

## Conservation and management of medicinal plants in Jammu and Kashmir

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### Abstract

Medicinal plants are globally valuable sources of herbal products, and they are vanishing at a high speed. This research paper reviews the conservation and Management of Medicinal Plants in Jammu and Kashmir. The major laws of Jammu and Kashmir that have been used for the conservation and sustainable use of biological biodiversity including medicinal plants are the Jammu and Kashmir Kuth Act, 1921 (the Act was repealed in 2002), The Game Preservation Act, 1942, the Jammu and Kashmir Forest (Conservation) Act, 1997, the Jammu and Kashmir Forest (Protection) Force Act, 2001, the Jammu and Kashmir Wildlife (Protection) Act, 1978, and the rules and notifications made under these Acts. In spite of all these laws, rules and regulations the excessive extraction of medicinal plants and destruction of their natural habitats continues in the state resulting in a number of precious medicinal plants falling under the threatened category. Most of the herbs and medicinal plants grow in the wild as natural component of vegetation. But this traditional base is shrinking due to informal supply chain, over exploitation, population pressure, unsustainable practices, and biodegradation.

**Keywords:** medicinal plants, conservation and management, J&K, etc

### Introduction

Medicinal plants and plant-derived medicine are widely used in traditional cultures all over the world and they are becoming increasingly popular in modern society as natural alternatives of synthetic drugs. They not only provide accessible and affordable medicine to poor people; they can also generate income, employment and foreign exchange for developing countries. Unfortunately, harvests to meet the demand for a growing number of medicinal plant species are in many cases exceeding sustainable levels. A majority of medicinal plants are collected from the wild. With the large increase in domestic and international demand, there has been a sharp increase in collection. Harvesting of medicinal plants by cash-needy collectors to supply the growing urban and international markets has increasingly intensified since these materials are cheaper and more accessible. The medicinal plants continue to supplement limited public health facilities, and the consequent expanding demand due to increasing population has put tremendous pressure on the natural supply. This has put extreme pressure on wild resources, and many species face threat of extinction (Joshi and Rawat, 1997) [2]. Over-exploitation and continuous depletion of medicinal plants have not only affected their supply and loss of genetic diversity, but have seriously affected the livelihoods of indigenous people living in the forest margins. The rising demand with shrinking habitats may lead to the local extinction of many medicinal plant species. Harvesting medicinal plants for commercial use, coupled with the destructive harvest of underground parts of slow reproducing, slow growing and habitat-specific species, are the crucial factors in meeting the goal of sustainability. The conservation and sustainable use of medicinal plants is only possible in the shadow of an effective system of governance supported by the rule of law. Opportunities for governments to develop legislation to control and monitor harvest and trade of medicinal plant

species, and to consider conservation and sustainable use of medicinal plants as a priority in establishing protected areas, have been greatly enhanced by two significant developments in international law: the addition of medicinal plant species to the Convention on Trade of Endangered Species of Wild Fauna and Flora (CITES), 1973, and the entry into force of the international Convention on Biological Diversity (CBD), 1992.

In India, there are number of union laws enacted with direct and indirect relevance to medicinal plants. Presently, the conservation and protection of medicinal plants is being carried out through enforcement of the Indian Forests Act, 1927; the Wildlife (Protection) Act, 1972; the Forest (Conservation) Act, 1980 with amendments made in 1988; the Environment (Protection) Act, 1986; the Biological Diversity Act, 2002, the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 and the rules made under these Acts. The National Medicinal Plants Board (NMPB) set up under Ministry of Health and Family Welfare in November 2002 by the Government of India has the primary mandate of coordinating all matters relating to medicinal plants and support policies and programmes for growth of trade, export, conservation and cultivation. Despite all the legislations and policy measures, extraction of medicinal plants and herbs continued and is continuing in forests including reserve forests. The conservation oriented policies and their strict follow-up by state governments have not been able to serve the purpose as the situation is driven by demand supply forces. In process, neither the forests nor the collectors get benefited as the pilferage practice enables middlemen, traders, industry to gain maximum of the accruals. In lack of proper policy framework and adequate protection measures, destructive harvesting continues to take place resulting in to genetic erosion of medicinal plants.

The major laws of Jammu and Kashmir that have been used for the conservation and sustainable use of biological biodiversity including medicinal plants are the Jammu and Kashmir Kuth Act, 1921 (the Act was repealed in 2002), the Jammu and Kashmir Forest Act, 1930, the Jammu and Kashmir Forest (Conservation) Act, 1997, the Jammu and Kashmir Forest (Protection) Force Act, 2001, the Jammu and Kashmir Wildlife (Protection) Act, 1978, the Biological Diversity Act, 2002 (the central law applicable to the State of Jammu and Kashmir as well) and the rules and notifications made under these Acts. In spite of all these laws, rules and regulations the excessive extraction of medicinal plants and destruction of their natural habitats continues in the state resulting in a number of precious medicinal plants falling under the threatened category. Most of the herbs and medicinal plants grow in the wild as natural component of vegetation. But this traditional base is shrinking due to informal supply chain, over exploitation, population pressure, unsustainable practices, and biodegradation.

Against the above background there is a felt need to study the legal and policy framework related to the conservation and sustainable use of medicinal plants at international level, national level and particularly in the state of Jammu and Kashmir. Necessarily this would involve investigation into implementation of the laws and policy measures and judicial response met to plant diversity conservation.

#### Methods and Materials

The State of Jammu and Kashmir, as an integral part of western Himalayas, is known for its beauty and biological resources. The State stretches between 32° - 17' N to 37° - 05' North latitude and 72° - 31' E to 80° - 20' East longitude. From North to South, it extends 640 kms in length and from East to West over 480 kms in breadth. In its total geographical area of 101387 Square Kilometers the State has a forest area comprising of 20,230 Kilometers. The state is mainly mountainous, except for a short belt adjoining the Punjab plains and the valley of Kashmir and it consists of three distinct geographic units or divisions, viz., Jammu, Kashmir and Ladakh. The state possesses great altitudinal variation, diverse geological formations and different climatic zones viz., subtropical, tropical, temperate, alpine and cold desert, resulting in the immense diversity of its flora. The State is bestowed with a variety of natural resources and happens to be a treasure trove of medicinal plants, which have attracted considerable global attention from time immemorial. It is estimated that there are around 3054 medicinal plant species found across the three divisions of the State. While Kashmir division accounts for around 3000 such species, Jammu and Ladakh account for 500 and 880 respectively. Most of the species are blessed with astounding medicinal abilities to tackle simple seasonal disorders to the most deadly diseases. These species if properly and holistically examined and improved in terms of biological, medicinal, ecological and economic benefits could form the base for larger efforts to improve and sustain a vibrant and socio-economically sound medicinal plant sector in the State.

#### Medicinal Plants: Legal Management and Conservation in Jammu & Kashmir

Preservation of natural environment and its individual components appears to have been an issue of some concern

to some the rulers of the State of Jammu and Kashmir in the past. The State has a constitutional commitment with its people to protect them from social, economic and political injustice, abolish all exploitation and take special care to enrich the material and cultural life of the people. To protect and regulate multiple components of rich biological diversity including medicinal plants of the State a good number of laws have been enacted from time to time. The main statutory laws which become relevant for the management and conservation of medicinal plant biodiversity in the State are disused as follows

#### The Kuth Act, 1921

The Jammu and Kashmir Kuth Act, 1921, which has been repealed recently in 2002, was passed in 1921 with the sacred aim of conserving and protecting medicinal plant wealth of the State. The main purpose of the Act, as spelled out in its preamble, was the conservation, preservation and protection of the Kuth plant (*Saussurea lappa*) and its produce in Jammu and Kashmir State and to guard against illicit cultivation, extraction, possession and export thereof. Kuth under the Act included the root, stem, leaves, flower and all other parts of the Kuth plant and also all substances manufactured there from and all preparations or admixtures containing Kuth or substances manufactured there from. The Act presumed all Kuth within the State to be the property of the State and prohibited its cultivation, extraction, possession, transport, export, sale and the manufacture of any substance or preparation containing Kuth. The prohibition could be waived in respect of any act done after a written permission obtained in accordance with the rules framed under Section 4 of the Act. Any person who would contravene or abet or attempt or connive at the contravention of the prohibitions was liable to punishment of imprisonment up to two years or fine up to Rs. 5000 or both, and where a Kuth convict repeated the commission of any Kuth offence, the punishment could extend up to four years imprisonment or fine up to Rs. 10,000 or both for such subsequent offence.

#### The Game Preservation Act, 1942

The Jammu and Kashmir Game Preservation Act, 1942 was passed to amend and consolidate the law relating to the protection and preservation of Game in the State. The Act has, however, been repealed to the extent to which matters therein have been dealt under the Wildlife (Protection) Act. The State Government is empowered under the Act to declare any area, owned by them, to be a Game Sanctuary, a Game Reserve or a Reserved Area, and may transfer such area from one category to the other if and whenever they deem it expedient to do so. Accordingly, the Government or any officer empowered in this behalf, are authorised to prohibit any shooting, killing or capturing of Game for a particular period in that area. Under the Act the extraction of forest produce from and traffic in Game Sanctuaries and Game Reserves may be permitted by the Divisional Forest Officer (DFO) concerned but shooting, grazing, cultivation or habitation therein, except under the orders of the Conservator of Forests, is prohibited.

#### The Wildlife (Protection) Act, 1978

The Jammu and Kashmir Wildlife (Protection) Act, 1978 is a very comprehensive law enacted to provide for the protection of wild animals, birds and plants of the State of

Jammu & Kashmir. The Act requires the Government to constitute State Board for Wildlife to advise the Government in the selection and management of the protected areas and formation of policy for the protection and conservation of wildlife and specified plants, including medicinal plants. The Board shall also carry out impact assessment of various developmental projects on wildlife or its habitat, review the progress in the field of wildlife conservation in the State and suggest measures for its improvement and cause to be published the Wildlife Report of the State at least once in every three years.

### **The Forest Corporation Act, 1978**

The Forest Corporation Act, 1978 was enacted to provide for the establishment of a Corporation for better preservation, supervision and development of forests and exploitation of forest produce within the State and for matters connected therewith. Under the Act the State Government is required to constitute a Corporation by the name of the Jammu and Kashmir State Forest Corporation, which shall be a body corporate and local authority for all the purposes. Section 4 of the Act provides for the constitution of the Corporation. The Corporation shall comprise of Minister In charge Forests as the Ex-Officio Chairman, Minister of State or Deputy Minister of Forests, if any as Vice Chairman, Seven members to be appointed by the Government five from amongst its officers and two from the Legislature as Directors of the Corporation. The Government may appoint one of the Directors as Managing Director of the Corporation. Further, the Chairman may invite any person having special knowledge and practical experience in matters relating to preservation, supervision and development of forests and better exploitation of forest produce to render advice to the Corporation with regard to any such measures.

### **State Medicinal Plants Board**

Jammu & Kashmir State Medicinal Plants Board (SMPB) was established in January 2001 as an independent entity in its working to coordinate, monitor and give directions in accordance with the programs and policies of National Medicinal Plants Board (NMPB), Department of Indian System of Medicine (AYUSH) Government of India related to development and sustainable use of medicinal plants in Jammu & Kashmir State. The Board was constituted in response to the increasing concerns of unsustainable collection from the wild, disappearance of certain high demand species on one hand and concerns of quality and standardization on the other make it imperative to promote cultivation of species critical to AYUSH systems of medicines through appropriate financial incentives, policy, infrastructural and marketing support in a synergistic manner.

### **The main Functions of the SMPB are**

- Advise other Departments / organizations / NGOs / Universities / Individuals etc on policy matters relating to schemes and programs for development of Medicinal Plants.
- Registration of Traders, Cultivators, Processors, Collectors and other stakeholders involved in the trade.
- Coordinate with other Departments /Organization for development of Medicinal Plants in general and specifically in the following fields.

- Assessment of demand/supply position relating to Medicinal Plants both within the state and outside.
- Identification, inventorization and quantification of Medicinal Plants.
- Promotion of co-operative efforts among collectors and growers and assisting them to store transport and market their produce effectively.
- Matter relating to import/export of raw material, as well as value added products either as medicine, food supplements or as herbal cosmetics etc.
- Adoption of better techniques for marketing of products to increase their reputation for quality and reliability in the State and outside.
- Undertaking and awarding Scientific, Technological research and cost-effectiveness studies.
- Development of protocols for cultivation and quality control.
- Setting up of database system for inventorization and dissemination of information.

### **Conclusion**

The biological resources of Jammu and Kashmir have tremendous potential to ameliorate the social, economic and cultural conditions of the major portion of rural population living in the neighborhood of such resources by encouraging cultivation of medicinal plants. Despite the fact that various legislations have been passed, no attempt at conservation will succeed unless the requirements of local communities are harmoniously integrated into the conservation strategy. The local communities are often in a better position to take on the responsibility for sustainable management of forest resources. There is no law that will protect the rights of forest dwellers in the state the State legislature must enact Forest Rights Act to cover broader spectrum of forest dwellers rights and to further strengthen the conservation regime of forests especially the medicinal plants. Most of the laws concerning biodiversity in the State have an inbuilt dimension that alienates people and have destroyed the traditional feeling and sense of belongingness from the minds of people traditionally dependent on it. The laws like the Forest Act, 1930 and the Wildlife (Protection) Act, 1978 being inflexible in approach any attempt of conservation under these laws is bound to fail unless there is total overhaul of the legal philosophy enshrined in these archaic laws, which are based more on production and state exploitation than on biodiversity conservation. The Biological Diversity Act, 2002, although a comprehensive law with laudable objectives, requires its implementation through traditional administrative machinery, already charged with the task of implementing the traditional forest and wildlife laws of the State. As there is a philosophical disconnect between the tradition state laws and the Biological Diversity Act, the success of the law in the state remains a doubtful commodity. A thorough review of the existing state laws relating to multiple components of biological diversity is needed to realize the dream of conservation of natural resources in the State.

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