

Country Presentation on Traditional Medicine System in Bhutan

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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 characterised by a certain amount of traditional features like traditional medicine.

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.

Development of Traditional Medical Services

In November 1967, the third Druk Gyalpo, His Majesty King Jigme Dorji Wangchuk 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 Jorden, 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. By the end of 8th five year plan (2001) traditional medicine units have been established in all 20 districts. They are attached to district hospitals in view of the national health policy of integration.

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) in 1998 and the post of Director was created. There are three functional units under the ITMS as follows:

1. National Traditional Medicine Hospital is responsible for the development and provision of quality traditional medical care including different therapies. It is headed by the Superintendent and there are 8 Drungtshos working in this hospital.

2. National Institute of Traditional Medicine is headed by the Principal and is responsible for development of human resources required for the traditional medicine services. Five Drungtshos are working in the Institute as lecturers.

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 marketing of the products. The unit is headed by a Pharmacist.

The main aims and objectives of ITMS are to:

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

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 health care 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”.*

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 hospital for mutual consultation, treatment and cross referrals. The system is quite popular especially amongst the older population and treats about 20-30% of the daily OPD patients in the district hospitals. The national hospital in Thimphu treats about 200 – 250 patients per day in summer and about 150 to 200 patients in winter.

The National Traditional Medicine Hospital provides different therapies such as Acupressure with gold and silver needles, blood letting, 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.

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.

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

District Traditional Medicine Units

Currently, there are Traditional Medicine Units in all 20 districts attached to the district hospital in view of the Government policy of integration. The district Traditional Medicine Unit is manned by 1 Drungtsho (Traditional Physician) and 1 Menpa (Clinical Assistant). There is plan to establish Traditional Medicine Unit in all Basic Health Units in the country. For the benefit of rural communities, religious centres and secluded areas, an out reach services for traditional medicine is introduced in all districts where Drungsthos and Menpas visit these places on a monthly basis.

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, Thrip and Badkan. rLung (air) is responsible for respiration, movement of hollow organs such as intestine, lungs, heart, blood vessels etc. Thrip (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.

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, blood letting, herbal steam application and bath, cupping, moxabustion, massage etc.

The National Traditional Medicine Hospital in Thimphu alone treats more than 30,000 patients annually and the figures are growing every year. So is the case with district Indigenous Units. The Traditional medical system serves as complimentary to the modern medical services and is housed in the same hospital building. This allows cross referrals between the two systems and also offers a choice for the patients.

National Institute 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 to introduce training programme for the Drungtsho. Accordingly, the training programme for Drungtsho was started in 1978 with an appointment of Ladakh Amchi as 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.

Since its inception in 1971, the Institute has trained 36 Drungtshos, 43 sMenpas, 12 Pharmacy Assistants and 11 Research Assistants. The Institute will continue to train Drungtshos and sMenpas as required by the Ministry of Health. The Institute will also train Pharmacy Technicians and Research Technicians in collaboration with the Pharmaceutical and Research Unit as and when required. The focus during the next five years is to improve the quality of training programs through appropriate faculty development and procurement of required teaching learning materials. The Institute will also plan and implement in-service training programs for the qualified Drungtshos and sMenpas to improve the quality of services. The NITM has become a federated college of the Royal University of Bhutan in and follows University programmes in relation to academic requirements.

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 world wide for the alternative medicine and our kind of traditional medicine is one of the popular system. Therefore, there is great scope to increase the intake of students to meet the growing demands.

The current policy of establishing traditional unit up to the Dzongkhag level is being reviewed and there is a plan to introduce traditional medicine unit in all the Basic Health Units in the country. 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.

Pharmaceutical and Research Unit

In the past all medicines were produced manually. Small scale mechanized production

started only in 1982 with support from World Health Organization. From 1998 onwards, the manufacturing Unit was upgraded to the Pharmaceutical and Research Unit (PRU) through EC funding and now all 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. Our preparations are purely natural and no chemicals are used.

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 services. With the commissioning of the Pharmaceutical and Research Unit, shortage of traditional medicines has been significantly reduced.

The Pharmaceutical and Research Unit has three main sections:-Production, Research and Quality Control and Marketing.

Production section

This section is responsible for the collection of raw materials and manufacturing of traditional medicines based on the traditional formula using latest production technology. The medicines are manufactured based on Good Manufacturing Practices (GMP) guidelines and Standard Manufacturing Instruction (SMI).

According to gSo-ba Rig-pa, more than 2990 different types of raw materials are used in traditional medicine. However, at present about 265 different types of raw materials are used to produce 108 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:

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| sNgo-sMen | – High altitude medicinal plants |
| Throg-sMen | – Low altitude medicinal plants |
| Sa-sMen | – Mineral origin |
| Sog-cha-sMen | – Animal origin |

The section currently produces approximately 5 metric tons of traditional medicines and meets the requirement of district Traditional Medicine Units and the National Traditional Medicine Hospital in Thimphu. In addition, it also produces a dozen of herbal products for the local market. For better patient compliance and management, dosage forms are standardized. 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 mostly grow in remote and dangerous locations. Today one of the challenges we face is the lack of proper drying system and hence retention of quality of herbs after harvest. The problem is complicated by the fact that the collection time coincides with peak monsoon season, when the humidity is highest and the sunshine is a rare experience. This contributes to wastage of herbs on one hand and deterioration of quality on the other.

To facilitate the drying, a mini hydro power plant was set up at Lingshi but the capacity of

only 10 kilowatt energy generated is inadequate. This impacts the supply of both quality and quantity of traditional medicines around the country.

Research & Quality Control section

This section is responsible for assuring quality and assessing the efficacy and safety of the traditional medicine 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 medicine
2. To ensure and enhance the quality and stability of traditional medicine
3. To explore the opportunities for new products using natural resources to combat existing and emerging health problems.
4. To improve production methodologies

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.

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 PRU 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). With the assistance from EC under project phase II, marketing activities are expected to pick up. 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.

Revolving Fund

The Pharmaceutical and Research Unit has instituted a Revolving Fund in 1996 to ensure sustainability in the production of Traditional Medicines. The Royal Government of Bhutan and the European Commission contributed the seed money. The initial mandates of the Revolving Fund were to:

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

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 future challenges are to develop appropriate infrastructure for all 3 Units under the ITMS and to improve the quality of services through research and development programmes. There is also a need to develop Master Degree Programme in Traditional Medicine within the country with the help of experts from outside under the auspices of the Royal University of Bhutan and the Ministry of Health.

References:

1. Asian Medicine: **Tradition and Modernity** – The Journal of the International Association for the Study of Traditional Asian Medicine, Vol. 1, No. 1 (2005), The Netherlands
2. Men-Tsee-Khang (2001) **Fundamentals of Tibetan Medicine**, Dharamsala, HP, India
3. RGOB (2003) **Vision and Strategy for the Nature Conservation**, Ministry of Agriculture, Thimphu
4. RGOB (2002) **Ninth Fiver Year Plan document for the Health Sector**, MOH, Thimphu
5. RGOB (2000) **Bhutan National Human Development Report**, Planning Commission, Thimphu
6. RGOB (1999) **Bhutan 2020: A vision for Peace, Prosperity and Happiness**, Planning Commission, Thimphu
7. RGOB (2005) **An Introduction to Traditional Medicine in Bhutan**, ITMS, Thimphu
8. Tashi Delek (Druk Air's In-flight Magazine, May-June 1998)—**The Art of Healing** by Robert Dompnier
9. Ven. Rechung Rinpoche (2001) **Tibetan Medicine**, Sri Satguru Publications, New Delhi, India
10. WHO (2005) **Global Atlas of Traditional, Complimentary and Alternative Medicine**, Centre for Health Development, Kobe, Japan
11. WHO (2005) **Review of Traditional Medicine in the South-East Asia Region**, WHO SEARO, New Delhi

