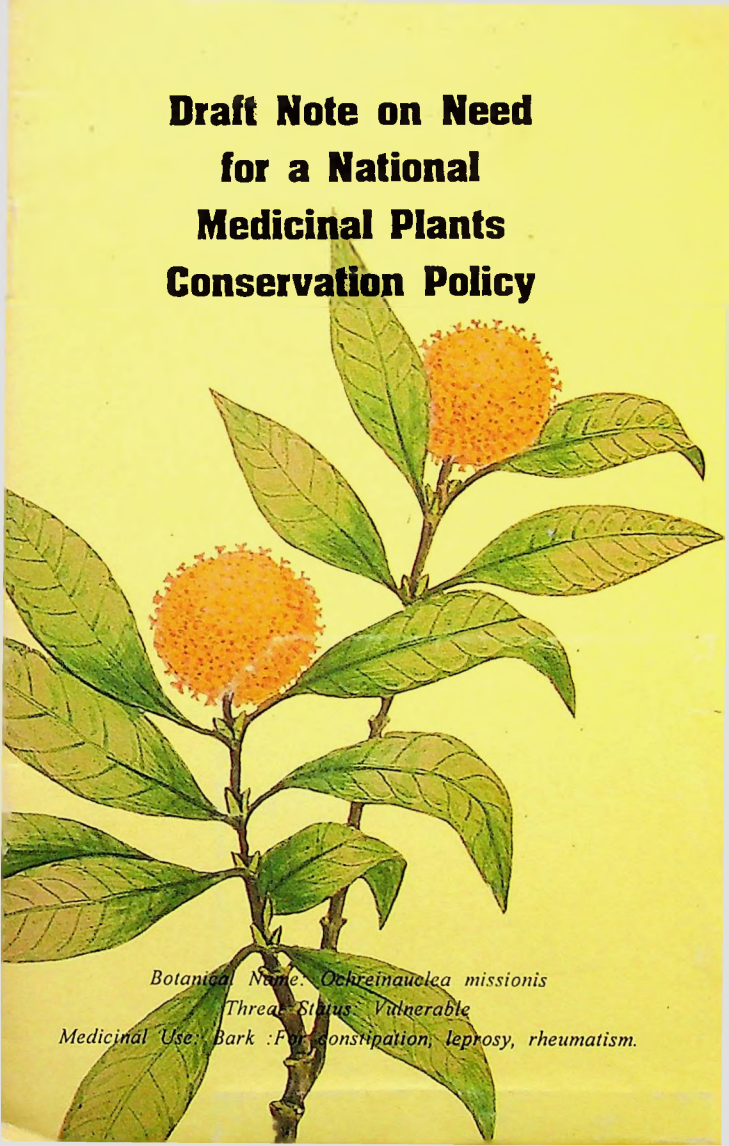
Draft Note on Need for a National Medicinal Plants Conservation Policy



Botanical Name: Ochreinauclea missionis
Threat Status: Vulnerable
Medicinal Use: Bark :For constipation, leprosy, rheumatism.

Need for National Policy on Medicinal Plants Conservation

India has one of the longest, richest and most diverse cultural traditions. This is especially so in the use of medicinal plants which is something India's people know a great deal about. Over 7,500 species of plants are estimated to be used by 4,635 ethnic communities for human and veterinary health care.

Medicinal plants continue to provide health security to rural people in primary health care. According to the WHO, over 80% of people in developing countries depend on traditional medicine for their primary health needs. In India, modern health coverage of rural populations varies from 3 to 30 %, which means that between 400 & 500 million people take recourse to some form of traditional medicine as the only feasible alternative. This is also borne out by the fact that there still exist over 10 lakh (one million) traditional, village-based carriers of the herbal medicine traditions in the country.

The growing demand for herbal products has led to a quantum jump in the number of medicinal plant species and their volumes traded within and across countries. Conservative estimates put the economic value of medicinal plant related world trade at over US $ 60 billion. And this is growing. In fact, apprehensions are being expressed that with the inexorable monetisation and commercialisation of the medicinal plant economy, we could have

a future scenario where the rich alone would be able to afford herbal products while the poor would have to make do with cheap, mass produced, synthetic, allopathic drugs.

This vast biocultural resource with its enormous promise for human welfare and major economic potential is a significant part of our national heritage. A national policy on conservation of this resource must ensure its access to all categories of users, including the large number of rural people who depend on medicinal plants for their basic health needs.

A heritage under seige

Most threats to the continued existence of medicinal plants are man-made : habitat loss, fragmentation and degradation due to population and developmental pressures are the bane of biodiversity. What threatens medicinal plants the most is over-exploitation from the wild for commerce. Estimates suggest that over half a million tonnes of dry raw material is indiscriminately and mostly destructively collected from the wild each year. In area terms, this implies over 165,000 hectares of forests being clear-felled.

The National Forest Policy, 1988, like its predecessor of 1952, continues to refer to medicinal plants as a sub-set of Minor Forest Produce (MFP), a position that does not actually help focus management or conservation efforts on this genetically and socially very important group of plants.

A national policy on medicinal plants conservation is, therefore, essential.

Essential goals of National Policy

The goals of a national medicinal plants conservation policy would include:

i) Ensuring long-term conservation in situ, of the country's medicinal plant diversity in the context of inter-generational equity;

ii) To encourage and support ex situ conservation as a supplementary and complementary measure to the above;

iii) To ensure that medicinal plants requirements of industry can be met sustainably through policy instruments that create a favourable economic environment;

iv) To ensure access of medicinal plants to village communities for their primary health care needs and to address issues relating to empowerment of local people in conserving and managing their forest and non-forest resources.

v) To regulate, improve and make sustainable medicinal plants collections from the wild;

vi) To carry out appropriate legislation and/ or modify existing ones to regulate internal and external trade in medicinal plants and to ensure adequate training of agencies involved;

and to safeguard IPRs relating to medicinal traditions of the country;

vii) To develop a cadre of taxonomists/ forest scientists to support and sustain rapid, prioritised baseline surveys w.r.t. medicinal plants conservation status and to monitor changes on a long-term basis.

viii) To identify, review and clearly mandate appropriate institutions, governmental and non-governmental, to implement this policy;

ix) To strengthen/ build adequate institutional structures and capacity in government and non-government institutions which are essential to initiate and sustain effective policy implementation.

x) To encourage setting up funds and facilitate time-bound "projects" through governmental and non-governmental institutions and further the goals of the policy.

xi) To continually monitor, evaluate and analyze the impact of this Medicinal Plants Conservation Policy.

xii) To create widespread public awareness on the need for medicinal plants conservation.

Policy directions

In situ Conservation

It is only in Nature that plant diversity at the genetic,

species and eco-system level can be conserved on a long-term basis. Unless plant populations are conserved in the wild, that is in their natural habitats, they run the risk of extinction.

The aim of in situ conservation would be to maintain in perpetuity viable, breeding populations of medicinal species in the wild. It would help to conserve in distinct, representative biogeographic zones inter and intraspecific genetic variation. This alone would ensure that species would have the necessary resilience to adapt to change in the future.

Medicinal plant populations have large and often disjunct areas of distribution, while there are also endemic species confined to a few pockets. Conservation of these disparate and widely separated populations is therefore possible only through setting up of a network of representative medicinal plants conservation reserves with a broadly common management framework. This network would ideally include areas within and outside the existing Protected Area network in the country.

For long-term institutional support the conservation and management of this medicinal reserves network would need to be integrated into regular forestry and wildlife management in the country. But for this to happen appropriate changes in forest management priorities, backed by intensive training at various levels including local community are necessary.

Regulation on wild collection

Today we have a situation where 95% of industrial requirement of medicinal plants is met through indiscriminate

collection from the wild. An essential corollary to in situ conservation of medicinal plants is therefore regulating the harvest of medicinal plants from the wild for commercial purposes . Data on trade in medicinal plants is sketchy, unorganised, unsystematic and not based on their real botanical identity.

Very often the field level forestry and wildlife staff are unaware of restrictions on collection and trade of medicinal species notified by the Central Government under CITES or the List of Negative Exports of the Ministry of Commerce. This is further complicated by the fact that most medicinal species are commercially known by their 'trade' names and in dried/ raw drug form. The forest department officials issuing transit or export permits are largely untrained in identification of species in such forms. Illustrated manuals and comprehensive lists correlating local/ trade names to botanical names need to be prepared to aid national/ international efforts at regulating trade in wild medicinal plants.

Ex situ Conservation

At the outset it may be mentioned that ex situ conservation of medicinal plants does not merely imply their cultivation as agricultural or horticultural crops. It is a vast, expansive area of species conservation with many elements, the main ones of which are discussed below:

Cultivation and Marketing

Figures projecting demand and trade in medicinal plant species globally indicate a steep upward trend in the future. One

estimate puts the figure of world trade in medicinal plants & related products at US$ 5 trillion by A.D.2050 (World Bank Report, 1996). The demand has been and continues to be met mainly from wild sources. This cannot go on for much longer. **Policy intervention is urgently needed to encourage and facilitate investments into commercial cultivation of medicinal plants.**

Cultivation of medicinal plants, however, is inversely linked to prevalence of easy and cheap collection from the wild, lack of regulation in trade, cornering of the profits from wild collection by a vast network of traders and middlemen, and absence of industry's interest in providing buy-back guarantees to growers. Cultivation of medicinal plants is also difficult due to lack of standardised agronomic practices for most species and unavailability of sources of quality planting materials.

Policy measures to promote cultivation of medicinal plants therefore need to encourage industry's participation by way of tax incentives, etc. for investments in cultivation and agricultural research and simultaneously by stricter controls on indiscriminate, destructive collection of medicinal plants from the wild, while improving their conservation status *in situ*. Industries also need to have access to databases and research findings.

Considering the low value of many medicinal plant species (in raw drug form), a strong case exists for promotion of community level enterprises for value addition to medicinal plants through simple, on site techniques like drying, cleaning, crushing, powdering, grading, packaging, etc.

In both these areas i.e. cultivation and value addition, clear policy guidelines are needed to facilitate active intervention and set forth a role for public and private financial institutions.

A national policy must encourage commercial cultivation of medicinal plants but the investment on research as well as production should be forthcoming from the pharmaceutical industry and financial institutions. In the context of medicinal plants, there is a special case for encouraging organic farming systems & poly-culture models instead of the conventional mono-culture models in agriculture and agroforestry.

Educational Gardens

A national policy on conservation of medicinal plants must as an educational and shorter term conservation measure, promote the creation of a "network" of regional and sub-regional "ethno-medicinal plant gardens" which should contain all the medicinal plants known to the various ethnic communities in different regions of India. This chain of gardens will act as regional respositories of our cultural and ethnomedicinal history and embody the living traditions of our society's knowledge of medicinal plants.

Nursery Network

The most urgent and primary task to ensure immediate availability of plants and planting materials to various user groups like farmers, the professional ISM community and industry, is to promote a nation-wide network of medicinal plant nurseries which will multiply all the region-specific plants that are used in the current practice of traditional medicine by rural communities, ISM

professionals, industry, trade and commerce. These nurseries should become the primary sources of supply of seed material that can be multiplied by the various users. The forest departments, agricultural extension agencies, village panchayats, NGOs and private enterprises should be encouraged to establish these nurseries or to grow medicinal plants in existing ones. In the initial years, interest-free, short-term loans or loans at differential rates of interest can be offered by banking institutions to this nursery network.

In view of its importance and urgency, Government can promote national coordination of this program through national nodal institutions similar to the National Dairy Development Board (NDDB), with participation from government, industry, ISM professionals, research institutions, rural communities, commerce and trade.

Gene Banks

While it is known that the largest proportion of local biodiversity in all our eco-systems is used for medicinal purposes, (app. 7,500), very little is known about their conservation status in the wild. What is likely is that probably a large number of medicinal plant species are also under various degrees of threat. The 'precautionary principle' would suggest that an immediate country-wide exercise be taken up to deposit seeds of wild medicinal plants in gene banks and a simultaneous effort be launched to evaluate the genetic variation of such collections with a view to enriching them.

The National Bureau of Plant Genetic Resources (NBPGR), New Delhi, does maintain some seed collections of medicinal plants. These collections need to be widened, diversified and improved, and facilities need to be opened up for such seeds of preservation of medicinal plants at least regionally in the country.

Research, Training and Information

The policy framework needs to facilitate and promote time-bound, applied research programs for medicinal plants conservation, both in situ and ex situ. Lack of reliable and authentic information and failure to transfer to the field what is there, has been one of the main reasons for limiting management options and directing further research in this field.

Research

In order to help conservation of medicinal plants, the thrust of research should be on immediate field-related problems. Priority areas in medicinal plants research need to include: inventorisation and distribution mapping; threat categorisation based on IUCN guidelines; propagation and agro-technology of economically & clinically important species along with effective & quick technology transfer, and major support to research in conservation biology of medicinal plants.

Research on medicinal plants based on ISM theories like *desh vichar,* traditional guidelines on suitable collection times and habitats, advice based upon indigenous texts like *vrksh-ayurveda* and *krishi shastra* need to be promoted so that parameters for quality of plants can be evolved based on ISM principles. Such tested data when computerised would be unique and its application

would greatly benefit medicinal plant related work.

Training

In-service training programs for staff of various government and non-governmental agencies like forests, wildlife, botanic gardens, schools and colleges in both in situ and ex situ conservation techniques of medicinal plants need to be developed and supported in a large way. Similarly, to encourage the use and sustainable economic benefit from medicinal plants so that local communities can develop a stake in their conservation, suitable training and extension in the use, sustainable harvest (esp. for tribal collectors), value addition and marketing of medicinal plants need to be promoted.

There is a need to encourage institutions like the Botanical Survey of India to study the distribution of species and its population levels in the wild and, more importantly, its current conservation status.

One of the major user groups of medicinal plants is the community of practitioners of traditional medicine, both classical and folk. Unfortunately, this group is least involved in the conservation of medicinal plants, although they form the material resource base of their profession. With adequate orientation and training, this large group could make significant contributions in the ex situ conservation of medicinal plant diversity and its sustainable use.

Databases

There are several institutions in the country that hold specialised data on various aspects of medicinal plants.

Unfortunately, much of this data is neither organised nor standardised, much less computerised. In short, there is no national database on medicinal plants, consolidated or networked, available in the country. This results in almost total lack of access to information that could be useful for various applications and research, not to mention the duplication of efforts that might be taking place.

As the existence and accessibility of databases is crucial to organised development and growth of any sustained medicinal plants conservation effort, a policy on the building, improvement, computerisation and public access to a national database network is the need of the hour. Easier access to updated information would in turn surmount the main bottleneck in transfer of technology to user groups.

The key to providing such ready access to information lies in networking existing databases which would also facilitate information exchange within and outside the country.

Intellectual Property Rights

Based on Clause 27(ii) of TRIPs related to public interest, India should modify its 1970 Patents Act to exclude products, processes, extracts, derivatives and any modification of its plants and natural products (as known in the folk stream of medicine which is prevalent in its various ethnic communities and in its codified systems of medicine like Ayurveda, Unani, Siddha and Amchi including their numerous manuscripts & literary works)

from being granted patents in India, for uses similar to their traditional use.

In order to uphold traditional knowledge as a priceless national heritage, this knowledge of plant and plant products ought to be in the public domain. The proposed biodiversity legislation (in the context of the Rio convention) must ensure that all our indigenous medical knowledge systems (both oral and codified) and their associated biological resources remain the sovereign property of our traditional communities. Commercialisation of this knowledge will require "informed consent" by interested parties.

Similar conditions of informed consent should be brought into the Plant Breeders Act for medicinal plant genetic materials.

National and State Level Coordination

The national policy on medicinal plants conservation should be widely circulated to all concerned institutions and organisations in the government and private sector to encourage participation in its implementation.

In the implementation of the national policy, coordination is needed between various depts. and ministries like the Forest Department, Health, Agriculture, Biotechnology, Dept. of Science and Technology, Commerce and Non-Government Research, Community Health and environmental organisations, including industry and the banking sector.

Today, medicinal plants "conservation" is not a focused mandate of any national institution, so both a nodal ministry as well as a nodal institution may need to be identified to advance national efforts. Suitable mechanisms for coordination are needed both at the central and state levels to facilitate synergy, promote inter-institutional cooperation and avoid duplication of efforts.

References

1. *All India Coordinated Research Project on Ethnobotany, GOI, MoEF, Report, 1993.*
2. *The Anthropological Survey of India.*
3. *Guidelines on the Conservation of Medicinal Plants; WHO, IUCN & WWF; GLAND, Switzerland, 1993.*
4. *Ministry of Health & Family Welfare, GOI, New Delhi.*
5. *The Forest Policy of 1988, MoEF, GOI, New Delhi.*

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