine Units

Currently, there are 51 Traditional Medicine Units in all 20 districts and there is a plan to establish traditional medicine units in all the basic health units as enshrined in the Constitution of the Kingdom of Bhutan. The district Traditional Medicine Unit is manned by 1 *Drungtsho*

(Traditional Physician) and 1 *Menpa* (Clinical Assistant). The Traditional Medicine Unit in the Basic Health Units is manned by 1 *Menpa*. For the benefit of rural communities, religious centres and secluded areas, an outreach services for traditional medicine is introduced in all districts where *Drungsthos* and *Menpas* visit these places on a monthly basis.

Establishment of Traditional Medicine Units:

| S.No. | Traditional Medicine Unit | Year of Establishment |
|-------|------------------------------------|-----------------------|
| 1. | Trashigang District Hospital | Nov 1979 |
| 2. | Trongsa District Hospital | Jul 1981 |
| 3. | Bumthang District Hospital | Mar 1982 |
| 4. | Haa Bali BHU Gr. I | Nov 1987 |
| 5. | Punakha District Hospital | Jan 1988 |
| 6. | Mongar Eastern Regional Hospital | Mar 1993 |
| 7. | Gaylephu Central Regional Hospital | Nov 1993 |
| 8. | Pema Gatsel District Hospital | Mar 1996 |
| 9. | Yebi Lapcha District Hospital | Mar 1996 |
| 10. | Samdrup Jhongkhar District Hospita | Apr 1996 |

| | | |
|-----|------------------------------------|----------|
| 11. | Paro District Hospital | Dec 1998 |
| 12. | Tashi Yangtse district hospital | May 1999 |
| 13. | Lhuntse District Hospital X | Oct 1999 |
| 14. | Dagana BHU Gr. I | Jul 2000 |
| 15. | Samtse District Hospital | Jul 2000 |
| 16. | Damphu District Hospital | Nov 2000 |
| 17. | Wangdue Bajo BHU Gr. I | Nov 2000 |
| 18. | Gasa BHU Gr. I | Nov 2001 |
| 19. | Tsimalakha District Hospital | Jan 2002 |
| 20. | Reserboo sub District Hospital | Nov 2004 |
| 21. | Phobjikha BHU Gr. II | Dec 2004 |
| 22. | Dorokha BHU Gr. II | Jun 2006 |
| 23. | Ura BHU Gr. II | Apr 2006 |
| 24. | Korphu BHU Gr. II | Apr 2006 |
| 25. | Daksa BHU Gr. II | May 2006 |
| 26. | Phuntsholing sub district hospital | Jul 2007 |
| 27. | Kanglung BHU Gr. II | Sep 2008 |
| 28. | Kengkhar BHU Gr. II | Sep 2008 |
| 29. | Drametse BHU Gr. II | Sep 2008 |
| 30. | Nganglam BHU Gr. I | Sep 2008 |
| 31. | Rangjung BHU Gr. I | Sep 2008 |
| 32. | Dagapela Hospital | Sep 2008 |
| 33. | Zhemgang BHU Gr. I | Sep 2008 |
| 34. | Panbang BHU Gr. II | Sep 2008 |
| 35. | Samdrupcholing BHU Gr. I | Sep 2008 |
| 36. | Lhamoizingkha BHU Gr. I | Sep 2008 |
| 37. | Jomotsangkha BHU Gr. I | Sep 2008 |
| 38. | Gedu Hospital | Feb 2010 |
| 39. | Langthel BHU Gr. II | Mar 2011 |

| | | |
|-----|----------------------|----------|
| 40. | Dungmin BHU Gr. II | Mar 2011 |
| 41. | Chumey BHU Gr. II | Mar 2011 |
| 42. | Goshing BHU Gr. II | Mar 2011 |
| 43. | Chukha BHU Gr. I | Mar 2011 |
| 44. | Tangmachu BHU Gr. II | Mar 2011 |
| 45. | Orong BHU Gr. II | Mar 2011 |
| 46. | Gidakom Hospital | Mar 2011 |
| 47. | Khamdang BHU Gr. II | 2012 |
| 48. | Martsala BHU Gr. II | 2012 |
| 49. | Gomdar BHU Gr. II | 2013 |
| 50. | Sarpang Hospital | 2014 |
| 51. | Gaselo BHU Gr. II | 2014 |
| | | |

Traditional medical practice

In the traditional medical system, the diseases are based on three elements of the body viz: Air, Bile and Phlegm commonly known as *rLung*, *mkhrispa* and *Badkan*. *rLung* (air) is responsible for respiration, movement of hollow organs such as intestine, lungs, heart, blood vessels etc. *Mkhrispa* (bile) stimulates appetite, helps in digestion and maintains body temperature. It also claims to confer bravery, wisdom, and desire or ambition. *Badkan* (phlegm) sustains body and produces sleep. It is responsible for movement of joints, muscles and confers patience. Its' aqueous element is associated with bodily fluids.



Pulse Reading

According to *gSo-ba Rig-pa*, disturbance or imbalance in any of these three elements leads to diseases and ill health. The diagnosis of the diseases is made through history taking, pulse reading and urine examination.

The patients are treated with medicines and different therapies such as golden and silver needle insertion, bloodletting, herbal steam application and bath, cupping, moxabustion, massage etc.

The National Traditional Medicine Hospital in Thimphu alone treats more than 40,000 patients annually and the figures are growing every year. So is the case with district TM Units. The Traditional medical system serves as complimentary to the modern medical services and is housed in the same hospital and BHU building. This allows cross referrals between the two systems and also offers a choice for the patients.



Philosophy of Traditional Medicine

Faculty of Traditional Medicine

The training programme for the *sMenpa* was started in 1971 at Dechencholing Dispensary as on-the-job training as per the Resolution No. 11 of the 32nd National Assembly held on 29th May 1970. In order to improve the quality of traditional medical services and to promote the study of *gSo-ba- Rig-pa.*, the fourth Druk Gyalpo, His Majesty King Jigme Singye Wangchuck commanded the Health Department to introduce training programme for the *Drungtsho*. Accordingly, the training programme for *Drungtsho* was started in 1978 with an appointment of Ladakh Amchi as the first Principal as per the

Royal command. The Indigenous Dispensary was upgraded to National Indigenous Hospital and shifted to the present site at Kawang Jangsa in 1979. The training centre was upgraded as the National Institute of Traditional Medicine (NITM) in 1992.

The NITM has become one of the federated colleges of the Royal University of Bhutan in 2008 and followed University programmes in relation to academic requirements.

In 2013, the National Institute of Traditional Medicine was delinked from the Royal University of Bhutan and became as a Faculty of Traditional Medicine (FoTM) under the newly established Khesar Gyalpo University of Medical Sciences of Bhutan (KGUMSB).

Venerable Thubten Lekpai Lodre

Popularly known as Ladakh Amchi, Venerable Thubten Lekpai Lodre was born to Phuensum of *Nyi-gye* lineage at Khunu in 1936. He began modern education at the age of six in the Khunu Secondary School vis-à-vis the study of Buddhist literature and grammar from Khunu Lama Tenzin

Jamtsho. At the age of fifteen he left for Tibet with a letter from the Khunu Lama to the Venerable

Khenrab Norbu, personal



physician to The Dalai Lama.

As per the prophecy of Khenrab Norbu, he underwent thorough training in *so-ba-rig-pa* and astrology for seven years under strict guidance of the same. He tirelessly approached myriad of renowned masters like Rahung Choedra and Khen Thubten and received countless teachings and hand to hand instructions, enabling him to master all the sciences in Buddhism. In 1964, he went to Sikkim escaping the hazardous

Cultural Revolution and later settled in Kalimpong. It was there that he learned Ayurveda and practiced both the system of medicine, integrating them in a harmonious manner.

On his voyage to the holy site of Taktsang monastery in 1970, he treated many Bhutanese patients successfully and the fame soon reached the royal court of His Majesty the fourth Druk Gyalpo, Jigme Singye Wangchuck, who wisely commanded him as the first principal of the newly established training centre at Dechencholing in 1978. As a principal and lecturer, he developed standard training curricula for the five year *drungtsho* program; revived the traditional methodology of *so-rig* teaching and learning; and established institutional norms.

Besides teaching and treating thousands of patients, he attended the royal court from time to time. He was an in-born writer and composed many texts including a treatise on pulse reading and urinalysis. In 1992, he became the *so-rig* advisor and finally attained nirvana in 1997 after two decades of invaluable service to the mankind and the doctrine of *so-barig-pa*. Today, his

students form the core structure in provision of traditional medicine services throughout the entire kingdom.

Although, human resource development for the traditional medical services at present is based on the actual service delivery needs of the Ministry of Health, it is expected to change in the future. The rapid socio-economic and political development of the country and the population growth and demographic changes will spur the need for more traditional medical practitioners in the country. There is also a growth in popularity worldwide for the alternative medicine and our kind of traditional medicine is one of the popular systems. Therefore, there is great scope to increase the intake of students to meet the growing demands. Similarly, the privatization and private practice policies of the Royal Government are likely to be changed in due course of time. All these changes will create more demand for quality traditional medical practitioners.

At present, the *gSo-ba Rig-pa* education is available only in Dzongkha and *Choekey* and it limits recruitment of overseas students. If we can develop international program of the *gSoba Rig-pa* in English, it will attract many foreign students and bring in much needed revenue to the country through tuition fees.



New Academic Block of FoTM



New Hostel Block

Academic Programmes:

Drungtsho Course.

The duration of training for Drungtsho is 5 years and 6 months after class 12 and they receive Bachelor's Degree in Traditional Medicine on successful completion of the training programme. The programme is validated by the Royal University of Bhutan and is also recognized by Bhutan Medical and Health Council. The current medium of instruction is in Dzongkha and Choekye. The number of student intake is based on the requirements of the Ministry of Health and the job is guaranteed after the

training, provided they get through the civil service entrance examination.

sMenpa Course

The sMenpa course is 3 years after class 12 and they receive a Diploma in Traditional Medicine after the training. The number of student intake is based on the requirements of the Health Ministry and the job is guaranteed after the training. This program is also recognized by the Bhutan Medical and Health Council. The medium of instruction is in Dzongkha and Choekye.

Pharmacy Technicians

Pharmacy Technicians course is for 2 years after class 10 and is conducted in coordination with Pharmaceutical and Research Unit as on the job training. The medium of instruction is English and the Ministry of Health employs all of them after the training.

Research Technicians

It is a 2 years certificate programme after class 10 passed and is conducted as and when required. The training mechanism is same as Pharmacy Technicians.

Summary of current training programmes:

| Category | Entry Qualification | Training duration | Award |
|---------------------|----------------------------|--------------------------|--------------|
| Drungtsho | Class 12 passed | 5 years | Degree |
| sMenpa | Class 12 passed | 3years | Diploma |
| Pharmacy Technician | Class 10 passed | 2years | Certificate |
| Research Technician | Class 10 passed | 2years | Certificate |

Note: The current academic year is from July to June

In addition to the above training programmes, the NITM is also responsible for organizing and conducting in-service training programmes for the traditional medical practitioners in order to improve the quality of traditional medical services. There is a plan to introduce up-gradation programme and master degree programme in traditional medicine.



A debate session

Menjong Sorig Pharmaceutical (MSP)

It was established in 1998 as Pharmaceutical and Research Unit (PRU) with support from the European Union under the Institute of Traditional Medicine Services. Till 2011, it was known as Pharmaceutical and Research Unit (PRU). All TM products are produced mechanically following Good Manufacturing Practice (GMP) with more emphasis on Quality Control. Unlike modern drugs, traditional medicine in Bhutan is purely an indigenous product as its source, processing know-how, and the human

resource capacity are all available in the country. The preparations are purely natural and no chemicals are used.



Menjong Sorig Pharmaceutical Complex

As Traditional medicines are an integral part of the national healthcare system, timely supply of effective traditional medicine in sufficient quantity plays a crucial role in the delivery of quality health services.

According to gSo-ba Rig-pa, more than 2990 different types of raw materials are used in traditional medicine. However, only about 300 different types of raw materials are used to produce 102 compounds of which 98 products constitute the essential list of traditional medicines. About 85% of raw materials are available within the country and remaining 15% are imported from India. The raw materials are classified into:

sNgo-sMen – High altitude medicinal plants

Throg-sMen – Low altitude medicinal plants

Sa-sMen – Mineral origin

Sog-cha-sMen – Animal origin

Currently, medicines are manufactured in the form of pills, tablets, capsules, syrups, ointment, medicated oil and powder. Although there is an abundance of wild medicinal plants available at present, it is difficult to collect them as they are mostly grown in remote and dangerous locations.

Traditional Medicine production in 2013

| Sl.No. | Dosage | Compounds | Qty.kg |
|---------------|-----------------|------------------|-----------------|
| 1 | Pills | 22 | 3956.65 |
| 2 | Tablets | 18 | 2751.30 |
| 3 | Capsules | 12 | 1559.42 |
| 4 | Powder | 5 | 371 |
| 5 | Drop | - | - |
| 6 | Medicated oil | 1 | 253.98 |
| 7 | Herbal mixture | 1 | 1412 |
| 8 | Syrub | 1 | 153.30 |
| 9 | Hot compression | - | - |
| | Total | | 10457.72 |

Sustainable Production of Traditional Medicine

To sustain the production of Traditional Medicine, Lingshi under Thimphu and Langthel under Trongsa were selected as collection sites for high altitude and low altitude medicinal plants respectively. Perhaps, medicinal plant collection may be one of the first economical activities initiated and sustained in this highland of Lingshi.

While other highlands like Gasa, Ha and Bumthang are being explored to introduce as alternative collection sites, Lingshi has been the collection centre for high altitude medicinal plants since 1967. Medicinal plants are collected by the local community and sold to PRU either at the drying centres or at the unit.



Dr. Jigmi Singay, Health Minister and his team in Lingshi checking the medicinal plants collection sites



Delphinium Brunonianum (Jagoe Poe) - a plant substitute for deer musk

As sustainability is essential in the long run, Community Based Sustainable Management of Medicinal Plants has been established and farmers are being educated in the sustainable collection and cultivation. The intention is to promote and encourage farmers to grow medicinal herbs as cash crops like fruits and vegetables. Some species of medicinal plants are already introduced for cultivation in collaboration with the Medicinal and Aromatic Plants division of Ministry of Agriculture.

During the second phase of the EC project, further focuses on the technical and organizational methodologies development for sustainable conservation, collection and /or domestication of a range of high altitude medicinal plants as well as on the development of medicinal plants industry at all levels including sustainable collection and /or production and marketing of herbal products were carried out. This would enable PRU to function as a self-sustaining commercial entity in the future. To

render the unit financially self reliant, marketing has been instituted and there are dozen products being sold at the local market in addition to the production of traditional medicines. In addition, export opportunities are being explored for future prospects of the Unit.



Veronica cephaloides (Dumna Domthri) - a plant substitute for Bear Bile

With farsighted vision of our Monarchs, we manage to keep our environment intact. If we are to reap rich dividend from our rich heritage, we need to take cautious developmental strides. Traditional Medicine and natural resource based research presents a great potential. However, building leadership in research and drug development is a resource and knowledge intensive activity and must accord top priority and capacity building given its due importance. We hope to initiate some product development activities and the MSU has already

identified few product groups that it intends to carry out for mass production.

Research & Quality Control section

This section is responsible for assuring quality and assessing the efficacy and safety of the traditional medicines produced. Research efforts are focused on authentication of species, building quality parameters both for raw materials and finished products and standardization of the production processes. The main objectives of the Research and Quality Control section are:

1. To scientifically validate the efficacy and safety of traditional medicines
2. To ensure and enhance the quality and stability of traditional medicines
3. To explore the opportunities for new products using natural resources to combat existing and emerging health problems.
4. To improve production methodologies

For any drug research, the core component is the pre-clinical and clinical studies. Such studies will tell us quantitatively how effective our formulations are. It will also help us to explain the probable mechanism of action. Without acquiring proper pre-clinical data with accepted protocols, we cannot move on to clinical phase of studies and without clinical data, population willing to accept our formulation will dwindle with time. Therefore it is important to focus on research.

Main activities of Research and Quality Control section

1. Building Quality Control test parameters and standards for starting material and finished products.
2. Carrying out routine quality control tests on starting materials and finished products.
3. Building monographs on each medicinal plant used in the production of traditional medicine.

4. Drug efficacy and stability trails.
5. Survey and documentation of medicinal plants, including herbarium specimen collection.
6. Survey of medicinal and hot springs in the country and identification of their medicinal values.
7. Establishing therapeutic value indices of medicinal plants.
8. New product development trials.

Under Research and Quality control section there are several sub-sections each one with their own specializations and functions.

The **Quality control** section is responsible for assuring quality of the medicine by implementing the set quality parameters independent of Production. Besides this routine quality checks, QC section monitors the stability of traditional medicine on the shelf-life, co-ordinates product recalls in case of adverse drug reactions. It is also responsible for the validation and monitoring of standard manufacturing instruction which is part of GMP.

Pharmacognosy section studies the cells and tissues of the raw materials that needs authentication and standardization, and authenticated raw materials for monograph building. The section in co-ordination with ethno-botany, also studies the species variation at the cellular level and through physiochemical studies.

The **pharmacology** section is responsible for the scientific validation of traditional drug efficacy by developing appropriate disease models for in vitro, in vivo and clinical studies.



Conducting Pharmacognostical studies for authentication of medicinal herbs

The present activities of this section include screening of traditional drugs and medicinal plants of Bhutan for any antimicrobial activities by developing bioassays for anti-microbial screening, adverse drug reactions, evaluation and research of clinical information on disease pattern, drug consumption etc. This section is also involved in the documentation of various traditional therapies including Tsachus (hot springs) and sMenchus (medicinal water). The section also carries out basic operational research from time to time in coordination with other sections when new products are developed and released for trial.

In future we would like to initiate and institute *in vivo* bioassays for drug screening as well as toxicity studies. We also like to develop cellular and molecular techniques for screening traditional drugs, medicinal plants and other chemicals for useful therapeutic properties.

Phytochemistry section screens the potential plant materials through chemical extractions. The major task of this section is the extraction and identification of main chemical constituents present in different extracts. The extracts are then preserved for authentication/standardization and quality control purposes. The extracts with potential are provided to different sections for further research. This section also sets the quality parameters to be adopted by the quality control section by running through different instruments and method validation. The other activity of this section includes development and validation of pre-processing/detoxification methods.

Ethno-botany section is responsible for the research on ethnic uses of medicinal plants, authentication of plants through botanical studies, and standardizing as per traditional texts. This section is also responsible for developing and maintaining medicinal plant herbarium in the unit. In addition this section carries out survey on species diversity, distribution and population robustness of medicinal plants that are being used in the manufacture of traditional medicine as well as those plants, which are proven to be of medicinal value.

Marketing Section

Marketing activities were initiated since 1998 onwards. Since then eight products were introduced for commercial sale in the local market. Tsheringma herbal tea and Tsheringma incense powder are two of the popular products at the moment. There are also few new products in the process of development. Besides marketing our products, the regional markets of SAARC countries will be explored for sourcing the low altitude medicinal plants and other ingredients to have a competitive raw material sourcing strategy. SAARC region is a vast source of medicinal plants and herbal products. Opportunities for two way trade relation in both raw herbs as well as finished herbal products exist to be explored.

It is anticipated that the MSU would become a self-sustaining, and a dynamic profit centre of the Royal Government with operational autonomy, producing and supplying traditional medicines and herbal products of international quality standards (Cost effective, safe, and of high therapeutic value).

A marketing strategy and a plan to market products both in the domestic and international markets will be developed based on the capacity of the Unit. The market studies will also be conducted within the region and in international markets.



Some of the products of MSP

Marketing of the commercial products in 2013

| S.No. | Product name | Unit sales | Rate | Value (Nu) |
|-------|------------------------|--------------|------|----------------|
| 1 | Goose berry tea | 19 boxes | 120 | 2280 |
| 2 | Safflower tea | 130 boxes | 96 | 12480 |
| 3 | Cordy Plus | 1044 bottles | 3492 | 3645648 |
| 4 | Cordy Active | 711 bottles | 3518 | 2501298 |
| 5 | Calming incense sticks | 831 rolls | 150 | 124650 |
| 6 | Protecting incense | 3 rolls | 150 | 450 |
| 7 | Dre-sum phema | 1 kg | 708 | 708 |
| 8 | Klu-men Rilbu | 40 bottles | 1950 | 78080 |
| 9 | Mind Soother | 126 tubes | 145 | 18270 |
| 10 | Mendrup | 223 Kg | 1022 | 227906 |
| 11 | Rinchen Na gna | 117 pkts | 926 | 108342 |
| 12 | Rinchen Na den | 43 pkts | 2345 | 100835 |
| 13 | Men sang | 114 Pkts | 108 | 12312 |
| 14 | Tarbu Juice | 608botles | 150 | 19200 |
| 15 | Yung-ba-capsule | 422botles | 347 | 153347 |
| 16 | Yung ba powder | 24 pkts | 110 | 2640 |
| | Total | | | 7080473 |

Revolving Fund

The Revolving Fund under the Institute of Traditional Medicine Services is a very important and critical source of money for the PRU in producing the traditional medicines required for healthcare services to the people. Its significant contributions are often un-noticed and un-known within the MoH in particular and within the government in general. Through the Fund, we are

able to procure all the raw material needs for traditional medicine productions.

The Revolving Fund was established in 1996 to procure medicinal ingredients & raw materials for TM production and to gradually transform PRU into a financially-self-sustainable entity. Over the years, the objectives and scope of the Fund have been widened and they have evolved with the changing times through successive management board meetings of the Fund.

The initial mandates of the Revolving Fund were to:

1. Pay for all the raw material purchases required for the production of traditional medicines
2. Accept any sales proceed whether domestic or export as income of the Unit

The current areas of fund utilization are:

1. Purchase of medicinal raw materials (medicinal plants, minerals, animal parts and precious substances)
2. Purchase of consumables for production (containers, packaging materials, labels, gunny bags)
3. Research & Development (small-scale research & publications, product development,)
4. HRD (short term trainings as per approval of the Board)
5. Product promotion and publicity (advertisements, product launch)
6. Short and medium term investments (Staff loan, Fixed deposit, shares)
7. Other related expenses- as and when approved by the Board (such as daily wages, refreshment and other expenses for conducting Board meetings)

Revolving Fund Status:

| Fiscal Year | Opening Balance | Receipt | Expenditure |
|--------------------|------------------------|----------------|--------------------|
| 2010 | 11359765.28 | 14276517.29 | 12878124.00 |
| 2011 | 10948620.51 | 13534756.89 | 15141423.76 |
| 2012 | 9309750.68 | 15087982.11 | 17989100.36 |
| 2013 | 5397720.43 | 13130185.47 | 21051819.78 |

The Revolving Fund is managed by a board and at least 2 board meetings are held in a year. The current management board members are comprised of 3 officials from the MoH and 3 from within DTMS

Conclusion

The traditional medicine system in this country has come a long way since its inception in 1967 due to strong political commitment of the Royal Government of Bhutan. It is one of the most sustainable methods for the health care delivery system, as all traditional medicines are manufactured in Bhutan, and the human resources are developed within the country.

The Traditional Medicine Services in Bhutan is fully integrated with modern health care delivery system and is available in all

20 district hospitals. There is a plan to establish Traditional Medicine Units in all Basic Health Units in the country. This change of Government policy would require heavy investment in the traditional medicine services for the development of human resources and for the production of traditional medicines. The production capacity of the Menjhong Sorig Pharmaceutical needs to be upgraded in terms of raw material collections, production machines and materials and space to meet the growing demand of Traditional Medicines.

Further there is a need to build adequate infrastructures for all three units of Traditional Medicine Services in order to fulfill its mission for the development of human resources for traditional medical services, production of traditional medicines and for the provision of quality traditional medical services. The major challenges for traditional medicine services are to mobilize adequate resources for the infrastructure development and for introducing post graduate programmes in Traditional Medicine.

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Annexure:

A. List of Publications on Traditional Medicine

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His Majesty the King inspecting some of the publications



His Majesty the King inspecting the herbs on display at the
Museum



FoTM Library

B. IMPORTANT MILESTONES FOR TRADITIONAL MEDICINE SERVICES IN BHUTAN:

1967 - His Majesty Jigme Dorji Wangchuck, the Third King of Bhutan commanded the Health Department to introduce Traditional Medicine Services in the country.

1968 - Established an Indigenous Dispensary at Dechencholing, Thimphu.

1971 - Started on-the-job Training Programme for sMenpa as per the 32nd National Assembly Resolution, Article Number 11 at the Indigenous Dispensary.

1978 - Started Drungtsho Training Programme as per the Royal Command of His Majesty Jigme Singye Wangchuck, the Fourth King of Bhutan.

1979 - Indigenous Dispensary was upgraded as the Indigenous Hospital and shifted to the Present site in Kawang Jangsa from Dechencholing.

- First Traditional Medicine Unit was established in Trashigang District.

1982 - Started mechanized production of Traditional Medicines with support from the World Health Organization (WHO).

1988 - Indigenous Hospital was upgraded as the National Institute of Traditional Medicine with support from an Italian NGO (DISVI).

1992 - The Training Centre was shifted from Dechencholing to Kawang Jangsa.

- 1996 - Instituted Revolving Fund for Pharmaceutical and Research Unit to ensure sustainability of traditional medicine production.*
- 1997 - Established Pharmaceutical and Research Unit with support from European Union.*
- 1998 - National Institute of Traditional Medicine was upgraded as the Institute of Traditional Medicine Services with the following Functional units:*
- National Institute of Traditional Medicine*
 - National Traditional Medicine Hospital*
 - Pharmaceutical and Research Unit*

 - Created the post of Director for Traditional Medicine Services.*
- 2001 - Completed the establishment of Traditional Medicine Unit in all 20 Districts.*
- 2003 - National Institute of Traditional Medicine became one of the Founding Members of the Royal University of Bhutan.*
- 2008 - National Institute of Traditional Medicine formally became part of the Royal University of Bhutan after signing the Memorandum of Understanding between the Ministry of Health and the Royal University of Bhutan.*
- 2011 - Royal University of Bhutan is delinked from the Royal Civil Service Commission and became as an Autonomous Organization through an Executive Order of the Prime Minister of Bhutan.*
- 2013 - National Institute of Traditional Medicine is delinked from the Royal University of Bhutan and became part of the newly established University of Medical*

Sciences of Bhutan as Faculty of Traditional Medicine.

- Created the Department of Traditional Medicine Services under the Ministry of Health.

2015 - Launching of the Khesar Gyalpo University of Medical Sciences of Bhutan by Her Majesty Gyaltsun, the Queen of Bhutan



**Her Majesty the Gyaltsun and Ministers with staff of
KGUMSB, FoTM and FoNPH**



Faculty of Traditional Medicine Complex



Faculty Building from backside