# Status of Medical Plants and Indigenous Traditional Medicine in China: Financial Prospects and Challenges

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#### **Abstract:**

The article discusses the current status of medicinal plants and indigenous medicine in China. Studies have shown that traditional medical knowledge can contribute to the development of medicine and the control of human health. The demand for herbal products is rapidly increasing worldwide and almost 90 percent of medicinal plants are now collected from nature. Overexploitation and destructive harvesting practice directly or indirectly affect medicinal plant species, particularly those that are long-lived, slow-maturing and have high economic value. China has the highest number of medical planta followed by India, and United States. It has 18.9 percent of medicinal plants. Medicinal plants are plants that have important elements for human health and are used in the treatment or prevention of diseases. Medicinal herbs have many financial advantages. Medicinal vegetation may be a vital supply of profits for rural communities, specifically landless farmers. Cultivating such plants can create employment and diversify profits. business cultivation of medicinal plant life can help maintain animal habitats. Growing medicinal plant life can improve the environment. Cultivation of medicinal plants can guide the improvement of economic and urban eco-tourism. Medicinal flora is broadly utilized in industries, together with medication, cosmetics, perfumes, toothpaste, cleaning soap, beverages and food. Therefore, government should implement proper policies for conservation and uses of medical plants in China.

## **Introduction:**

Since ancient times, people have developed a relationship with plants. Information on medicinal plants, food, fiber, building materials, cosmetics, dyes, agricultural chemicals, oils, rituals and ceremonies is being developed and improved on the interaction between people and plants (Feng, 2018). Knowledge about medicinal plants, plays an irreplaceable role in human life. Medicinal plants are plants that have been used in traditional medicine since prehistoric times. They produce compounds that help protect against bacteria, insects, fungi and predators (Hartzell, 2009). Medicinal plants are important for human health, the economy and global biodiversity. Such plants have been used since ancient times to treat and prevent disease. They form the basis of bioactive compounds used in modern medicine (France, 2019). In developing countries, traditional medicine is often the only treatment method and is usually less expensive than conventional medicine. Medicinal plants are a supply of income for thousands and thousands of humans. Such plants are crucial for the biodiversity. They are endangered by overharvesting, agricultural extension and deforestation (Burke & Wong, 2003).

Medicinal plant life are non-chemical substances containing bioactive substances and bacteria which can be beneficial in contemporary remedy, agriculture and the pharmaceutical enterprise. Medicinal plants will make contributions to maternal and child health, together with primary medicine, and nutrients, sicknesses and accidents, endemic diseases, lung and oral health (Jia & Zhang, 2005). In preferred, medicinal vegetation are organised in step with the energetic substances in the organs of the plant, in particular the basis, leaf, flower, seed and different parts of the plant. Herbs are divided into four categories: herbs, culinary herbs, aromatics and fragrances. conventional restoration systems around the sector have a long record of stopping and treating diseases whilst improving the health of groups (Chen, 2019).

Herbs are not only used within the instruction of dishes, but it has also medicinal blessings. They are used to treat and prevent sicknesses inclusive of coronary heart sickness, cancer and diabetes. Some natural medicinal products need to be specifically organised for the subsequent functions (Garg & Berning, 2020). Purity of the herbs used to reduce death incidences. It is far recognised to bolster the immune device, reduce infection, support the digestive device and even help reduce pressure. They play an important position in our common fitness due to the fact they incorporate enough vitamins, nutrients, and minerals to make them a part of our food plan (Hathaway, 2016). Herbs are taken into consideration a treasure trove of many varieties of bioactive compounds with exceptional houses. There are many tablets related to herbs, inclusive of antibiotics, antibiotics, antibiotics, antibiotics, and antibiotics, Herbs can assist treat many situations and in some cases have fewer aspect outcomes than some conventional medicines. Herbs can assist heal and guard people from many illnesses (Cheng et. al., 2022)

#### **Review of Literature**

Burke and Wong (2003) concluded that effective, low-cost medicines will become more important. China's medical services are facing increasing competition from modern medicine. Western hospitals, clinics, and pharmacies, as well as uninsured patients who require higher out-of-pocket expenses and feel the impact of policies that subsidize medicines and services. Jia and Zhang (2005) believe that Western medicine can reduce symptoms of disease, especially in severe cases. However, in some complex diseases, especially chronic diseases, some methods may be ineffective, have side effects, or are too expensive. It is discussed in Okigbo et al. (2008) in their report on the conservation of aromatic and medicinal plants in Africa. This plant is part of the African biodiversity. Medicinal plants have had a long-standing impact on health, culture and income, especially among the rural poor. A large part of human

needs for medicinal plants, including wild plants, can be met from nature. This situation leads to loss of habitat and diversity.

Hartzell (2009) argued that intelligence provides some tools that can be used to analyze the complexity of the medical process and facilitate dialogue between modern and contemporary medical professionals. Shengji et al. (2009) found in their report that the use of herbal medicine has a long history in China. Plants have been the source of medicine for the health of the Chinese people since ancient times. Nowadays, medicinal plants are widely used in various medical treatments such as Chinese medicine and Tibetan medicine in my country, as medicine and health food, and as natural products in industrial production in the international market. Wangchuk (2010) in his article shows the possibility of growing medicinal plants in Bhutan. He added that biological risk, environmental risk, social risk and financial risk are associated with the cultivation of medicinal plants. The article also discusses the current policies, procedures and plans to ensure sustainable energy use and finally announces future directions. Wangchuk and Tobgay (2015) in their report evaluated the contribution of medicinal plants to the overall national health and biological research in Bhutan. According to the national and international recognition of all National Happiness development policy research, medicinal plants play an important role.

Wangchuck et al. (2016) report that 16 out of 100 medicinal plants in the Dagara region have the potential to be profitable for MSPs and the Dagara community. Another plant collection site could be established in Dagalog Voga. Hathaway (2016) explores how global environmental organizations fail to adhere to national contexts and national policies that reject these contexts. In the 1990s, Beijing claimed to be a supporter of indigenous rights elsewhere. Feng (2018) concluded that malaria elimination in China is a state-led, state-led effort. The country's own efforts are based on the country's clear strategy, support from two systems, information and response-based analysis, and laboratory information. Jamba and Kumar (2018) found that Tshothang Chiwoge contains plant species of ethnobotanical and cultural importance. Broadleaf mixed forests are the main forest type in the region, with a large number of tree species, species richness, and regeneration potential.

Zhu, J. (2023) discusses how the demand for herbal products leads to instability in plants that pose a threat to wildlife. However, little is known about local harvesters' preferences for key TCM products and how these resources relate to sustainable use and management. Lee et al. (2023) found in their paper that Umbelliferon plants are widely used in Chinese medicine and have the effect of removing dampness, relieving external symptoms, and dispelling cold. Modern biotechnology has been used to cultivate many new species. Liu et al. (2023) discussed

the modern-day use and traditional expertise of medicinal herbs in Sandu County, China. They also analysed the types of medicinal herbs used and the styles of diseases handled through the medicine. Liu (2023) reported that medicinal herbs also represent other medicinal products in daily use, and conducted further research on their medicinal properties and safety. Overall, this study provides insight into the indigenous knowledge of the Gelao people and the potential of Aboriginal medicine in modern medicine.

Therefore, the above review of studies shows that most publications discuss the current status and development of medicinal plants in Bhutan and the Himalayas. A few authors discuss the economic future of medicinal plants in China. Therefore, we have chosen this topic for discussion.

# **Objectives**

The objectives of the paper are: (a) to study the current status of medical plants in China, and (b) to examine the economic perspectives and challenges of medical plants in China.

# The Study Area

China is the largest country in east Asia having 9,596,961 km² land and 1.4 billion populations. China is a vast and diverse country. Beijing is the capital of China. Shanghai, Tianjin, Shenzhen and Guangzhou are the other larger cities. 2024 estimate, the nominal GDP of the country is \$18.273 trillion and per capita income is \$12,969. Renminbi, which is also called as Chinese yuan is the official currency of China. There are nearly 292 living languages in the country. The country has five autonomous regions and 23 provinces. Inner Mongolia, Guangxi, Tibet. Ningxia Hui, and Xinjiang are the five autonomous regions. China is a one-party state and run by Chinese Communist Party.

## **Methods and Materials**

This study is descriptive in design and has utilized quantitative approach. Secondary data for the study has been collected from the government reports, websites, and research papers. To reveal the medical plants in general and economic perspectives in particular, descriptive analysis, content text analysis, and tabulation methods have been performed.

## **Results and Discussion**

China is a country with a long history, rich biodiversity and diverse people. There are about 11,000 medicinal products in China. Chinese medicine has been used in China for more than 2,000 years and has always been based on the principles and principles of improving yin and yang (body balance). As an important part of the pharmaceutical industry, the Chinese pharmaceutical industry has developed rapidly in recent years (Long and Zhou, 2001). The

northwest of China is an arid and semiarid region. Important medicinal plants such as angelica, wolfberry, licorice, rhubarb, dangshen, and astragalus are found and cultivated in the region. Information on medicinal plants should be promptly recorded and stored. Chinese medicine has a history of thousands of years, with minor changes over the centuries (Klett and Arnulf, 2020). The ancient Chinese believed that humans were microcosms of the larger world around them, interacting with and being affected by nature. The balance between health and disease is a central theme. Traditional Chinese medicine aims to restore this balance through self-healing. It is believed that in order to restore balance, balance must be achieved between internal and external elements such as earth, fire, water, wood, and metal (Wanga et al., 2020).

Medical knowledge is always the result of the transition to the living space. Traditional medicinal plants have inevitably been affected by the modernisation process at many levels. It is necessary to record, classify, research and obtain the content of medicinal plants. The Dulong people are considered to be the last hunter-gatherer group in China (Zhao, 2023). Due to the harsh, rainy weather, remote location and difficult transportation, many medicinal plants and wild plants have been consumed in continuous interaction with the environment for a long time, and local people have collected ecological information about them. Medicinal plants and other traditional knowledge form the basis of the health and development of traditional medicine and provide assurance for human survival and health (Shengji et. al., 2009).

Table 1: Number of plant flora and the medicinal plants reported from selected countries

| Country     | Medicinal | Higher  | % of      | Country   | Medicinal | Higher  | % of      |
|-------------|-----------|---------|-----------|-----------|-----------|---------|-----------|
|             | plant     | plant   | medicinal | V_        | plant     | plant   | medicinal |
|             | species   | species | plants    |           | species   | species | plants    |
| Africa      | 5000      | 45,000  | 11.1      | Australia | 1,511     | 19,324  | 7.8       |
| Vietnam     | 1,800     | 10,500  | 17.1      | Thailand  | 1,800     | 11,625  | 15.5      |
| China       | 4,941     | 26,092  | 18.9      | Bhutan    | 600       | 5,603   | 10.7      |
| Nepal       | 700       | 6,973   | 10.0      | Pakistan  | 300       | 4,950   | 6.18      |
| Sri Lanka   | 550       | 3,314   | 16.5      | USA       | 2,564     | 21,641  | 11.8      |
| Thailand    | 1,800     | 11,625  | 15.5      | India     | 3000      | 15,000  | 20.0      |
| Philippines | 850       | 8,931   | 9.5       | Malaysia  | 1,200     | 15,500  | 7.7       |

Source: Wangchuk, P. and Tobgay. T. (2015). Contributions of medicinal plants to the Gross National Happiness and Bio discovery in Bhutan. Journal of Ethnobiology and Ethno medicine. 11 (48). 2.

Table 1 discussed the number of plant flora and the medicinal plants reported from selected countries. It has found that as a nation, China has the highest number of medical planta followed by India, and United States. It has 18.9 percent of medicinal plants. Medicinal plants

are plants that have important elements for human health and are used in the treatment or prevention of diseases. China is one of the richest countries in the world in terms of biodiversity, with more than 30,000 species of tall plants. Medicinal plants are an important part of China's biodiversity. The rich variety of medicinal plants constitutes an important source of herbal products for the pharmaceutical and pharmaceutical industries. However, 70 percent of Chinese medicinal products used are still based on wild sources. Chinese medicine has become an important part of the Chinese medical and health system with its low cost and unique preventive/curative effects. In traditional Chinese medicine, medicinal herbs are important tools for disease prevention and treatment. The protection and sustainable use of these medicinal herbs is important for the development of the Chinese pharmaceutical industry. The diversity of medicinal plants in the southern part of China is greater than the north.

Table 2: Biological diversity of the Himalayan provinces in China

| Province | No. of useful plants | No. of vertebrates | No. of higher plants |  |
|----------|----------------------|--------------------|----------------------|--|
| Gansu    | 2,000                | 922                | 3,000                |  |
| Qinghai  | 2,000                | 420                | 2,500                |  |
| Xizang   | 2,500                | 798                | 5,476                |  |
| Sichuan  | 8,000                | 1,239              | 9,628                |  |
| Yunnan   | 12,000               | 1,737              | <b>=</b> 17,000      |  |

Source: Shengji, P., Huyin, H. and Lixin, Y. (2009). Medicinal Plants and Their Conservation in China with Reference to the Chinese Himalayan Region. Asian Medicine. 5. 276.

Table 2 depicted biological diversity of the Himalayan provinces in China. It has found that Yunnan province has the highest number of useful plants followed by Sichuan, Xizang, and Qinghai provinces. Yunnan, Sichuan, Gansu, and Qinghai are four provinces in the Himalayan region of China. The Tibet Autonomous Region is also included. The complex environment and diverse ecosystems in the Chinese Himalayas have resulted in a diversity of plants and diverse cultural practices. Different cultures in the region have developed different medicinal systems. The habitats of medicinal plants in the region vary from the lowland foothills to the high Himalayas. The medical system in the Chinese Himalayas is diverse and well-maintained. Dai medicine, Tibetan medicine and traditional Chinese medicine are the three traditional treatment methods in the Himalayan region of China. Other traditional medicines such as Lahu medicine, Qiang medicine, Naxi medicine, Yi medicine and other minority medicines are also introduced locally (McNair & Ijaz, 2023).

Apiaceae plants are often used in traditional medicine to relax muscles, increase blood circulation, relieve pain and treat colds. The rhizomes and the whole plant are used only to treat

colds, coughs, asthma, rheumatic paralysis, ulcers and purulent infections; the transition from vegetative growth to development in the life cycle of the plant, the occurrence of bolting and flowering, plays an important role. Traditional medicinal products such as water medicine have become important resources for rural development in Guizhou Province. The Shui people have accumulated and developed a wealth of traditional medicine knowledge and have played an important role in medical treatment. The Shui people are well versed in folk medicine and have many special treatments for local diseases such as skin, bone and snake bites. Like other ethnic minorities, such community faces challenges from Western medicine in preserving traditional medicine. This is because modernisation and urbanisation have made young people less interested in learning and practicing traditional medicine. Low wages are also a major problem that prevents young people from learning medical science (Liu et. al., 2023).

Table 3: Numbers of Traditional Chinese medicine decoction piece enterprises, and commonly used medicinal plants in provinces of China.

| Province of | Number of | Medicinal | Province of China | Number of | Medicinal |
|-------------|-----------|-----------|-------------------|-----------|-----------|
| China       | TDPEs     | plants    |                   | TDPEs     | plants    |
| Hainan      | 7         | 693       | Xizang            | 10        | 1026      |
| Shanghai    | u 11      | 605       | Ningxia           | 13        | 460       |
| Qinghai     | 19        | 703       | Xinjiang          | 23        | 526       |
| Fujian      | 28        | 1200      | Inner Mongolia    | 34        | 831       |
| Guizhou     | 38        | 1398      | Heilongjiang      | 39        | 476       |
| Liaoning    | 39        | 625       | Chongqing         | 41        | 1234      |
| Hubei       | 43        | 1251      | Jiangsu           | 46        | 769       |
| Shaanxi     | 48        | 1189      | Zhejiang          | 49        | 1047      |
| Shanxi      | 60        | 837       | Tianjin           | 61        | 364       |
| Hunan       | 64        | 1276      | Henan             | 72        | 1073      |
| Jilin       | 74        | 537       | Shandong          | 90        | 548       |
| Beijing     | 113       | 718       | Yunnan            | 113       | 1741      |
| Gansu       | 141       | 1179      | Sichuan           | 143       | 1818      |
| Anhui       | 154       | 900       | Guangxi           | 173       | 1502      |
| Guangdong   | 190       | 1377      | Jiangxi           | 233       | 1112      |

Source: https://pmc.ncbi.nlm.nih.gov/articles/PMC9209863/

Table 3 represented numbers of Traditional Chinese medicine decoction piece enterprises (TDPEs), and commonly used medicinal plants in provinces of China. It has found

that Sichuan, Yunnan, Guangxi, Chongqing, Guangdong, and Fujian provinces has more number of medical plants. On the other hand, Tianjin, Shandong, Ningxia, Xinjiang, and Jilin provinces has less number of medical plants. Jiangxi, Guangdong, Guangxi, Anhui, Sichuan, Yunnan, Beijing and Gansu provinces has more number of TDPEs. On the other hand, Hainan, Xizang, Shanghai, Ningxia, Qinghai, Xinjiang, Fujian, Inner Mongolia, Guizhou, Heilongjiang and Liaoning provinces as less number of TDPEs.

There are 17 Chinese medicine shops in 15 provinces. These businesses are mostly located in central and southern China. Among the provinces, Guangdong and Hunan have two Chinese medicine shops each, and Anhui, Sichuan, Henan, Jiangxi, Chongqing, Heilongjiang, Gansu, Shaanxi, Hubei, Guangxi, and Yunnan have one Chinese medicine shop each. Medicinal plants are more important than non-medicinal plants. Many medicinal plants are under threat from human activities and climate change, which affect species diversity, genetic preservation, and the development of Chinese medicine business. Habitat degradation, habitat loss and climate change also affect the survival of medicinal plants. Medicinal plants are more profitable due to their higher market value than non-medicinal plants, which leads to product selection. The creation of protected areas is considered one of the best-ways to preserve biodiversity (Liu, 2023).

**Table 4: Species of Endangered plants in China** 

| Group        | No. of Endangered spp. | No. of species | Ratio % |
|--------------|------------------------|----------------|---------|
| Angiospermae | 826                    | 25,000         | 3.3     |
| Gymnospermae | 75                     | 200            | 37.5    |
| Fern         | 80                     | 2,600          | 3.1     |
| Bryophytes   | 28                     | 2,200          | 1.3     |

Source: Shengji, P., Huyin, H. and Lixin, Y. (2009). Medicinal Plants and Their Conservation in China with Reference to the Chinese Himalayan Region. Asian Medicine. 5. 279.

Table 4 discussed the species of endangered plants in China. It has found that Angiospermae group has the highest number of endangered plants followed by Fern and Gymnospermae group. The research and use of Chinese medicine in Anhui Province has a long history and tradition. More than 1,400 experts have been involved in the research of traditional Chinese medicine for thousands of years. Anxi Province is rich in more than 2,700 kinds of herbal products (Jiang & Ma, 2001). With the rapid development of economy, science and technology, the development and change of people's lifestyle, more and more people pay attention to medicine, especially in the field of health and medicine. More and more herbal medicines have been discovered by modern methods, and the research on their healing

properties has been widely accepted. However, traditional medicine still faces many problems, which may cause some small groups to lose their knowledge of medicinal plants. The main threats to such plants are loss of area and flowering due to land use change, intergenerational degradation, cultural degradation, overharvesting and ecological culture. The ideas of the dominant culture are strongly associated with its traditional knowledge (Cheng et al., 2022).

Medicinal flora in China face many troubles. Overharvesting of medicinal vegetation and animals results in capability degradation, loss of biodiversity, and lack of indigenous medicinal expertise. China's rapid industrialization has induced super stress on flora and fauna habitat and the slow development of pesticide use. Wild herb choosing is frequently executed by using people with little understanding of herbal medicine, this could cause critical harm to plants and habitats, the shortage of standardization of Chinese herbal drug treatments makes it difficult to control their safety and apprehend their mechanisms of movement. Medicinal herbs are frequently considered exclusive from different plant life and are consequently frequently tough to cultivate the use of traditional methods. The maximum common issues herbalists face is economics, abundance and access to wildlife, agro-environmental conditions, ability and charges, machinery funding, put up-harvest processing and production advantages (Jiang & Ma, 2001).

Medicinal herbs have many financial advantages. Medicinal vegetation may be a vital supply of profits for rural communities, specifically landless farmers. Cultivating such plants can create employment and diversify profits. business cultivation of medicinal plant life can help maintain animal habitats. Cultivating medicinal flora reduces the elevation of the condition and conserves soil and water. Growing medicinal plant life can improve the environment. Cultivation of medicinal plants can guide the improvement of economic and urban eco-tourism. Medicinal flora is broadly utilized in industries, together with medication, cosmetics, perfumes, toothpaste, cleaning soap, beverages and food. Medicinal plant life provides three main advantages: health blessings for medicinal users, financial advantages for people who acquire, procedure and distribute those plants, and benefits to human beings such as employment, income and improved fitness of employees. It's far from time to time used to reduce stress, anxiety, swelling, nausea and ache. other treatments will help treat illnesses together with toothaches, colds, and flu. most herbs comprise very strong volatile oils (Li et. al., 2023).

## **Conclusion**

Chinese medicine has its roots in ancient Taoist philosophy. This treatment method promotes a positive outlook by looking at the human body as a whole in its social and natural environment. Importance This medicine is accepted as a reliable treatment in many countries around the world. As international programs and funding are devoted to indigenous peoples, China's overall relationship with indigenous peoples is likely to increase. Ginseng root is widely used in Chinese medicine. Chinese herbal medicines are mostly herbal medicines, but there are also preparations that contain food or animal products. Depending on the herb and its intended use, they can be packaged as powders, pastes, ointments, or tablets. Chinese medicine is a holistic medicine that heals the mind and body. One of the benefits of therapies such as Tai Chi, acupuncture, and holistic medicine is to reduce stress. ginseng. Ginseng has been used as an herbal medicine in China for thousands of years.

China has the highest number of medical plant followed by India, and United States. It has 18.9 percent of medicinal plants. The medical system in the Chinese Himalayas is diverse and well-maintained. Many medicinal plants are under threat from human activities and climate change, which affect species diversity, genetic preservation, and the development of Chinese medicine business. Habitat degradation, habitat loss and climate change also affect the survival of medicinal plants. The development of traditional Chinese medicine can promote economic development. Natural cultivation is a new method for the production of medicinal products in China. It involves the cultivation of plants that can produce good medicine in the area where it is distributed. China has integrated traditional Chinese medicine into the country's medical system. Urban and rural health services and health are constantly improving, and significant progress has been made in the balance of health services and health. China also provides medical assistance to other countries, including sending medical teams, construction and treatment, providing medicine and medical equipment, donating medical aid, etc.

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